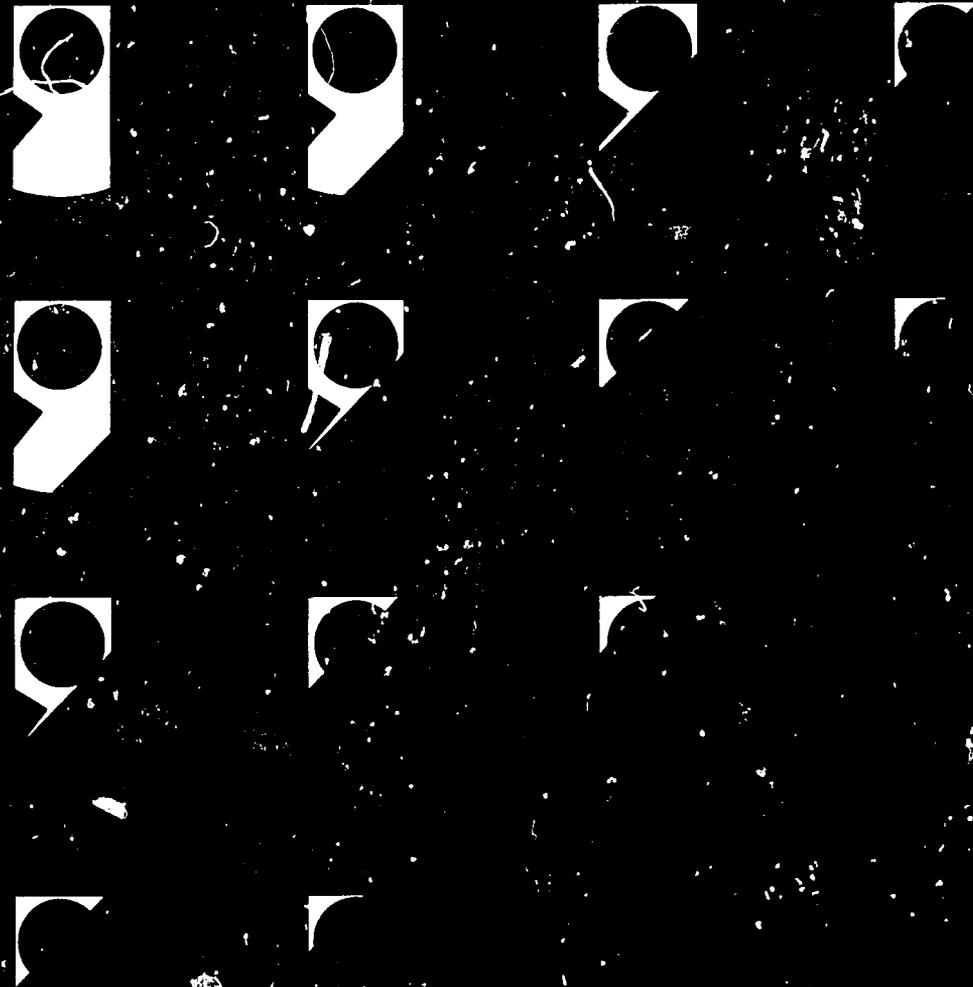


PN-AAP-020 iom:32974

# Government Research Centers Directory

Issue Number 3 • August 1981



FIRST EDITION

Edited by Anthony J. Kruzas and Kay Gill

# **Government Research Centers Directory**

**FIRST EDITION**

**A Guide to U.S. Government Research and Development Centers, Institutes, Laboratories, Bureaus, Test Facilities, Experiment Stations, Data Collection and Analysis Centers, and Grants Management and Research Coordinating Offices in Agriculture, Art, Business, Education, Energy, Engineering, Environment, Medicine, Military Science, and Basic and Applied Sciences.**

**Issue Number 3 • August, 1981**

**Editors:  
Anthony T. Kruzas  
Kay Gill**

**Gale Research Company • Book Tower • Detroit, Michigan 48226**

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# Introduction

Since World War I the federal government has spent billions of dollars to support a vast network of research and development programs in all areas of national interest. These efforts involve departments and agencies in all branches of the government, many private contractors, and equally numerous university, state, and independent laboratories. In spite of the magnitude and importance of this research there is, at present, no comprehensive published guide that identifies and locates the sponsoring agencies and their programs, facilities, personnel, and research interests. Yet such data are vital to researchers, educators, information specialists, industry executives, and all professionals concerned with social and technological changes. The *Government Research Centers Directory (GRCD)* is being published to serve and inform these groups and others within and outside the government.

## Scope and Arrangement

The First Edition of the *Government Research Centers Directory (GRCD)* is being published in 3 parts at 4-6 month intervals. Each issue will contain approximately 500 entries, with the total representing a comprehensive descriptive inventory of existing government research programs. Included in this inventory are facilities that are owned and operated by the government as well as government-owned but contractor-operated installations. Also included are many projects which are operated by universities, state governments, or independent laboratories but which are coordinated or substantially supported by the federal government as part of a national cooperative program. In general, *GRCD* serves as a long-needed complement to Gale's *Research Centers Directory* (6th ed. 1979), which describes and indexes university-related and independently operated nonprofit research facilities, activities, and organizations.

Listed in *GRCD* are research and development installations, institutes, centers, laboratories, bureaus, test stations, data collection and analysis centers, statistical centers, and similar research facilities and activities concerned with fundamental, applied, and developmental studies. Entries are limited to those activities which are uniquely identifiable by specific name, and are established on a permanent basis as separate entities for carrying on continuing research and development programs. Also listed are major government research and development offices, operations centers, coordinating offices for intramural research, and grants and contracts offices for extramural research. Information centers, clearinghouses, and data base information services are not included.

The information provided in *GRCD* was obtained from each unit through questionnaires, publications, and/or its spokesperson. In so far as information was available or appropriate, each entry contains the following elements:

1. Name (including acronym), address, and telephone number.
2. Date established.
3. Name and title of the director or chief administrator.
4. The place of the reporting unit within the table of organization of its government department.
5. Related contractor, state agency, university, or other cooperating organization, if any.
6. Size and composition of staff.
7. Type of research activity conducted or supported by reporting unit.

8. Principal fields of research.
9. Where research results are published.
10. Publications issued by the reporting unit.
11. Recurring seminars, meetings, or special programs presented, or supported, by unit.
12. Library, if on the premises, its librarian, and collections.
13. Subsidiary branches or affiliated units.

The entries in the main body of *GRCD* are arranged in alphabetical order by specific name of reporting unit. Two indexes provide additional access - by government department and by name and subject keywords.

### **Indexes**

The first index to the entries listed in the main section of *GRCD* is an alphabetic arrangement by name, as well as principal keywords and acronym. The second index is a classified arrangement of all agencies which follows the sequence used in the *United States Government Manual*: the Legislative Branch, Judicial Branch, Executive Branch, Executive Departments (arranged alphabetically), and finally the Independent Establishments and Quasi-official Agencies. Arrangement under each department varies but usually follows that used by the department in its own table of organization. The final element of each grouping for this index is the specific name (in caps) of the unit to which it refers.

### **The Government Research Locator**

The Appendix: Government Research Locator (GRL) is a name and address listing of all research facilities and associated administrative offices which had been identified by the editors before the first issue of *GRCD* went to press. This section is organized in the same way as the agency index to the first section of this volume, i.e. by the classification used in the *United States Government Manual*. The index which follows the appendix is an alphabetical arrangement of entries by name and keywords extracted from the name.

The GRL is presented in the first issue for two reasons: to provide a preview of the research facilities and programs which will be covered in future issues of *GRCD* and to give subscribers an opportunity to suggest changes and additions. Although the Appendix is comprehensive and an intensive effort was made to verify the names and addresses which we obtained from numerous sources, the list is not definitive and our search continues. In addition, the constant and continuing reorganization of government departments presents a familiar problem. We will monitor these changes as they occur and make appropriate revisions in coming issues of *GRCD*. Users are invited to send comments and suggestions, particularly the name and location of potential entries which we may have overlooked.

Anthony T. Kruzas

# **Government Research Centers Directory**

★ 905 ★

ACOUSTICS DIVISION  
 Naval Research Laboratory  
 Washington, DC 20375  
 Dr. J. C. Munson, Superintendent

Division is part of the Systems Research and Technology Directorate, Naval Research Laboratory (NRL). NRL is a component of the Office of Naval Research; the Chief of Naval Research reports to the Assistant Secretary (Research, Engineering, and Systems), Department of the Navy.

Division has major responsibilities for basic and applied research and development in the Navy's Undersea Warfare (ASW) programs. The spectrum of work covered in the program includes propagation, noise and scattering, environmental prediction, surveillance system concepts, systems analysis, acoustic research engineering, radiation and transduction, target echo characteristics, and physical acoustics. Division conducts theoretical and experimental research programs in ocean acoustics; develops models of the interaction of acoustic energy with the ocean environment and with structures; and conducts experiments in the deep ocean, in acoustically shallow water, and in the Arctic. Division also manages, as well as participates in, the Fiber Optic Sensor System (FOSS) program. Division program is heavily oriented toward research and development in support of undersea surveillance, but it also supports other missions. Collaboration and cooperation with other parts of the Naval Research Laboratory and with other laboratories, both U. S. and foreign, is an integral part of the total Division program. Division participates in major groups formulating the Navy's ASW program and renders consultative services to the Navy, the Department of Defense, other government agencies, and private contractors.

Remarks: See Agency Index for listings of other components of the Systems Research and Technology Directorate, and of the Naval Research Laboratory, all included in this issue.

★ 906 ★

ADDICTION RESEARCH CENTER (ARC)  
 4940 Eastern Ave.  
 c/o Baltimore City Hospitals  
 Baltimore, MD 21224  
 Dr. Donald R. Jasinski, Director

Phone: (301) 396-9681  
 Established: 1935

ARC is the intramural research laboratory of the Research Division; National Institute on Drug Abuse; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; Department of Health and Human Services. Staff of 78 includes approximately 20 research professionals.

Center conducts basic and applied research in the area of drug dependency. The program is multidisciplinary and involves chemical, animal, and human pharmacological studies. ARC is presently organized into two laboratories: 1) a Clinical Laboratory in Baltimore, MD, which has research sections in Clinical Pharmacology, Clinical Psychology, and Drug Development and Abuse Liability; and 2) a Pre-Clinical Laboratory in Lexington, KY, which has research sections in Chemistry, Behavioral Pharmacology, Whole Animal Pharmacology, and Neuropharmacology. A Research Support Section is also located in Lexington. Center's accomplishments include assessment of over 150 drugs for addiction liability; preventing the introduction of numerous heroin-like drugs into therapeutics; elucidation of the physiological and psychological processes involved in addiction; development of treatment modalities for addiction; and development of methods for diagnosing addiction and testing physical dependence.

Research results are published in primary journals.

Remarks: ARC was originally a research unit of the U. S. Public Health Service Hospital in Lexington which had been established by Congress to serve as a facility for treatment and rehabilitation of narcotic abusers and for research in narcotic addiction. In 1948 the Hospital and research unit were reorganized under the newly created National Institute of Mental Health. In 1973, ARC was redesignated as the intramural research laboratory for the National Institute on Drug Abuse. It is anticipated that the program in Lexington will be moved to Baltimore in 1983. (Consult Agency Index for references to other National Institute on Drug Abuse components included in GRCD Issues 1-3.)

★ 907 ★

ADMINISTRATIVE CONFERENCE OF THE U. S. (ACUS)  
 2120 L St., N. W.  
 Washington, DC 20037  
 Reuben H. Robertson, Chairman

Phone: (202) 254-7065  
 Established: 1968

ACUS is an independent agency of the Federal Government. The Chairman's staff includes 12 professionals, 1 technician, and 8 others.

Purpose of the Conference is to study the efficiency and fairness of administrative processes in the Federal Government and to recommend improvements to the President, the agencies, the Congress, and the courts. The Conference is composed of: 1) the Office of the Chairman, who is appointed by the President for a five-year term and is the only full-time compensated member; 2) the Council, which includes the Chairman and 10 other members appointed by the President for three-year terms (not more than half from Federal agencies); and 3) the Assembly, which is composed of the entire membership, including the Chairman of each independent regulatory board or commission, the head (or his designee) of each executive department or administrative agency designated for this purpose by the President, and public members appointed by the ACUS Chairman for two-year terms. The Assembly establishes standing committees which plan and guide research conducted under contract by academic consultants and by the Conference's professional staff. On the basis of such research, the committees frame proposed recommendations for consideration by the Assembly. Topics of inquiry have ranged from a study of the effectiveness of the Federal Register as an informational resource to a study of the administrative procedures of the Internal Revenue Service.

Recommendations and statements adopted by the Assembly are published in the Federal Register and, sometimes, in the Code of Federal Regulations. Staff and consultant reports are often published as journal articles or as monographs. Reports that lead to adopted recommendations are published in RECOMMENDATIONS AND REPORTS OF THE ADMINISTRATIVE CONFERENCE OF THE UNITED STATES. Reports not leading to formal recommendations and not published in journals or monographs are made available for distribution by the Conference. ACUS also publishes ANNUAL REPORT. Biannual Plenary Sessions of the Conference (December and June) are open to the public. Library (which is a selective depository for U. S. Government documents) holds 5000 volumes in administrative law; Sue Judith Boley, Librarian.

★ 908 ★

ADVANCE PLANNING AND RESEARCH DIVISION  
 Automated Data and Telecommunications Service  
 18th and F Sts., N. W.  
 Washington, DC 20405  
 Roy Daniel Rosner, Director

Phone: (202) 566-1173  
 Established: 1972

Division is part of the Office of Systems Engineering and Operations, Automated Data and Telecommunications Service, General Services Administration. Staff includes 20 research professionals and 5 others.

Division conducts surveys, analysis, planning, and applied research and development related to ADP and telecommunications. Principal areas of study include computer and telecommunications equipment, services, and facilities.

Results are published as research reports.

★ 909 ★

ADVANCED PROJECTS OFFICE  
 Naval Research Laboratory  
 Washington, DC 20375  
 Mr. R. D. Mayo, Manager

Office is part of the Space and Communications Technology Directorate, Naval Research Laboratory (NRL). NRL is a component of the Office of Naval Research; the Chief of Naval Research reports to the Assistant Secretary (Research, Engineering, and Systems), Department of the Navy.

Office has NRL program management responsibility for an advanced space

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project. This involves system concept generation, system design, design implementation, fabrication, testing, and deployment of the total space system, which includes the operational overseas data collection systems as well as the satellite payloads. The Advanced Projects Office also develops future system concepts and future system proposals and advanced technology designs in the areas of future space and communications technology.

Remarks: See Agency Index for listings of other components of the Space and Communications Technology Directorate, and of the Naval Research Laboratory, all included in this issue.

★ 910 ★

AEROMECHANICS LABORATORY (AL/RTL)

U. S. Army Research and Technology Laboratories

Ames Research Center

Moffett Field, CA 94035

Dr. Irving C. Statler, Director

Phone: (415) 965-5837

Established: 1971

Laboratory is one of four which make up the U. S. Army Research and Technology Laboratories (RTL) of the Aviation Research and Development Command, a major subordinate command of the Materiel Development and Readiness Command, Chief of Staff of the Army, Department of the Army. Staff includes 60 research and 12 supporting professionals, 25 technicians, and 32 others.

Laboratory conducts aeronautical research in helicopters, principally as related to low-speed V/STOL aircraft. Specific areas of research include fluid mechanics, acoustics, rotorcraft dynamics, flight control, and man-machine integration.

Results are published in primary journals and as technical reports and proceedings.

Remarks: The other Research and Technology Laboratories are Applied Technology Laboratory, Structures Laboratory, and Propulsion Laboratory. See separate entries in this issue for descriptions of laboratories and of RTL.

★ 911 ★

AERONAUTICAL SYSTEMS DIVISION (ASD)

Wright-Patterson AFB, OH 45433

ASD is a component of Air Force Systems Command (AFSC), Department of the Air Force. Staff includes more than 7000 military and civilian scientists, engineers, and managers.

Division is the largest of the AFSC product divisions in terms of personnel, mission, and budget (Division spends more than one-half of AFSC's annual budget). Overall mission is to direct the development and acquisition of aircraft, missiles, engines, and other airborne equipment for the Air Force. As part of this mission, ASD's 4950th Test Wing performs research and development flight testing and aircraft modification for ASD and for other AFSC divisions and laboratories. (See separate entry in this issue for description of 4950th Test Wing.) Test aircraft fly missions from Wright-Patterson, the Eastern and Western Test Ranges, other U. S. test sites, and foreign lands.

★ 912 ★

AEROSPACE MEDICAL DIVISION (AMD)

Brooks AFB, TX 78235

AMD is a division of Air Force Systems Command, Department of the Air Force.

Division's missions are research and development, clinical medicine, education, and occupational and environmental health. Activities relating to

these missions are carried out through AMD's four main components:

- 1) USAF School of Aerospace Medicine (see GRCD Issue 1, entry #428);
- 2) Wilford Hall USAF Medical Center (see GRCD Issue 1, entry #453);
- 3) USAF Occupational and Environmental Health Laboratory (see separate entry in this issue); and 4) Aerospace Medical Research Laboratory (see separate entry in this issue). AMD provides a single point of management for the medical and life sciences research and development program.

★ 913 ★

AEROSPACE MEDICAL RESEARCH LABORATORY (AMRL)

Wright-Patterson AFB, OH 45433

Established: 1935

Laboratory is a component of Aerospace Medical Division, Air Force Systems Command, Department of the Air Force. Staff includes approximately 300 scientists and support personnel, and approximately 200 on-site contractors.

AMRL's primary objective is the conduct of behavioral and biomedical research to define the limits of human tolerance and the degradation of human performance under the conditions of environmental stress associated with aerospace operations. Laboratory also establishes design criteria and new biotechnology techniques for future aerospace systems and provides technical assistance to other federal agencies. Activities are carried out through AMRL's four main Divisions: 1) Biodynamics and Bioengineering Division conducts a multidisciplinary research and development program to protect man against mechanical force environments, to provide him with the best protective equipment, and to guarantee his full performance capability. Division is supported by a variety of man-rated biodynamic simulators, extensive hybrid computer data management facilities, the Aeronautical Systems Division Computer Sciences Center, and a full-service vivarium. 2) Manned Systems Effectiveness Division conducts interdisciplinary research and development pertaining to the optimal utilization of man and Air Force systems. This includes investigations of man's physiological and performance capabilities and the manner in which manned system performance is affected by the presence of operational environments. Support facilities include a Dynamic Environment Simulator which can be flown with close-loop control by a pilot for determining force capabilities in combat; a Roll Axis Tracking Simulator and a Multi-Axis Tracking Simulator which measure pilot performance; a Manned Threat Quantification Simulator, which functionally duplicates the performance of selected threat anti-aircraft artillery systems; and the Television Tracking Simulator, which functionally duplicates the performance of selected Soviet threat anti-aircraft artillery systems using closed-circuit television systems. 3) Human Engineering Division programs are aimed at learning more about man's physical and mental performance capabilities as an element in modern complex systems. Support facilities include a special-purpose image metrics laboratory; a tailored digital computational/simulation system; and special purpose simulators that permit complete mission simulation for the B-52G/H strategic aircraft defensive and offensive systems crews. 4) Toxic Hazards Division has sole responsibility within the Air Force to identify and quantify toxic hazards created by chemical environments characteristic of advanced Air Force systems and operational situations. The ultimate purpose of the Division's research program is to provide valid medical guidelines for the prevention of and protection against such health hazards as may be encountered by Air Force personnel in the performance of their military duties. Special facilities of the Division include eight exposure chambers called Thomas Domes. These are glass-paneled structures which allow visual and photographic observation of experiments in progress and have design features which make them suitable for handling highly toxic and suspect carcinogenic materials. In addition to these four main Divisions, AMRL also has a Veterinary Medicine Division which provides an assortment of laboratory animal services to researchers.

Research results are published in primary journals and as technical reports.

Remarks: AMRL is one of four major components of the Aerospace Medical Division. Others are the USAF School of Aerospace Medicine (see GRCD Issue 1, entry #428), Wilford Hall USAF Medical Center (see GRCD Issue 1, entry #453), and USAF Occupational and Environmental Health Laboratory (see separate entry in this issue).

★ 914 ★

**AIR FORCE AERO PROPULSION LABORATORY**

Air Force Wright Aeronautical Laboratories

Wright-Patterson AFB, OH 45433

Col. G. E. Strand, Director

Established: 1917

Laboratory is one of four Air Force Wright Aeronautical Laboratories, Air Force Systems Command, Department of the Air Force.

Mission of the Aero Propulsion Laboratory is to develop and test new sources of aerospace propulsion. It is the primary source of air-breathing engine and power technology for U. S. military aircraft and provides engineering for the Aeronautical Systems Division and other Air Force Systems Command product divisions. Laboratory: 1) develops and tests turbojets, turboprops, turbofans, ramjets, and turbine accelerators, and propulsion support concepts; 2) tests new lubricants and fuels, fire/explosion prevention techniques, and flight vehicle power generation; and 3) investigates secondary power generation sources, including auxiliary power units, electrical generators, hydraulic pumps, solar cells and arrays, primary batteries, and fuel cells. Laboratory also conducts research on magnetohydrodynamic (MHD) power generation and is working with other laboratories to develop and test laser technology. Facilities include one of the nation's most modern open-cycle MHD facilities to conduct tests of new power sources for future propulsion systems.

Remarks: The other three Wright Aeronautical Laboratories are the Air Force Materials Laboratory, the Air Force Avionics Laboratory (see separate entries in this issue), and the Air Force Flight Dynamics Laboratory (see GRCD Issue 1, entry #2).

★ 915 ★

**AIR FORCE ARMAMENT LABORATORY**

Eglin AFB, FL 32542

Laboratory is part of the Armament Division, Air Force Systems Command, Department of the Air Force.

The Armament Laboratory supports Armament Division programs by providing the technology and development of conventional munitions, weapons, and support equipment.

Remarks: For description of Armament Division, see separate entry in this issue.

★ 916 ★

**AIR FORCE AVIONICS LABORATORY**

Air Force Wright Aeronautical Laboratories

Wright-Patterson AFB, OH 45433

Col. R. R. Rankine, Jr., Director

Laboratory is one of four Air Force Wright Aeronautical Laboratories, Air Force Systems Command, Department of the Air Force.

The Avionics Laboratory develops electronic equipment to see, hear, sense, and guide aircraft and missiles. Research and development covers areas of navigation, communications, surveillance, reconnaissance, weapons delivery, and electronic warfare. Projects vary from lasers and small electronic memories to complex communications and navigation systems transmitting from satellites. Major efforts include the Digital Avionics Information System (DAIS), sensor technology, new radars, and electronic countermeasures. (DAIS permits different avionics systems, such as navigation and communications, to share common controls and displays. A DAIS cockpit system is being tested that would eliminate the numerous round dials and dedicated control panels in current aircraft and permit different avionic subsystems to share common controls and displays.) Sensor technology research of the Avionics Laboratory has provided sensors for day and night reconnaissance, laser target designators, terminal guidance units, and radar. Laboratory has also helped develop laser guided missiles and bombs. Infra-red sensor technology is used to locate and rescue

downed air crews at night or in bad weather, and to detect heat loss from homes and office buildings. Civilian spin-offs from Avionics Laboratory efforts in development of microcircuitry for aircraft and space vehicles are found in household transistor radios, solid state televisions, and hand-held calculators.

Remarks: The other three Wright Aeronautical Laboratories are the Aero Propulsion Laboratory, the Materials Laboratory (see separate entries in this issue), and the Flight Dynamics Laboratory (see GRCD Issue 1, entry #2).

★ 917 ★

**AIR FORCE BUSINESS RESEARCH MANAGEMENT CENTER (AFBRMC)**

Wright-Patterson AFB, OH 45433

Phone: (513) 255-6221

Col. Martin D. Martin, Executive Director Established: 1973

Center is a component of Contracting and Acquisition Policy, Deputy Chief of Staff (Research, Development, and Acquisition), Chief of Staff of the Air Force, Department of the Air Force. Staff includes 6 research professionals, 1 supporting professional, and 3 others.

Center serves as a focal point within the Air Force for acquisition research studies. Center matches acquisition problems with existing research capabilities; manages and monitors selected research efforts; markets results to the acquisition community; and, in some instances, assists in implementing research recommendations. Principal areas of research interest are: 1) requirements management; 2) acquisition logistics; 3) business relationships; 4) program management; and 5) business environment.

Results are published as research reports. Center publishes annual BUSINESS RESEARCH REPORT and annual ACQUISITION RESEARCH TOPICS CATALOG.

★ 918 ★

**AIR FORCE MATERIALS LABORATORY**

Air Force Wright Aeronautical Laboratories

Wright-Patterson AFB, OH 45433

G. P. Peterson, Director

Laboratory is one of four Air Force Wright Aeronautical Laboratories, Air Force Systems Command, Department of the Air Force.

The Materials Laboratory engages in basic research, exploratory development, and manufacturing technology to reduce the cost and weight of aerospace materials. Laboratory's scientists and engineers work with chemicals, metals, composites, and matrix materials to make materials stronger and lighter. Laboratory also tests new methods of cutting materials (such as a high-powered laser beam for cutting aluminum); develops new manufacturing processes; and researches future materials concepts and technology. In addition to light aircraft, missiles, and space vehicles, improved materials and processes from the Laboratory have resulted in spin-offs for the civilian economy. Examples include teflon coatings for pans and skillets, eye glasses that darken in bright sunlight, and lightweight materials such as graphite and beryllium for golf clubs and tennis rackets.

Remarks: The other three Wright Aeronautical Laboratories are: Air Force Avionics Laboratory, Air Force Aero Propulsion Laboratory (see separate entries in this issue), and Air Force Flight Dynamics Laboratory (see GRCD Issue 1, entry #2).

★ 919 ★

**AIR FORCE OFFICE OF SCIENTIFIC RESEARCH (AFOSR)**

Bolling Air Force Base

Washington, DC 20332

Office is a component of Air Force Systems Command, Department of the Air Force.

AFOSR is responsible for: 1) 6.1 (basic) research conducted in-house at

2

eight Air Force laboratories (see "Remarks" below); 2) the extramural research contract programs of those Air Force laboratories; and 3) extramural research contracts and grants for fundamental research awarded directly by AFOSR. Air Force laboratories which perform research are reimbursed for research expenses by AFOSR. Grants and contracts are awarded in areas of science and engineering which relate to Air Force needs. Research to be supported is selected from unsolicited proposals from scientists investigating problems of their own choosing. Air Force laboratory contracts for research are awarded through unsolicited proposals and through responses to requests for proposals. These contracts are generally in areas that directly complement laboratory in-house programs. University programs supported by AFOSR are encouraged to develop into multi-investigator (cluster) programs which will explore new ideas, provide long-term stability, encourage junior faculty and post-doctoral fellow participation, and at the same time increase research effectiveness through group efforts.

Remarks: AFOSR includes the European Office of Aerospace Research and Development and the Frank J. Seiler Research Laboratory at the U. S. Air Force Academy (see GRCD Issue 1, entry #367). The eight Air Force laboratories conducting in-house research (see above description) are: Air Force Armament Laboratory, Air Force Geophysics Laboratory, Rome Air Development Center, Air Force Rocket Propulsion Laboratory, Air Force Wright Aeronautical Laboratories, Air Force Human Resources Laboratory, Aerospace Medical Division, and Air Force Weapons Laboratory. These laboratories are assigned to AFOSR for 6.1 (basic) research; for 6.2 and 6.3 (exploratory and advanced development) research, the laboratories are assigned to the Director of Science and Technology. (See Agency Index for references to listings of these and other Air Force laboratories of the Air Force Systems Command in GRCD Issues 1-3.)

★ 920 ★

AIR FORCE SYSTEMS COMMAND (AFSC)

Andrews Air Force Base  
Washington, DC 20334  
General Alton D. Slay, Commander

Parent organization is Department of the Air Force.

AFSC is responsible for research, development, and acquisition of U. S. aerospace systems. Command includes product divisions which acquire aircraft, missiles, electronic systems, and conventional weapons; test centers; laboratories which conduct research in the mathematical, physical, engineering, environmental, and life sciences; divisions which are involved in medical research and technology; offices for contract management; and specialized divisions such as the Foreign Technology Division, which analyzes foreign aerospace scientific and technical intelligence. See Agency Index for complete listing of all AFSC components included in GRCD Issues 1-3.

★ 921 ★

AIR FORCE WEAPONS LABORATORY (AFWL)

Kirtland AFB, NM 87117

Laboratory is organizationally assigned to the Director of Science and Technology, Air Force Systems Command, Department of the Air Force. Staff totals more than 1100.

AFWL conducts non-conventional weapons research and development programs in weapon effects and safety, laser technology, nuclear survivability/vulnerability, and advanced weapons concepts. AFWL was the site of the first successful use of a laser beam against a flying target, and currently operates two laser test ranges, an airborne laser laboratory, and optics development and fabrication facilities. AFWL also serves as a focal point for technical aspects of nuclear safety, develops nuclear hardness criteria for Air Force equipment, and assesses the ability of aircraft, missiles, and electronics to withstand nuclear explosion effects. Laboratory also has the capability to simulate radiation, blast, and shock effects of nuclear explosions. To support its weapons programs, AFWL has the largest scientific computation capability in the Department of Defense.

★ 922 ★

AIR FORCE WRIGHT AERONAUTICAL LABORATORIES (AFWL)

Wright-Patterson AFB, OH 45433  
Col. J. R. Nelson, Commander

AFWL is organizationally assigned to the Director of Science and Technology, Air Force Systems Command, Department of the Air Force. Staff totals approximately 3000 (military and civilian).

Mission of AFWL is to plan and conduct Air Force research, exploratory and advanced development, and selected engineering development for flight vehicle dynamics and propulsion, avionics and materials, and manufacturing technology. This includes research and development on aircraft, missiles, engines, fuels, airborne electronics, and support equipment for the Air Force and other Services.

Remarks: The four Air Force Wright Aeronautical Laboratories are: 1) Air Force Aero Propulsion Laboratory; 2) Air Force Avionics Laboratory; 3) Air Force Materials Laboratory (see separate entries in this issue); and 4) Air Force Flight Dynamics Laboratory (see GRCD Issue 1, entry #2).

★ 923 ★

AIR RESOURCES LABORATORIES (ARL)

8060 13th St.  
Silver Spring, MD 20910  
Lester Machto, Director

Phone: (301) 427-7645

ARL is a component of Environmental Research Laboratories, Office of the Assistant Administrator for Research and Development, National Oceanic and Atmospheric Administration (NOAA), Department of Commerce.

The Air Resources Laboratories include the headquarters group in Silver Spring, MD; the Meteorology Laboratory in Research Triangle Park, NC; the Atmospheric Turbulence and Diffusion Laboratory in Oak Ridge, TN; the Field Research Office in Idaho Falls, ID; the Solar Radiation Facility in Boulder, CO; and the Geophysical Monitoring for Climatic Change Laboratory in Boulder, CO, with observatories at Mauna Loa, HI, Barrow, AK, the South Pole, and American Samoa. ARL research is geared to user needs, which frequently are those of other government agencies with related missions, and funding and guidance derive from this association. In some cases, the ARL unit under contract to another agency acts as its meteorological arm. Most ARL research deals with the use of meteorology to understand and predict human influence on the environment. General areas of study include: turbulence and diffusion in the atmosphere; atmospheric transport; meteorology of air pollution; carbon dioxide and climate, acid rain, and geophysical monitoring for climatic change. The headquarters group in Silver Spring develops computer models that simulate local, regional, and global transport and diffusion of pollutants in the atmosphere. Air sampling programs and other field experiments are conducted to provide data for model verification. The headquarters group also models sonic boom effects and studies acid rain.

Remarks: See Agency Index for other NOAA Environmental Research Laboratories included in GRCD Issues 1-3.

★ 924 ★

ALABAMA COOPERATIVE FISHERY RESEARCH UNIT

Auburn University  
Fisheries Bldg.  
Auburn, AL 36830  
Dr. John S. Ramsey, Unit Leader

Phone: (205) 826-4786  
Established: 1966

Unit is part of a cooperative program between U. S. Fish and Wildlife Service, Department of the Interior; Auburn University; and the Alabama Department of Conservation. Staff includes 2 research professionals.

Unit conducts research on fishes and aquatic ecosystems, including studies in fish taxonomy; fish cytogenetics; the ecology of fish competition; gamefish life history; and stream, river, and lake ecology.

Research results are published in primary journals. Unit publishes ANNUAL REPORT.

## ★ 925 ★

## ALABAMA COOPERATIVE WILDLIFE RESEARCH UNIT

Auburn University  
Wildlife Bldg.  
Auburn, AL 36830  
Dr. Daniel W. Speake, Unit Leader

Unit is part of a cooperative program between U. S. Fish and Wildlife Service, Department of the Interior; Auburn University; the Alabama Department of Conservation; and Wildlife Management Institute.

Unit conducts research on game management, with emphasis on the ecology of game species. Program includes research in general ecology, diseases, effects of pesticides, and morphology as related to management studies.

Research results are published in primary journals and as proceedings.

## ★ 926 ★

## ALASKA AGRICULTURAL EXPERIMENT STATION

University of Alaska  
Fairbanks, AK 99701 Phone: (907) 479-7188  
Dr. James V. Drew, Director Established: 1906

Station operates in cooperation with Cooperative Research, Science and Education Administration, Department of Agriculture (USDA-SEA-CR); the University of Alaska; and the State of Alaska. Staff includes 16 research professionals, 8 supporting professionals, 48 technicians, and 10 others.

Station conducts basic and applied research directed toward the development of agricultural and forest industries in Alaska. This includes research in the fields of agronomy, animal science, botany, economics, forestry, horticulture, outdoor recreation, plant ecology, plant pathology, and weed science.

Results are published as journal articles and in Station's bulletins and circulars. Station also publishes annual AGROBOREALIS.

Remarks: Station's research centers (including offices, laboratories, and experimental farms) are located on the Fairbanks campus and at Palmer, AK, and Homer, AK. Research is also conducted at other field sites located throughout the State of Alaska. (See separate entry in this issue for further description of USDA-SEA's Cooperative Research program.)

## ★ 927 ★

## ALBUQUERQUE OPERATIONS OFFICE (ALOO/DOE)

P. O. Box 5400  
Albuquerque, NM 87115

Office is assigned to the Assistant Secretary for Defense Programs, Department of Energy (DOE). Organization includes the Operations Office headquarters on Kirtland AFB-East in Albuquerque and seven area offices in Florida, Ohio, Missouri, Texas, New Mexico, and Colorado. ALOO staff totals approximately 1350, including about 550 at the Albuquerque office.

Office has management responsibility for DOE activities associated with the Defense Programs. This includes administration of two major DOE multiprogram laboratories (Sandia National Laboratories and Los Alamos Scientific Laboratory); administration of contract work done by Lovelace Biomedical and Environmental Research Institute at the DOE-owned Inhalation Toxicology Research Institute; support of energy programs conducted under contract; and management responsibilities for DOE-owned, contractor-operated weapons production plants (Rocky Flats Plant, Golden, CO; Kansas City Plant, Kansas City, MO; Pinellas Plant, Clearwater, FL; Mound Laboratory, Miamisburg, OH; Pantex Plant, Amarillo, TX; Y-12 Plant, Oak Ridge, TN; and Savannah River Plant, Aiken, SC). ALOO also operates the National Atomic Museum on Kirtland AFB-East.

Office maintains the National Atomic Museum Library with holdings of 900 books and 8000 documents on the atomic age and alternative energy sources; Gwen R. Schreiner, Librarian.

Remarks: See indexes for individual listings in GRCD Issues 1-3 of the DOE laboratories and some of the production plants included in the above description.

## ★ 928 ★

## ALEXANDRIA FORESTRY CENTER

Alexandria, VA 71360

Center is a field component of Southern Forest Experiment Station, Forest Service, Department of Agriculture. Staff includes approximately 70 scientists and technicians.

Research projects at the Alexandria center (which is the largest research complex of the Southern Forest Experiment Station) include studies in: 1) regeneration and management of growing pines; 2) insect research to cut losses from the southern pine beetle; 3) wood generation to get more wood from each tree; 4) intensive culture to find fresh approaches to increase wood production per acre; and 5) forest range development to increase the nation's beef production.

Research results are published in Southern Forest Experiment Station publications, in primary journals, and as proceedings.

Remarks: Requests for general information about the Center should be addressed to Southern Forest Experiment Station, 701 Loyola Ave., New Orleans, LA 70113. (See separate entry in this issue for description of Station.)

## ★ 929 ★

## ALTERNATIVE BIOLOGICAL SOURCES OF MATERIALS PROGRAM

National Science Foundation  
1800 G St., N. W.  
Washington, DC 20550

Parent organization is Problem-Focused Research Division, Directorate for Engineering and Applied Science, National Science Foundation (NSF).

Goal of this Program is to alleviate national dependence on selected scarce resources by making alternative biological sources of materials available in the U. S. To achieve this goal, Program supports research to: 1) determine which biological sources constitute promising alternatives; 2) develop biologically based processes needed to convert the sources to useful materials; and 3) determine the socioeconomic, technical, and environmental impacts of various proposed biological alternative systems. Topics include biological conversion of lignocellulose to useful chemicals and materials and production of specialty chemicals for underutilized plants.

Remarks: For further discussion of programs sponsored by the Problem-Focused Research Division, see GRCD Issue 1, entry #100. See Agency Index in this issue for specific listings of individual programs.

## ★ 930 ★

## AMES LABORATORY

Iowa State University  
Ames, IA 50011  
Dr. Robert Hansen, Director

Phone: (515) 294-1856

Ames Laboratory is a multiprogram laboratory of the Office of Energy Research, Department of Energy (DOE). Laboratory is located on the University campus and is operated for DOE, under contract, by the University. Staff of approximately 650 includes Laboratory's full-time professional staff, personnel holding joint University/Laboratory positions, and graduate assistants.

Laboratory activities range from fundamental research in the physical sci-

ences to goal-oriented programs in the energy and environmental sciences. The major program at Ames is in the materials sciences and centers on the preparation, purification, chemical characterization, and structure identification of new materials, followed by evaluation and interpretation of their chemical, physical, and mechanical properties. Other programs include: 1) a chemical analysis program (emphasizing analytical optical and mass spectroscopies) which supports the materials sciences program and serves as a nucleus for environmental sciences research; and 2) chemistry and chemical engineering programs which involve identification of reaction pathways in very fast reactions, establishment of the structural chemistry of coal, and studies on the chemistry of hydrogen storage and catalyst, the properties and potential of fly ash, and process development and control. Laboratory also participates in programs involving cooperative arrangements with other DOE research laboratories.

Research results are published in primary journals and as technical reports. Laboratory publishes a monthly newsletter (CHANGING SCENE), a BULLETIN SERIES, and annual AMES LABORATORY RESEARCH REPORT.

★ 931 ★

ANACOSTIA NEIGHBORHOOD MUSEUM

2405 Martin Luther King Ave., S. E.

Washington, DC 20020

John R. Kinard, Director

Phone: (202) 287-3306

Established: 1967

Parent agency is Smithsonian Institution. Staff includes 2 research professionals.

Located in a predominantly black neighborhood where the socio-economic profile reflects the disadvantages and concerns of many marginal and transitional urban communities, the Museum is committed to bringing to local and neighborhood audiences the quality of exhibitions and programs that are found in other cultural institutions. The Museum draws on the strength of Anacostia's rich multi-ethnic and cultural history for its programs of education, exhibition development, and research. Unlike other museums, tourism does not generate visitors to the Anacostia Neighborhood Museum. Instead, close contact is maintained with school groups, community centers, alternative educational programs, and federal agencies and institutions. The programs of the research and education departments are designed to focus on the Museum's major functions by producing written and audio-visual materials for immediate public consumption.

Remarks: Students interested in the academic research opportunities offered by the Museum should contact: Office of Fellowships and Grants, Smithsonian Institution, 955 L'Enfant Plaza, S. W., Washington, DC 20560.

★ 932 ★

ANTI-SUBMARINE WARFARE SYSTEMS PROJECT OFFICE

2511 Jefferson Davis Hwy.

Arlington, VA

(Mailing address: Washington, DC 20362)

Office is a component of the Naval Material Command; the Chief of Naval Material (CNM) reports to the Chief of Naval Operations, Department of the Navy.

The Project Manager for Anti-Submarine Warfare Systems (ASW) is responsible for the development and acquisition of the entire array of ASW systems for the Navy. Related activities (including research and development) are carried out through the subordinate Systems Commands of the Naval Material Command.

Remarks: Specific areas of interest in Anti-Warfare Systems are normally classified, and the subjects are not releasable except on a "need-to-know" basis.

★ 933 ★

APPALACHIA EDUCATIONAL LABORATORY, INC. (AEL)

P. O. Box 1348

1031 Quarrier St.

Charleston, WV 25325

Dr. Terry L. Eldell, Director

Phone: (304) 344-8371

Established: 1966

Institute is an independent, non-profit organization supported primarily by Department of Education funds. Staff includes 21 research and 8 supporting professionals, 3 technicians, and 13 others.

Mission of AEL is to improve education and educational opportunity for residents of the primarily non-urban areas of the seven member states of the Laboratory's region. This mission is accomplished through development of innovative programs and processes to meet identified needs in its region and through providing its research and development services to the region's education agencies. Activities include research, design, development, implementation, and evaluation of educational programs and processes in career guidance and childhood and parenting.

Results are published as research reports. AEL publishes APPALACHIAN EDUCATOR (bi-monthly) and sponsors annual meetings of its Board of Directors. Library holds 8000 volumes on subjects relating to educational research; Louise Kinzy, Librarian.

Remarks: For further description of Laboratory's relationship to the Department of Education, see separate entry in this issue on the National Institute of Education.

★ 934 ★

APPLICATIONS LABORATORY

National Environmental Satellite Service

World Weather Bldg.

5200 Auth Rd.

Camp Springs, MD 20223

Lawrence Hyatt, Director

Phone: (301) 763-8282

Parent organization is Office of Research, National Environmental Satellite Service (NESS), National Oceanic and Atmospheric Administration (NOAA), Department of Commerce.

Laboratory provides an interface to the research community to ensure that research results are carried smoothly into operational use. As part of this interface, Laboratory develops and specifies new products, services and techniques; develops test and pilot operations, trains operational users of the products, and turns over systems or components to the Office of Operations; conducts training and consultation in the application of environmental satellite data; and provides consultation in data processing systems to other organizations in the Office of Research and NESS, and provides software support and programming to the Office of Research. Principal components of the Applications Laboratory are: 1) Physical Sciences Branch; 2) Systems and Software Branch; 3) Training and Information Services Group; and 4) Regional and Mesoscale Meteorology Branch, which conducts (jointly with the Atmospheric Sciences Department of Colorado State University) research and development projects concerning the application of satellite data to regional (single state) and mesoscale (metropolitan area) meteorological problems, with emphasis on integration of satellite data and products with radar and conventional data.

Remarks: Applications Laboratory is one of four major components of the NESS Office of Research. Others are the Earth Sciences Laboratory, the Satellite Experiment Laboratory, and the Development Laboratory. Consult indexes in this issue for specific references to those described separately in GRCD.

## ★ 935 ★

APPLIED PHYSICAL, MATHEMATICAL, AND BIOLOGICAL SCIENCES,  
AND ENGINEERING SECTION  
National Science Foundation  
1800 G St., N. W.  
Washington, DC 20550

Section is part of the Applied Research Division, Directorate for Engineering and Applied Science, National Science Foundation.

Programs administered by this Section seek to increase the rate of technological innovation growing out of discoveries in various fields of science and to accelerate the application and use of these technologies. Support is provided for applied research in the physical, mathematical, and biological sciences, and engineering, with special emphasis on work related to industrial automation and production technology.

Remarks: Consult Agency Index for listings of other components of the Applied Research Division, the Division itself, and the Directorate for Engineering and Applied Science and its other components. For further information on support mechanisms of the National Science Foundation, see GRCD Issue 1, entry #262.

## ★ 936 ★

APPLIED TECHNOLOGY LABORATORY (ATL/RTL)  
U. S. Army Research and Technology Laboratories  
Ft. Eustis, VA 23604  
Col. Emmett F. Knight, Director      Established: 1971

Laboratory is one of four which make up the U. S. Army Research and Technology Laboratories (RTL) of the Aviation Research and Development Command, a major subordinate command of the Materiel Development and Readiness Command, Chief of Staff of the Army, Department of the Army.

ATL conducts research in Army airborne systems and provides technical support to project/product managers concerned with development of Army airborne systems.

Results are published in primary journals and as technical reports and proceedings.

Remarks: The other three Research and Technology Laboratories are the Aeromechanics Laboratory, Propulsion Laboratory, and Structures Laboratory. See separate entries in this issue for descriptions of laboratories and of RTL.

## ★ 937 ★

APPROPRIATE TECHNOLOGY PROGRAM  
National Science Foundation  
1800 G St., N. W.  
Washington, DC 20550

Program is one of several industrial innovation programs administratively assigned to the Intergovernmental Science and Public Technology Division, Directorate for Engineering and Applied Science, National Science Foundation (NSF).

Appropriate technologies are defined as those technologies that are centralized, require low capital investment, are amenable to more direct management by their users, are perceived to be in harmony with the environment, and are conserving of natural resources. Goals of the NSF Appropriate Technology Program are: 1) to strengthen the science base needed to identify and develop promising appropriate technologies that have potential for generalization beyond the initial application and fall outside the responsibility or interest of mission agencies; and 2) to improve the understanding of science and technology, along with its role and impact on U. S. society and the economy. Support is provided for basic and applied research projects that further these goals. Topics included within the scope of the Program are: appropriate technology and urban innovation; small-scale industrial technology; recycling, resource recovery, and conservation; and the roles and impacts of appropriate technology on so-

ciety, the economy, and technological development. Proposals directed principally toward technologies for alternative energy sources and energy conversion systems and related topics are not eligible for support from this program.

Remarks: See Agency Index for listings of other NSF industrial innovation programs included in GRCD Issues 1-3.

## ★ 938 ★

ARCHITECT OF THE CAPITOL  
U. S. Capitol  
Washington, DC 20515  
George M. White, Architect of the Capitol      Phone: (202) 225-1222  
Established: 1793

The Architect of the Capitol acts as an agent of the U. S. Congress.

Principal duties of the Architect include the structural and mechanical care of the U. S. Congress Building, making arrangements for ceremonies and ceremonies held on the grounds; structural and mechanical care of the Library of Congress Building and the Supreme Court Building; and the planning and construction of such buildings as may be committed to his care by Congress. Architect is also responsible for the conduct of research on the architecture, art, decorative arts, and history of the U. S. Capitol. Collection includes photographs, architectural drawings, and manuscript files on art and artists represented in the Capitol. Additional studies are also conducted on early Washington, DC.

Activities and programs are described in the ANNUAL REPORT OF THE ARCHITECT OF THE CAPITOL and in ART IN THE U. S. CAPITOL. Library holds 4000 volumes in a specialized collection relating to the U. S. Capitol; Florian H. Thayne, Head of Art and Reference.

## ★ 939 ★

ARKANSAS WATER RESOURCES RESEARCH CENTER  
University of Arkansas  
747 W. Dickson St.  
Fayetteville, AR 72701  
Dr. Robert E. Babcock, Director      Phone: (501) 575-4403

Center is part of a cooperative program between the Office of Water Research and Technology, Department of the Interior; the State of Arkansas; and the University of Arkansas. Staff includes approximately 20 research professionals, 10 supporting professionals, 5 technicians, and 5 others.

Center conducts research on water and water-related resources. Program includes studies on: an automated sub-irrigation system; environmental changes produced by cold-water outlets from reservoirs; quantitative analysis of interbasin transfer; stream and river ecology; and stream flow-rate extremes.

Research results are published in bulletins and primary journals.

Remarks: See entry for Office of Water Research and Technology in GRCD Issue 1 (entry #310) for a more specific description of the Federal role in the State university water resources institutes program.

## ★ 940 ★

ARMAMENT DIVISION  
Eglin AFB, FL 32542

Division is a component of Air Force Systems Command, Department of the Air Force.

The Armament Division plans and manages development and acquisition of airborne armament systems. This includes air-launched tactical and air defense missiles, guided weapons, non-nuclear munitions, aircraft guns and ammunition, targets, and related equipment. Development and testing

programs are conducted under realistic combat conditions and controlled laboratory and climatic testing in the world's largest environmental test chamber.

Remarks: Division efforts are supported by the Air Force Armament Laboratory. See separate entry in this issue for description of the Laboratory.

★ 941 ★

ARMED FORCES RADIOBIOLOGY RESEARCH INSTITUTE (AFRRI)  
National Naval Medical Center  
8901 Wisconsin Ave.  
Bethesda, MD 20014

Institute is a joint service organization of the Defense Nuclear Agency, Department of Defense.

AFRRI's mission is to conduct scientific research in the field of radiobiology and related matters in medical support of the Department of Defense. Institute is organized in five main Departments: 1) Behavioral Sciences Department conducts research to determine the acute effects of radiation, chemicals, and drugs on the behavior, performance, psychoneurological integrity, and physiology of experimental animals for extrapolation of these data to man; 2) Biochemistry Department is concerned with development of a better understanding of the mechanisms of damage to biological systems as a result of the actions of various toxic agents (such as radiation) and chemical agents, and with development of more effective methods for detecting and evaluating such changes and relating them to subsequent injury in man; 3) Experimental Hematology Department studies the blood cell-forming system as affected by ionizing radiation alone or in combination with other injuries in order to determine the precise interaction of radiation with blood cell precursors, to assess the decreased capability of damaged bone marrow to recover from secondary injuries, and to develop treatment to ameliorate radiation and combined injury. The Physiology Department and the Scientific Support Department have recently been created as part of a reorganization within the Institute. (Detailed information on these two Departments was not available at the time of this writing. However, the Physiology Department replaces a Neurobiology Department, which conducted research on the mechanisms whereby ionizing radiation interferes with nervous system function.) Special facilities for research at AFRRI include radiochemistry laboratories, a hot cell, a nuclear reactor, and an electron linear accelerator.

Research results are published as journal articles, research reports, and proceedings.

★ 942 ★

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)  
Arnold AFS, TN 37389  
Col. Michael H. Alexander, Commander Established: 1953

Center is a component of Air Force Systems Command, Department of the Air Force. Staff includes 100 Air Force personnel, 150 Air Force civilian personnel, and approximately 3150 persons employed by ARO, Inc., the Center's operating contractor.

Mission of AEDC is to accelerate the development of aeronautical and space systems by conducting aerodynamic, space environment, and propulsion tests in advanced flight-simulation facilities. Applied research programs are also conducted at the Center to develop new facilities and techniques for testing systems of the future. Major test facilities at the Center include: 1) the Engine Test Facility, which is used for development and evaluation testing of propulsion systems for advanced aircraft, missiles, satellites, and space vehicles; 2) the Propulsion Wind Tunnel Facility, which is used to test large-scale models and, in some cases, full-scale aircraft, missiles, satellites, and space vehicles, and the propulsion systems for them; and 3) the Von Karman Gas Dynamics Facility, which includes 13 wind tunnels and various ballistic test cells and is used for aerodynamic testing under highly realistic conditions. A new Aeropropulsion Systems Test Facility presently under construction will provide necessary facilities for development of turbojet and turbofan engines capable of

powering large, high-performance military and commercial aircraft.

Center publishes AEDC TEST HIGHLIGHTS.

Remarks: AEDC provides test facilities and services not only to the Air Force, but also to the Army, Navy, National Aeronautics and Space Administration, and to educational institutions, industry, and other Government agencies. The Center has supported virtually every major U. S. aerospace program.

★ 943 ★

ASSISTANT SECRETARY FOR DEFENSE PROGRAMS  
Department of Energy  
Washington, DC 20545

Parent agency is the Department of Energy (DOE).

The Assistant Secretary for Defense Programs (DP) manages and directs DOE's programs for nuclear weapons research, development, testing, production, and surveillance; laser, heavy ion, and electron beam fusion; safeguards and security program; international security program; and classification. DP is also responsible for the Nuclear Materials Production Program and exercises overview responsibility for the DOE weapon complex. On overriding issues of national security, DP has direct access to the Secretary. Defense Programs is organized into three staff offices (Office of Policy Analysis and Operations, Office of Resource Management, and Office of Institutional Liaison and Communications) and six program offices: 1) The Office of Military Application (OMA) is responsible for programs of research, development, testing, production, storage, and readiness assurance of nuclear weapons; transportation of strategic quantities of DOE special nuclear materials, including weapons; maintaining liaison between DOE and the Department of Defense on nuclear weapons matters; and administering DOE activities under international cooperative agreements involving nuclear defense. 2) The Office of Inertial Fusion (OIF) is responsible for DOE's inertial confinement fusion program, providing programmatic direction to the national weapons laboratories to develop and operate major fusion facilities and assuring a broad base of research in universities and private industry. 3) The Office of Safeguards and Security (OSS) coordinates DOE's safeguards and security efforts to protect special nuclear materials, all classified activities, and DOE facilities. Office develops, tests, evaluates, and implements safeguards systems which employ physical protection, material control, and material accountability into facility-wide integrated safeguards systems for each installation. New Brunswick Laboratory (see GRCD Issue 1, entry #277) supports OSS through research on the security and safeguards of nuclear materials. 4) The Office of International Security Affairs (ISA) plans, develops, analyzes, coordinates, and directs national security aspects of DOE international activities relating to nuclear technology and materials and political, military, economic, and energy affairs. 5) The Office of Nuclear Materials Production is responsible for DOE's Nuclear Materials Production Program, which provides special materials for national defense requirements and for DOE reactor research and development programs; produces reactor fuels, operates production reactors, and reprocesses reactor fuel; and provides steam to the Washington Public Power Supply System. 6) The Office of Classification (OC) is responsible for the policies, standards, procedures, and guides for classification and declassification of restricted data and other DOE national security information.

Remarks: The Assistant Secretary for Defense Programs is assigned three operations offices (Albuquerque, Nevada, and Savannah River); eight production plants (Mound and Savannah River Weapons Facilities and Amarillo, Kansas City, Pinellas, Rocky Flats, and Y-12 Plants) which are engaged in weapons production, and the Savannah River Plant, which is a major part of DOE's Nuclear Materials Production Program; The Nevada Test Site for nuclear test operations; and five laboratories--Los Alamos Scientific Laboratory, Lawrence Livermore National Laboratory, and Sandia National Laboratories are involved in varying degrees in support of all facets of the weapons program; New Brunswick Laboratory supports the security and safeguards program; the Savannah River Laboratory is specifically involved in production of nuclear materials. Consult Agency Index for specific listings of these five laboratories and of those DP affiliated operations offices and production plants listed individually in GRCD Issues 1-3. For further information on the Nevada Test Site, see entry on the Nevada Operations Office in GRCD Issue 2.

## ★ 944 ★

## ASSISTANT SECRETARY OF THE NAVY (RESEARCH, ENGINEERING, AND SYSTEMS)

The Pentagon  
Washington, DC 20350  
Dr. David Mann, Assistant Secretary

Parent agency is the Department of the Navy.

The Assistant Secretary of the Navy (Research, Engineering, and Systems) is responsible for matters related to research, development, engineering, test, and evaluation effort within the Department of the Navy. He is also responsible for oceanography, ocean engineering, and closely related matters, and for supervision of the Office of Naval Research.

## ★ 945 ★

## ATLANTIC OCEANOGRAPHIC AND METEOROLOGICAL LABORATORIES (AOML)

15 Rickenbacker Causeway  
Miami, FL 33149  
Hugo F. Bezdek, Director Phone: (305) 361-4300

Parent organization is Environmental Research Laboratories (ERL), National Oceanic and Atmospheric Administration (NOAA), Department of Commerce.

AOML conducts research on: 1) the nature of air-sea interface and fluxes across it; 2) tropical meteorology and hurricanes; 3) the movements, thermal and chemical composition, and material transformation within the ocean waters; and 4) the structure and dynamic processes of the underlying sea floor. The six laboratories which make up AOML are: Physical Oceanographic Laboratory; Ocean Chemistry and Biology Laboratory; Marine Geology and Geophysical Laboratory; Sea-Air Interaction Laboratory; Ocean Acoustics Laboratory; and National Hurricane Research Laboratory.

Remarks: See Agency Index for listings of other Environmental Research Laboratories components included in GRCD Issues 1-3.

## ★ 946 ★

## AUBURN UNIVERSITY AGRICULTURAL RESEARCH PROGRAM

Funchess Hall  
Auburn, AL 36830  
Charles Elkins, Location Leader Phone: (205) 826-4100

Program operates in cooperation with Agricultural Research - Southern Region, Science and Education Administration, Department of Agriculture. Staff includes 3 research professionals, 1 supporting professional, 2 technicians, and 1 other.

Program involves the conduct of basic field and laboratory research in agriculture, principally in soil and water. Included are studies on: 1) photosynthesis; 2) root growth; 3) irrigation; 4) fertility; and 5) tillage.

Results are published in primary journals.

## ★ 947 ★

## AUTOMATED PRODUCTION TECHNOLOGY DIVISION

National Bureau of Standards  
Gaithersburg, MD  
(Mailing address: Washington, DC 20234)  
Dr. Robert J. Hocken, Program Manager

Division is part of the Center for Manufacturing Engineering, National

Engineering Laboratory, National Bureau of Standards, Department of Commerce. Staff includes 5 research professionals (group leaders).

Division operates largely in the discipline of Production Engineering. It develops and maintains competence in machine tool dynamics and robotics. Division is concerned with the incorporation of metrology into the precision metal working processes, including the standards necessary to integrate equipment up to the manufacturing cell level. It incorporates the metrology of Center's Mechanical Production Metrology Division into production processes at the work station level and develops the interfaces necessary to combine robots and machines into work stations, and work stations into manufacturing cells.

Remarks: Division was established with the reorganization of the Center for Manufacturing Engineering (previously called the Center for Mechanical Engineering and Process Technology) in 1980. See separate entries in this issue for further description of Center and its other divisions.

## ★ 948 ★

## BANKING RESEARCH AND ECONOMIC ANALYSIS (BR&amp;EA)

Department of the Treasury  
490 L'Enfant Plaza  
Washington, DC 20219  
Dr. Neal M. Soss, Director Phone: (202) 447-1585

Unit is part of Research and Economic Programs; Senior Deputy Comptroller for Policy; Comptroller of the Currency (OCC); Department of the Treasury. Staff includes 10 research professionals, 7 supporting professionals, 4 technicians, and 5 others.

Unit activities involve collection, analysis, and dissemination of financial data on national banks. Principal areas of study include theoretical, empirical, and policy-oriented research on topics related to financial institutions, instruments, and markets, with emphasis on nationally chartered commercial banks.

Research results are published in primary journals and in OCC's Staff Working Paper series.

## ★ 949 ★

## BEHAVIORAL AND NEURAL SCIENCES DIVISION

National Science Foundation  
1800 G St., N. W.  
Washington, DC 20550  
Richard T. Louttit, Director Phone: (202) 357-7564

Division is part of the Directorate for Biological, Behavioral, and Social Sciences, National Science Foundation.

Division's programs provide support for research in: 1) anthropology; 2) linguistics; 3) neurobiology; 4) sensory physiology and perception; 5) memory and cognitive processes; 6) psychobiology; and 7) social and developmental psychology. Projects supported in social and developmental psychology include laboratory and field studies on the effects of individual behavior on the behavior of others, and on changes in personality, social behavior, and emotional responsiveness that occur throughout the life span.

Remarks: Support is not provided for clinical research (i.e., diagnosis or treatment of disease, abnormality, or malfunction in people or animals, or testing of drugs or procedures for their treatment). Requests for additional information on Division's programs may be addressed to the Division Director at the above address. For descriptions of the Directorate for Biological, Behavioral, and Social Sciences and its other Divisions, consult specific listings in Agency Index in this issue. See GRCD Issue 1, entry #262, for further information on support mechanisms of the National Science Foundation.

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## ★ 950 ★

## BETTIS ATOMIC POWER LABORATORY

P. O. Box 79

West Mifflin, PA 15122

Alan C. Davis, General Manager

Phone: (412) 462-5000

Laboratory is a nuclear development facility assigned to the Assistant Secretary for Nuclear Energy, Department of Energy (DOE). It is operated (under contract) by the Westinghouse Electric Corporation for DOE, under the direction of the DOE's Division of Naval Reactors. Activities at the Pennsylvania site are administered by the Pittsburgh Naval Reactor's Office. Staff totals approximately 3000.

Basic mission of the Bettis Atomic Power Laboratory is development of improved naval nuclear propulsion plants and reactor cores in a wide range of power ratings to meet military requirements of the Department of the Navy. Bettis functions under a project-type organization, with locations in Pennsylvania (the Bettis Site) and at the Idaho National Engineering Laboratory. The Bettis Site includes the Shippingport plant, where a developmental light-water breeder core began operation in 1977. The Shippingport Atomic Power Station (established in 1954 and operated by the Duquesne Light Company) has been used to demonstrate the feasibility of pressurized light-water power reactor systems and has produced electricity for the commercial power grid. The Idaho site (the Naval Reactors Facility) operates three prototype naval reactor plants and a facility for examination of expended naval reactor cores. (See separate entry in this issue for further description of the Idaho National Engineering Laboratory.)

Research results are published in primary journals.

Remarks: Bettis Atomic Power Laboratory developed the first nuclear reactor to propel a ship (USS Nautilus); the first reactor plant to propel a fleet-type submarine (USS Skate); the first reactor plant to propel a large surface ship (USS Long Beach); the first reactor for a ballistic missile submarine (USS George Washington); and the first reactor plant for a high-speed attack submarine (USS Skipjack).

## ★ 951 ★

## BROOKHAVEN NATIONAL LABORATORY (BNL)

Upton, NY 11973

Dr. George H. Vineyard, Director

Phone: (516) 345-2345

BNL is a multiprogram laboratory operated under contract by Associated Universities, Inc. for the Office of Energy Research, Department of Energy. Staff totals approximately 3500.

Brookhaven's research programs: 1) explore the fundamental constituents of matter, their properties, and their interactions; 2) study the physical, chemical, and biological effects of radiation and of chemical substances involved in the production and use of energy; 3) use a variety of special facilities and scientific devices to advance knowledge in the basic energy sciences; and 4) conduct research and development to solve problems of national interest in energy systems. Major research facilities at Brookhaven include the 33-GeV Alternating Gradient Synchrotron, the High Flux Beam Reactor, the Tandem Van de Graaff Facility, the ISABELLE proton-proton colliding-beam accelerator, and the National Synchrotron Light Source (all used primarily in high energy physics and basic energy science programs); several smaller accelerators, mass spectrometers, electron microscopes, a research hospital, towers for meteorological studies, buoy systems for coastal zone oceanography, and various metallurgical and cryogenic facilities; and a Central Scientific Computing Facility.

Research results are published in primary journals and as research reports and proceedings. Laboratory also sponsors numerous conferences and seminars. Library holds 20,000 books, 70,000 bound periodical volumes, and 100,000 reports (70,000 on micronegative); Mary Winkels, Librarian.

Remarks: All modern high energy accelerators are designed on the "strong focusing" concept discovered at Brookhaven.

## ★ 952 ★

## BUILDING THERMAL AND SERVICE SYSTEMS DIVISION

National Bureau of Standards

Washington, DC 20234

(See Issue 1, entry #33, for description.)

UPDATE: Division is now the Building Thermal Performance Division.

## ★ 953 ★

## BUREAU OF FOODS

200 C St., S. W.

Washington, DC 20204

Dr. Sanford A. Miller, Director

Phone: (202) 245-8850

Bureau is a component of the Food and Drug Administration, Public Health Service, Department of Health and Human Services.

Principal goals of the Bureau's research program are: 1) to gather, analyze, and monitor published and unpublished information pertinent to the consumption, quality, and safety of foods and cosmetics; 2) to determine the nutritional needs of various population groups and to develop strategies to improve the nutritional status of those at risk; 3) to isolate, purify, and identify potentially hazardous food and cosmetic constituents and adulterants, including biological, microbial, and chemical contaminants; 4) to develop, validate, and apply quantitative methods of analysis for potentially hazardous constituents, adulterants, and contaminants of foods and cosmetics, including environmental contaminants, animal drugs, and metabolites of microbial origin; 5) to develop, improve, and validate biological tests for various forms of human toxicity, including chronic toxicity, fetal and neonatal toxicity, behavioral and immuno-toxicity, and dermal and ocular toxicity; 6) to apply toxicity tests and epidemiological studies to determine the adverse effects (hazards) of food constituents and contaminants and of cosmetics ingredients, singly or in combination; 7) to improve the accuracy of methods used to assess potential risks to human health associated with the constituents and contaminants of foods and cosmetics; 8) to develop practical control technologies necessary to detect or prevent hazards resulting from the storage or processing of foods or cosmetics; and 9) to assess social, economic, and environmental determinants and impacts of Bureau actions.

## ★ 954 ★

## BUREAU OF INTELLIGENCE AND RESEARCH (INR)

Department of State

2201 C St., N. W.

Washington, DC 20520

Ronald I. Spiers, Director

Established: 1946

Bureau is a component of the Department of State. Staff includes approximately 225 foreign affairs or intelligence analysts and approximately 75 support personnel.

INR has two primary responsibilities: 1) to provide raw (unevaluated) and finished intelligence to the Department of State from the Intelligence Community (see "Remarks" below), to produce finished intelligence of its own for the Department, and to participate in writing Community-wide intelligence assessments and estimates; and 2) to coordinate for the Department U. S. intelligence activities to ensure that they support U. S. foreign policy interests. INR is the organization specially assigned within the Department of State to supply intelligence information to meet policy needs, to provide a professional intelligence analyst's view of developments abroad, and to ensure that the Department benefits from and contributes to the workings of the Intelligence Community. INR has no field representatives to collect intelligence; rather, it uses information gathered by the Foreign Service, the CIA, Department of Defense intelligence components, the FBI, and the Foreign Broadcast Information Service, as well

as information available in scholarly publications and in the press. INR handles information from all parts of the world and systematically selects and analyzes relevant material. While INR may assess prospective consequences of alternative U. S. policies, it does not itself formulate or recommend foreign policy, nor does it design courses of action. Major Bureau components include separate divisions for Current Analysis, Assessments and Research, and Intelligence Coordination (see individual entries in this issue for descriptions of each); the Office of the Director; the Office of the Executive Director, which provides general administrative support and operates a student intern work-study program that allows university students to work as junior-level analysts in the Bureau's regional and functional offices; and the Office of Intelligence Support, which is the Department of State's center for receiving intelligence information and for processing and disseminating it under requisite security safeguards.

INR produces regular reports, including: 1) the MORNING SUMMARY, a highly classified daily publication intended to inform the Secretary of State and his principal deputies of current events and current intelligence and to supply them with tightly drafted analyses assessing the importance of developments and trends; 2) regional and functional summaries (weekly); 3) CURRENT ANALYSES, ASSESSMENTS AND RESEARCH, and POLICY ASSESSMENTS, which represent three individual series of single-subject reports; and 4) geographic studies on land and maritime boundaries that serve as basic research tools for cartographers. Most INR published materials are classified. Unclassified publications currently for sale are GOVERNMENT-SPONSORED RESEARCH ON FOREIGN AFFAIRS (quarterly) and STATUS OF THE WORLD'S NATIONS, a biennial listing of the world's nations, dependencies, and areas of special sovereignty. INR analysts also contribute to the preparation of interagency assessments such as National Intelligence Estimates, which represent the most senior official judgment of the Intelligence Community on major problem areas related to foreign affairs and national security.

Remarks: The Intelligence Community consists of: the Central Intelligence Agency (CIA); Defense Intelligence Agency (see separate entry in this issue); National Security Agency; other intelligence components of the Department of Defense and military services; Bureau of Intelligence and Research (INR); and the intelligence sections of the Federal Bureau of Investigation (FBI), Department of Energy, Department of the Treasury, and Drug Enforcement Administration. All are represented on the National Foreign Intelligence Board (NFIB), which coordinates the programs of the Intelligence Community. The Director of INR is the State Department member of NFIB.

★ 955 ★  
**CEMREL, INC.**  
 3120 59th St.  
 St. Louis, MO 63139  
 Dr. Wade Robinson, President Phone: (314) 781-2900

CEMREL, Inc. is an independent, non-profit organization which receives financial support from the Department of Education.

Primary mission is to conduct research and development for improvement in the quality and effectiveness of classroom instruction and learning. In pursuing this mission, CEMREL concentrates its capabilities on conditions, policies, practices, resources, and materials which directly affect what happens in the classroom.

Remarks: For further description of CEMREL's relationship to the Department of Education, see separate entry in this issue on the National Institute of Education.

★ 956 ★  
**CENTER FOR ABSOLUTE PHYSICAL QUANTITIES**  
 National Bureau of Standards  
 Physics Bldg.  
 Gaithersburg, MD  
 (Mailing address: Washington, DC 20234) Phone: (301) 921-2001  
 Dr. Karl G. Kessler, Director Established: 1978

Center is a component of the National Measurement Laboratory, National

Bureau of Standards, Department of Commerce. Staff includes 121 research professionals, 24 technicians, and 25 others.

Center conducts research and development in primary standards of physical measurement in order to improve the measurement capability and quantitative understanding of basic physical processes that underlie measurement science. Center improves, maintains, and transfers the measurement base for time, frequency, electricity, temperature, mass, and length.

Results are published in primary journals, as research reports, as proceedings, and in NBS publications series.

Remarks: Center is organized into six main units: 1) Electrical Measurements and Standards Division (see GRCD Issue 1, entry #109); 2) Quantum Physics Division (see Issue 1, entry #346); 3) Temperature and Pressure Measurements and Standards Division (see Issue 1, entry #401); 4) Time and Frequency Division (see GRCD Issue 2, entry #850); and 5) Quantum Metrology Group and 6) Length and Mass Measurements and Standards Division (see separate entries in this issue).

★ 957 ★  
**CENTER FOR ANALYTICAL CHEMISTRY**  
 National Bureau of Standards  
 Gaithersburg, MD  
 (Mailing address: Washington, DC 20234)  
 Curt W. Reimann, Director

Center is a component of the National Measurement Laboratory, National Bureau of Standards, Department of Commerce.

Center serves as a national reference laboratory through the development and issuance of standard reference materials used in the metal and chemical industries and in clinical and environmental laboratories. Each standard is supported by research on homogeneity and stability and is certified as to chemical composition using the most reliable analytical methods available.

Research results are published in primary journals and in NBS publications series. Center sponsors a colloquium series, as well as various workshops and symposia.

Remarks: Center is organized into three main Divisions: 1) Inorganic Analytical Research Division; 2) Organic Analytical Research Division; and 3) Gas and Particulate Science Division. See separate entries in this issue for descriptions.

★ 958 ★  
**CENTER FOR APPLIED MATHEMATICS**  
 National Bureau of Standards  
 Gaithersburg, MD  
 (Mailing address: Washington, DC 20234)  
 Dr. Burton H. Colvin, Director Phone: (301) 921-2541

Center is a component of the National Engineering Laboratory, National Bureau of Standards, Department of Commerce. Staff totals approximately 82, located principally at the Gaithersburg laboratories (14 are in the NBS laboratories in Boulder, CO).

Center conducts research and supports NBS activities and other Federal agencies in selected fields of mathematics and computer sciences. Center also develops such mathematical tools as statistical models and computational methods, mathematical tables, handbooks, and manuals. Research activities are carried out in Center's Mathematical Analysis Division, Operations Research Division, Scientific Computing Division (see separate entries in this issue for descriptions), and Statistical Engineering Division (see GRCD Issue 2, entry #842). Center's Computer Services Division operates the NBS central computing facility; provides systems hardware and software support for operation of the facility; monitors computer performance; maintains records of use; and provides users with consulting services and training in the use of computer resources.

Research results are published in NBS publications series.

16

## ★ 959 ★

**CENTER FOR BUILDING TECHNOLOGY**  
National Bureau of Standards  
Washington, DC 20234

(See Issue 1, entry #42, for description.)

**UPDATE:** In addition to the four Divisions listed as Center components in GRCD Issue 1, entry #42, Center now comprises a Building Equipment Division. Furthermore, the Building Thermal and Service Systems Division listed in entry #42 is now the Building Thermal Performance Division.

## ★ 960 ★

**CENTER FOR CHEMICAL ENGINEERING**  
National Bureau of Standards  
Boulder, CO 80303  
Jesse Hard, Director

Phone: (303) 497-5108

Center is part of the National Engineering Laboratory, National Bureau of Standards, Department of Commerce.

Center is made up of three main Divisions: 1) Fluid Engineering Division (see GRCD Issue 1, entry #124); 2) Thermal Processes Division (see GRCD Issue 1, entry #405); and 3) Thermophysical Properties Division (see separate entry in this issue). Prior to 1980, these Divisions were part of the Center for Mechanical Engineering and Process Technology (CMEPT), National Engineering Laboratory, National Bureau of Standards. In 1980 CMEPT became the Center for Manufacturing Engineering, and the three Divisions mentioned here became components of the Continuous Process Technology Program, which has subsequently been designated as the Center for Chemical Engineering.

**Remarks:** Information provided in GRCD Issue 1 (entries #124 and #405) about the Fluid Engineering Division and the Thermal Processes Division does not reflect the organizational changes described above. In addition, at the time of this writing Dr. George Mattingly is no longer the chief of the Fluid Engineering Division; however, Dr. Kenneth Kreider remains as chief of the Thermal Processes Division.

## ★ 961 ★

**CENTER FOR COMMUNICATIONS SYSTEMS (CENCOMS)**  
U. S. Army Communications Research and Development Command  
Ft. Monmouth, NJ 07703  
Dr. James Soos, Director

Phone: (201) 544-4449  
Established: 1978

CENCOMS is a component of the U. S. Army Communications Research and Development Command (CORADCOM), a major subordinate command of the Materiel Development and Readiness Command, Chief of Staff of the Army, Department of the Army. Staff includes 160 professionals, 8 technicians, and 35 others.

Center conducts basic and applied research and exploratory, advanced, and engineering development related to communications systems and equipment. Specific areas of research include fiber-optics, millimeter wave radio, digital microwave radio, HF communications tact antennas, and switching and terminal devices.

Results are published in CORADCOM's ANNUAL POSTURE REPORT. CENCOMS sponsors annual Wire and Cable Symposium in October or November (open to the public), as well as various other seminars and conferences.

**Remarks:** See Agency Index for listings of CORADCOM and its other components, described separately in this issue.

## ★ 962 ★

**CENTER FOR COMPUTER SYSTEMS ENGINEERING**  
National Bureau of Standards  
Gaithersburg, MD  
(Mailing address: Washington, DC 20234)  
Thomas N. Pyke, Jr., Director

Phone: (301) 921-3436  
Established: 1978

Center is a component of the Institute for Computer Sciences and Technology, National Bureau of Standards (NBS), Department of Commerce.

Mission of the Center is to develop Federal information processing standards for use within the U. S. Government; to provide technical advisory services in the use of computing and working technology to Federal agencies; and to perform research to support these standards and advisory services functions. Center comprises: 1) the Systems and Network Architecture Division, which conducts programs in the development of computer network protocols, computer-based office systems technology, and local area network protocols and technology; and 2) the Systems Components Division, which conducts programs in computer system interfaces, data communications, magnetic media, computer security and accessibility, and very high-speed local networks.

Center's publications include FEDERAL INFORMATION PROCESSING STANDARDS, FEDERAL INFORMATION PROCESSING GUIDELINES, and NBS SPECIAL PUBLICATIONS IN COMPUTER SCIENCE AND TECHNOLOGY.

**Remarks:** See separate entry in this issue for description of the Institute for Computer Sciences and Technology; see GRCD Issue 1, entry #50, for description of Institute's other major component, the Center for Programming Science and Technology.

## ★ 963 ★

**CENTER FOR DISEASE CONTROL (CDC)**  
1600 Clifton Rd., N. E.  
Atlanta, GA 30333

(See Issue 1, entry #44, for description. See Agency Index in Issue 3 for complete listing of all Center components included in GRCD Issues 1-3.)

**UPDATE:** A new organizational structure for the CDC has been approved, with an interim structure to be operational until final reorganization is in place. Under the planned reorganization, the CDC will become the Centers for Disease Control and the current bureaus will be replaced by five centers (Center for Environmental Health; Center for Health Promotion and Education; Center for Disease Investigation and Diagnosis; Center for Prevention Services; and Center for Professional Development and Training) and three program offices (Epidemiology Program; Laboratory Improvement Program; and International Health Program). The National Institute for Occupational Safety and Health will not be affected by this reorganization.

## ★ 964 ★

**CENTER FOR EARTH AND PLANETARY STUDIES**  
6th St. and Independence Ave., S. W.  
Washington, DC 20560  
Dr. Farouk El-Baz, Research Director

Phone: (202) 357-1424  
Established: 1973

Center is part of the National Air and Space Museum (NASM), Smithsonian Institution.

Using a collection of 130,000 lunar and planetary photographs taken by manned and unmanned orbiting spacecraft, Center analyzes and synthesizes the scientific results of lunar and planetary missions. Center is also involved in mapping and naming lunar features. In recent years emphasis has been on remote sensing of the Earth from space, with Center personnel applying the knowledge gained from photointerpretation of the surface features of the Moon and planets to the study of images of the Earth taken from space. Particular attention is given to deserts and arid lands--features of these regions are studied to shed light on their origins and evolution in space and time. Comparative planetary research is also conducted on the shape, distribution, and origin of craters, volcanic plains, and ridges on the Moon, Mars, Mercury, and the moons of Jupiter.

Center personnel act as curators for NASM exhibits that deal with space science. Research results are conveyed to the public through these exhibits, as well as through lectures and publication of books and research reports.

## ★ 965 ★

CENTER FOR EDUCATIONAL POLICY AND MANAGEMENT (CEPM)  
University of Oregon  
College of Education  
Eugene, OR 97403 Phone: (503) 686-5173  
Dr. Robert Mattson, Director Established: 1964

CEPM is a university-based center, supported primarily by Department of Education funds. Staff includes approximately 12 research professionals (faculty members), 12 supporting professionals (graduate students), and 4 others.

Center conducts research and development on policy issues and management practices, particularly as they relate to human resources and education. Principal fields of research interest are: 1) grievance arbitration; 2) labor market; 3) conflict management; and 4) collective bargaining.

Research results are published in primary journals and as research reports and proceedings. A library of approximately 1500 volumes on subjects related to educational policy and management is maintained; Connie Hixson, Resource Specialist.

Remarks: For further description of Center's relationship to the Department of Education, see separate entry in this issue on the National Institute of Education.

## ★ 966 ★

CENTER FOR HUMAN FACTORS RESEARCH  
Bureau of the Census  
Washington, DC 20233

(See Issue 1, entry #48, for description.)

UPDATE: Center is now called the Center for Social Science Research.

## ★ 967 ★

CENTER FOR MANUFACTURING ENGINEERING  
Metrology Bldg.  
Gaithersburg, MD  
(Mailing address: Washington, DC 20234) Phone: (301) 921-3421  
Dr. John A. Simpson, Director Established: 1978

Center is part of the National Engineering Laboratory; National Bureau of Standards; Department of Commerce. Staff includes 51 research professionals, 18 technicians, and 15 others.

Center provides competence and develops technical data, findings, and standards in production engineering, mechanical metrology, automation and control technology, and industrial and mechanical engineering to support the discrete parts manufacturing industries. Principal fields of research include machine tool technology; manufacturing systems sensors; programmable automation; machine tool sensor systems; computer integrated manufacturing; machining systems automation; and optical metrology, dimensional metrology, macrometrology, and acoustical metrology.

Research results are published as proceedings, in primary journals, and in NBS Interagency Reports and NBS SPECIAL PUBLICATIONS.

Remarks: Formerly known as the Center for Mechanical Engineering and Process Technology, Center reorganized in 1980 and presently comprises these major Divisions: 1) Mechanical Production Metrology Division; 2) Industrial Systems Division; and 3) Automated Production Technology Division. (See separate entries in this issue for description of each.) Other units which had been part of the Center (Fluid Engineering Division, Thermal Processes Division, and Thermophysical Properties Division) presently comprise the National Engineering Laboratory's Continuous Process Technology Program (see indexes for references to descriptions of these Divisions).

UPDATE: Continuous Process Technology Program is now the Center for Chemical Engineering.

## ★ 968 ★

CENTER FOR MINORITY GROUP MENTAL HEALTH PROGRAMS  
National Institute of Mental Health  
5600 Fishers Ln.  
Rockville, MD 20857  
Dr. James R. Ralph, Chief

Center is a component of the Division of Special Mental Health Programs; National Institute of Mental Health (NIMH); Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; Department of Health and Human Services.

Center serves as the focal point for NIMH activities designed to improve the quality of life for minority groups, to eliminate racism, and to increase the number and competence of minority group members engaged in mental health research, training, and services. Support for minority group programs is focused on improvement of mental health delivery systems serving minority populations, factors which produce under-utilization and differential treatment patterns, and research on effective training of service delivery workers; studies which provide demonstrations of effective mental health service models to minority groups; and identification of the factors in cultural support systems which promote the survival and maintenance of minority mental health. In the area of racism and mental health, support is provided for studies which identify the psychosocial consequences of racism for the population and develop specific interventions designed to reduce racist attitudes and behaviors; and for development and testing of intervention methodologies and strategies designed to eliminate institutional racist structures and behaviors within varied organizational systems and settings.

NIMH sponsors a minority workshop series initiated by the Center.

Remarks: Center is one of five in the Division of Special Mental Health Programs which support research. See Agency Index for listings of other Centers, the Division, and the NIMH.

## ★ 969 ★

CENTER FOR NAVAL ANALYSES (CNA)  
2000 N. Beauregard St.  
P. O. Box 11280  
Alexandria, VA 22311 Phone: (703) 998-3500  
David B. Kassing, President Established: 1962

CNA, an affiliate of the University of Rochester (River Station, Rochester, NY 14627), is a Federal Contract Research Center which operates in support of the Department of the Navy. Staff includes 188 research professionals, 30 supporting professionals, and 133 others.

Center provides the Navy and Marine Corps and other sponsors with scientific support in the form of systems analysis (warfare and support studies concerned with allocation of scarce resources) and operations research (studies concerned with more efficient use of existing resources). Studies represent a range of disciplines and specialties and most have a Navy project officer, as well as other Navy participants. Center is organized into four operating groups, each of which concentrates on a specific class of problems: 1) Operations Evaluation Group is concerned primarily with analyses of current tactical and operational problems for Naval planners and operational commands; 2) Naval Warfare Analysis Group conducts cost-effectiveness and technical analyses that focus on Navy procurement and program decisions in strategic and tactical warfare; 3) Institute of Naval Studies conducts analyses which are generally concerned with non-warfare subjects in the fields of economics, political science, operations research, and psychology; and 4) Marine Corps Operations Analysis Group, whose program is a microcosm of CNA's but devoted to Marine Corps interests. (CNA also comprises the Public Research Institute which conducts studies for government agencies concerned with domestic problems.)

Results are published as SUMMARY REPORTS, STUDY REPORTS, RESEARCH CONTRIBUTIONS, and PROFESSIONAL PAPERS. Library holds 12,000 volumes in operations research, military science, economics, and political science; Karen N. Domabyl, Librarian.

Remarks: CNA analysts are assigned to more than 30 Naval commands, Marine Corps commands, and Tactical Analysis Groups in the U. S. and overseas.

## ★ 970 ★

**CENTER FOR RADIATION RESEARCH**  
National Bureau of Standards  
Gaithersburg, MD  
(Mailing address: Washington, DC 20234)

Center is a component of the National Measurement Laboratory, National Bureau of Standards, Department of Commerce. Staff totals approximately 185.

Center provides high accuracy radiation measurement techniques and quantitative data about atomic and nuclear radiation processes required for the safe and effective use of radiation in key technologies. Activities cover the electromagnetic spectrum, from infrared through the visible, the ultraviolet, and vacuum ultraviolet to x-ray and nuclear gamma rays. Facilities include a 140 MeV electron linear accelerator, a 240 MeV electron storage ring for synchrotron light, many lower energy accelerators, a polarized electron source, plasma devices, and sophisticated spectrometers with computer assisted data acquisition. Center efforts in recent years have included special efforts related to ionizing radiation health and safety; improvements in optical radiation measurements; and contributions to the nation's energy programs such as measurement and calculation of the spectra of highly-ionized heavy ions essential to diagnostics of fusion-plasma devices, investigation of radiation phenomena as possible new plasma diagnostic techniques, and development of integral and differential neutron fields for calibration of neutron detectors used in fusion research, nuclear reactors, and personnel dosimetry.

Remarks: Center components include: 1) Radiation Source and Instrumentation Division; 2) Radiometric Physics Division; 3) Radiation Physics Division; 4) Nuclear Radiation Division (see GRCD Issue 2, entry #744, for separate description); and 5) Atomic and Plasma Radiation Division (see GRCD Issue 1, entry #20, for separate description).

## ★ 971 ★

**CENTER FOR SOCIAL ORGANIZATION OF SCHOOLS (CSOS)**  
Johns Hopkins University  
3505 N. Charles St.  
Baltimore, MD 21218  
Dr. James M. McPartland, Director

Phone: (301) 338-7570  
Established: 1967

CSOS is a university-based center which is supported primarily by Department of Education funds. Staff includes 25 research and 10 supporting professionals, 5 technicians, and 5 others.

Center's mission is to produce useful knowledge on how changes in the social organization of schools can influence a broad range of student outcomes. Center specializes in basic research and policy-related analyses on new structural forms, social arrangements, and organizational improvements for classrooms, schools, and school systems that can be shown to have measurable consequences for student learning, attitudes, and later-life success in occupational and adult roles.

Results are published in primary journals and in Center's report series (approximately two reports per month).

Remarks: For further description of Center's relationship to the Department of Education, see separate entry in this issue on the National Institute of Education.

## ★ 972 ★

**CENTER FOR STUDIES OF AFFECTIVE DISORDERS**  
5600 Fishers Ln.  
Rockville, MD 20857  
Dr. Robert Hirschfeld, Chief

Phone: (301) 443-1636

Center is a component of the Clinical Research Branch; Division of Extramural Research Programs; National Institute of Mental Health (NIMH); Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; Department of Health and Human Services.

Center supports research on the phenomenology, diagnosis, classification, etiology, mechanisms, course, prognosis, and prevention of affective disorders, including depression, mania, manic depressive illness, and disturbances of mood such as grief. Center also: 1) coordinates NIMH activities on psychological, social, and biological aspects of affective disorders; and 2) reviews current directions and new developments in research, research training, clinical training, and services and, on the basis of these reviews, recommends policies and programs on affective disorders to the Institute.

Center serves as the focus for dissemination of scientific information on affective disorders.

Remarks: Consult indexes in this issue for specific references to related programs in the Department of Health and Human Services.

## ★ 973 ★

**CENTER FOR STUDIES OF CHILD AND ADOLESCENT MENTAL HEALTH DISORDERS**  
5600 Fishers Ln.  
Rockville, MD 20857

Center is a component of the Clinical Research Branch; Division of Extramural Research Programs; National Institute of Mental Health (NIMH); Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; Department of Health and Human Services.

Center provides a programmatic focus for NIMH research on children and adolescents. Its objectives are to increase knowledge about child and adolescent psychopathology and to promote dissemination of research-based information on child and adolescent mental health to the professional and lay public. The Center stimulates, develops, and supports research and research-related activities on all aspects of child and adolescent psychopathology except treatment. Research covers basic, applied, and clinical problems investigated by biological, social, and behavioral scientists, including studies of phenomenology, etiology, prevention, diagnosis, classification, mechanisms, course, and prognosis. Major focus is on serious disorders of childhood (depression, schizophrenia, autism, developmental psychopathology and psychoses, attentional deficit disorders, conduct disorders, psychophysiological illness, anxiety, etc.), but attention is also given to research on children considered at high risk for mental disorders and to preventive intervention for such children. Mechanisms for supporting research include regular project grants, program-project grants, Clinical Research Centers, cooperative agreements, and research contracts; and support is provided for empirical research, research conferences, technical consultations, and publications. Center also coordinates the NIMH research support programs and activities on the epidemiology, etiology, diagnosis, treatment, and prevention of mental disorders in children and adolescents.

Remarks: Consult indexes in this issue for specific references to related programs in the Department of Health and Human Services.

## ★ 974 ★

**CENTER FOR THE STUDY OF EVALUATION (CSE)**  
UCLA Graduate School of Education  
Moore Hall  
Los Angeles, CA 90024  
Prof. Eva L. Baker, Director

Phone: (213) 825-4711  
Established: 1966

Center is an independent, non-profit organization which is supported primarily by the Department of Education and other Government agencies. Staff includes 16 research and 23 supporting professionals and 13 others.

CSE is a research and development center devoted to programmatic research in testing and evaluation. Principal areas of interest are achievement test design and evaluation design.

Research results are published as research reports and journal articles.

Center publishes biannual EVALUATION COMMENT.

Remarks: For further description of Center's relationship to the Department of Education, see separate entry in this issue on the National Institute of Education.

★ 975 ★

CENTER FOR THE STUDY OF MAN  
10th St. and Constitution Ave., N. W.  
Washington, DC 20560  
Richard S. Fiske, Director

Phone: (202) 357-2801

Center is a component of the Smithsonian Institution. It is administered by the Smithsonian's National Museum of Natural History.

Center offers small grants in support of field research in urgent anthropology. These grants are normally limited to residents of the countries where the research is conducted, and they do not include funds for international travel. Purpose of the program is to assist in recording as much data as possible on the cultural variability that still exists. (It is felt that scientists may never again have the opportunity to observe such a great range of human differences because of the accelerating Westernization of all cultures.) Center also supports a program which involves focusing the anthropological perspective on problems that confront the human species. Investigations associated with this program have centered on cross-cultural knowledge of cannabis usage; alcohol; cultural transmission; American Indian economic development; and the cultural consequences of population change.

Remarks: For further information on activities related to the Center for the Study of Man, see entries on Research Institute on Immigration and Ethnic Studies (GRCD Issue 2, entry #814) and on National Anthropological Film Center (described separately in this issue).

★ 976 ★

CENTER FOR SYSTEMS ENGINEERING AND INTEGRATION (CENSEI)  
U. S. Army Communications Research and Development Command  
Ft. Monmouth, NJ 07703  
Loren D. Diedrichsen, Director

Phone: (201) 544-2633  
Established: 1978

CENSEI is a component of the U. S. Army Communications Research and Development Command, a major subordinate command of the Materiel Development and Readiness Command, Chief of Staff of the Army, Department of the Army. Staff includes 59 research professionals, 3 technicians, and 16 others.

Center conducts research and development to establish composite command, control, and communications systems designs which provide for effective use of Army tactical forces at all echelons. In addition to serving as the Army's tactical command, control, and communication's systems engineer, CENSEI is responsible for preparing systems level specifications and transition analysis for introduction of new systems and equipment, and for maintaining interoperability.

Results are published in CORADCOM's ANNUAL POSTURE REPORT. CENSEI sponsors various seminars and conferences.

Remarks: See Agency Index for listings of CORADCOM and its other components, described separately in this issue.

★ 977 ★

CENTER FOR TACTICAL COMPUTER SYSTEMS (CENTACS)  
U. S. Army Communications Research and Development Command  
Ft. Monmouth, NJ 07703  
James Schell, Director

Phone: (201) 544-2761  
Established: 1978

CENTACS is a component of the U. S. Army Communications Research and Development Command (CORADCOM), a major subordinate command

of the Materiel Development and Readiness Command, Chief of Staff of the Army, Department of the Army. Staff includes 3 research and 119 supporting professionals, 2 technicians, and 39 others.

CENTACS is a center for the research and development of embedded computer systems technology. Principal area of research interest is tactical automation, with secondary interest in distributed processing concepts and system survivability, including study of techniques for system fault-tolerance.

Results are published in CORADCOM's ANNUAL POSTURE REPORT. CENTACS sponsors seminars and conferences.

Remarks: See Agency Index for listings of CORADCOM and its other components, described separately in this issue.

★ 978 ★

CHEMICAL KINETICS DIVISION  
National Bureau of Standards  
Gaithersburg, MD  
(Mailing address: Washington, DC 20234)  
John T. Herron, Chief

Division is a component of the Center for Thermodynamics and Molecular Science, National Measurement Laboratory, National Bureau of Standards, Department of Commerce. Staff totals approximately 15.

Division develops methods to measure the rates of chemical reactions and to determine the mechanisms of reacting systems. Division also provides evaluated kinetics data and measures particular rate constants when data of sufficient accuracy are not available. Programs are concerned particularly with intermediates that occur in the atmospheric oxidation of olefins, the upper atmospheric chemistry of fluorocarbons, the processes that occur in planetary atmospheres, and the high temperature decomposition of hydrocarbons. Important intermediates and their reactions are being characterized, new methods for identifying species are being investigated, and new methods for initiating chemical reactions (such as laser induced decomposition) are being studied. Special emphasis is on development of computer codes for modeling these systems. Evaluated rate constants and related kinetics data provided by Division are used in large scale computer models of upper atmospheric chemistry.

Remarks: See Agency Index for listings of the Center for Thermodynamics and Molecular Science and its other components in GRCD Issues 1-3.

★ 979 ★

CHEMICAL AND PROCESS ENGINEERING DIVISION  
National Science Foundation  
1800 G St., N. W.  
Washington, DC 20550

Division is part of the Directorate for Engineering and Applied Science, National Science Foundation (NSF).

Division's programs support research on such problems as the mechanisms of catalysis, various chemical and biochemical processes, energy conversion, and the methods for putting the resulting knowledge into industrial applications. Research on general theories is also supported. Specific areas of research sponsored by this Division include: 1) kinetics, catalysis, and reaction engineering; 2) chemical and biochemical systems; 3) engineering energetics; 4) thermodynamics and mass transfer; and 5) particulate and multiphase processes.

Remarks: Consult Agency Index in this issue for specific listings in GRCD Issues 1-3 for the NSF, its various Directorates, and their component divisions and programs.

## ★ 980 ★

CHEMISTRY DIVISION  
Naval Research Laboratory  
Washington, DC 20375  
Dr. F. E. Saalfeld, Superintendent

Division is part of the Material Science and Component Technology Directorate, Naval Research Laboratory (NRL). NRL is a component of the Office of Naval Research; the Chief of Naval Research reports to the Assistant Secretary (Research, Engineering, and Systems), Department of the Navy.

Division conducts basic and applied research and development studies in the broad fields of chemical diagnostics, polymeric materials, inorganic and electrochemistry, surface chemistry, and combustion and fuels chemistry. Specialized programs within these fields include organic composite materials, surface cleaning formulations, coatings, adhesives, dynamics, laser chemistry, electroactive polymers, tribology, physical and chemical characterization of surfaces and theory of surfaces, submarine atmosphere analysis and control, corrosion, solution chemistry, personnel protection, fire suppression, and the chemistry and physics of synfuels.

Remarks: See Agency Index for listings of other components of the Material Science and Component Technology Directorate, and of the Naval Research Laboratory, all included in this issue.

## ★ 981 ★

CHESAPEAKE BAY HYDRAULIC MODEL  
P. O. Box 1715  
Baltimore, MD 21203 Phone: (301) 962-3410  
Mr. A. E. Robinson, Chief Established: 1965

Parent agency is U. S. Army Corps of Engineers; the Chief of Engineers is administratively responsible to the Chief of Staff, Department of the Army.

The hydraulic model was constructed as part of a comprehensive study of the Chesapeake Bay authorized by Congress in 1965. Limits of the model include the entire Chesapeake Bay and its tributaries to the head of tide and the surrounding land area to an elevation of 20 feet above mean sea level. The model can reproduce to a manageable scale phenomena that occur throughout the system, including the rise and fall of the tide, current speeds and patterns, the mixing of fresh and salt water, changes in water temperature, and the dispersion of sediment and dyes. Research problems that can be studied on the model include: 1) salinity distribution within the bay system; 2) mechanics of estuary flushing; 3) effects of upstream impoundments and basin diversions on salinity distribution; 4) seasonal variations of salinity distribution; 5) effects of navigation projects and channel geometry changes on currents and salinities; 6) circulation and upwelling current patterns of the Bay waters; 7) shoaling characteristics of the Bay and its tributaries; 8) ship handling problems; and 9) the height and extent of tidal flooding and the effects of storm surges on tides, currents, and salinities. The model can be used to determine preferred sites for sewage treatment plants, underwater outfalls, nuclear and fossil fuel power plants, and port facilities; to investigate existing waste disposal facilities; and to investigate waste assimilation capacity of the Bay and its tributaries.

Remarks: At the present time, the model is used primarily to support a comprehensive study of the Chesapeake Bay.

## ★ 982 ★

CHICAGO OPERATIONS AND REGIONAL OFFICE (CORO)  
175 W. Jackson Blvd.  
Chicago, IL 60604  
Robert H. Bauer, Manager/Regional  
Representative Phone: (312) 353-5769

Parent agency is Department of Energy (DOE). Staff (including personnel stationed at nine CORO field offices) totals approximately 460.

CORO is responsible for contract, procurement, project, and program

management activity involving all DOE major program areas. Facilities and major government-owned installations involved include DOE multi-program laboratories, specialized physical research facilities, and specialized biomedical research laboratories. Chicago also administers contracts for the national Solar Energy Research Institute in Colorado (see GRCD Issue 1, entry #377) and regional solar energy research centers. In addition, Office has regional responsibility for dealings with the general public, state and local officials, business and labor, and other groups concerned with energy policy and planning in Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin, and is responsible for administering DOE's state grant programs and for coordinating energy planning activities in the region.

Library is maintained; John R. Holzman, Librarian.

## ★ 983 ★

CHIEF OF NAVAL OPERATIONS (CNO)  
The Pentagon  
Washington, DC 20350  
Admiral Thomas B. Hayward, Chief of  
Naval Operations

Parent agency is Department of the Navy.

The Chief of Naval Operations is the senior military officer of the Department of the Navy. In addition to commanding the operating forces and assigned shore activities of the Navy, the CNO commands: 1) the Naval Material Command (which includes five principal subordinate Commands: Naval Air Systems, Naval Electronic Systems, Naval Facilities Engineering, Naval Sea Systems, and Naval Supply Systems); 2) the Bureau of Naval Personnel; and 3) the Bureau of Medicine and Surgery, the three of which include major research components. (Consult Agency Index for specific listings.)

## ★ 984 ★

CITRUS AND SUBTROPICAL PRODUCTS LABORATORY  
600 Avenue S., N. W.  
P. O. Box 1909  
Winter Haven, FL 33880 Established: 1958

Parent agency is Agricultural Research - Southern Region, Science and Education Administration, Department of Agriculture.

Laboratory conducts fundamental and applied research on food products from citrus and subtropical commodities. In recent years principal interest has been in developing commercial dehydrated citrus products, including freeze-drying and foam-mat drying processes. New citrus products which were made possible with the advent of dehydrated juice include instant orange juice for space exploration, orange juice tablets, and dried juice segments. Other recent efforts have involved recovering materials from waste streams and easing problems of waste disposal. Program attempts to balance the study of fundamental aspects of flavor and quality in natural products with the study of applied aspects of new processes, products, and by-products.

Research results are published in primary journals and as proceedings. Annual Subtropical Food Technology Conference is sponsored by the Florida Antilles Area of USDA-SEA-AR-Southern Region. Laboratory is located within this Area and participates in the conference.

Remarks: Laboratory cooperates with the citrus industry and with appropriate State agencies.

## ★ 985 ★

CIVIL AND MECHANICAL ENGINEERING DIVISION  
National Science Foundation  
1800 G St., N. W.  
Washington, DC 20550

Division is part of the Directorate for Engineering and Applied Science,

## National Science Foundation (NSF).

Division sponsors research in two main program areas: 1) Civil and Environmental Engineering and 2) Mechanical Sciences and Engineering. Specific programs in Civil and Environmental Engineering provide support for research in geotechnical engineering, structural mechanics, and water resources and environmental engineering. Programs in Mechanical Sciences and Engineering provide support for research in fluid mechanics, heat transfer, solid mechanics, and mechanical systems. Objective is to develop a better understanding of the physical processes associated with power developed by various machines and engines.

Remarks: NSF normally provides funds for research equipment as part of regular research grants and also may include funds for specialized equipment necessary to carry out the proposed research. NSF also makes separate awards for specialized research equipment. Proposals for research equipment exclusively (which do not request funds for faculty, graduate students, or other staff) may be initiated by individual researchers, research groups, engineering departments, or engineering colleges. Additional information is provided in the brochure ENGINEERING SPECIALIZED RESEARCH EQUIPMENT GRANTS, available from the Directorate for Engineering and Applied Science at the above address. (See Agency Index in this issue for listings of other NSF components, and of the Foundation itself, in GRCD Issues 1-3.)

## ★ 986 ★

## CNFRL FIELD RESEARCH STATION - CORVALLIS

U. S. Fish and Wildlife Service  
Oregon State University  
Nash Hall  
Corvallis, OR 97331  
Dr. Stan Gregory, Station Leader

Phone: (503) 754-4531  
Established: 1977

Station is a field unit of Columbia National Fisheries Research Laboratory, Division of Fishery Ecology Research, U. S. Fish and Wildlife Service, Department of the Interior. Staff includes 1 research professional and 1 other.

Station's program involves evaluation of contaminant problems in aquatic ecosystems of the Pacific Northwest. Activities include both field research and information transfer. Specific subjects of research include: 1) effects of arsenic on coho salmon smolts; 2) effects of forest herbicides on stream ecosystems; 3) effects of dust oils on stream ecosystems; and 4) evaluation of effects of riparian degradation on stream communities.

Results are published in primary journals and as research reports.

Remarks: See Agency Index for listing of Columbia National Fisheries Research Laboratory and its other components in GRCD Issues 1-3.

## ★ 987 ★

## CNFRL FIELD RESEARCH STATION - YANKTON

U. S. Fish and Wildlife Service  
P. O. Box 139  
Yankton, SD 57078

Phone: (606) 665-9217

Station is a field unit of Columbia National Fisheries Research Laboratory (CNFRL), Division of Fishery Ecology Research, U. S. Fish and Wildlife Service, Department of the Interior.

Station conducts field research on contaminant impacts of fishery resources in natural ecosystems. These investigations function as part of CNFRL's program of integrated laboratory and field studies of pesticides, industrial chemicals, contaminants from mineral and energy development, and secondary impacts of habitat on fish and food organisms.

Research results are published in primary journals, as research reports, and in Fish and Wildlife Service publications. Interim results of research in progress are published in the Service's ANNUAL FISHERIES AND WILDLIFE RESEARCH REPORT.

Remarks: See GRCD Issue 2, entry #528, for further description of CNFRL.

## ★ 988 ★

## COLORADO COOPERATIVE FISHERY RESEARCH UNIT

Colorado State University  
Ft. Collins, CO 80523  
Dr. William J. McConnell, Leader

Phone: (303) 491-6942  
Established: 1963

Unit is part of a cooperative program between the U. S. Fish and Wildlife Service, Department of the Interior; the Department of Fishery and Wildlife Biology in the College of Natural Resources, Colorado State University; and the Colorado Division of Wildlife. Staff includes 2 research professionals.

Unit conducts fishery studies related to assessing environmental impacts of man's cultural activities, such as effects of nuclear and pumped storage power generation on streams and lakes; effects of forest management practices on water quality; effects of intensive visitor use on streams and lakes in national parks; and the impact of irrigation demand on lake productivity and limnology. Unit's research emphasis has recently been on development of management systems and methodologies designed to enhance the decision-making capability of fishery managers and to aid them in management planning activities. Specific projects in this area include: 1) development of a computerized fishery operations planning system and 2) development of a method for estimating potential trout production in small streams (based on chemical and physical stream attributes) in order to aid fishery managers and planners in estimating sport fishing potential of these small streams.

Research results are published as journal articles, research reports, and proceedings. Unit hosts a number of workshops attended by fishery managers and administrators.

## ★ 989 ★

## COLORADO COOPERATIVE WILDLIFE RESEARCH UNIT

Cooperative Units Bldg.  
Colorado State University  
Ft. Collins, CO 80523  
Prof. Kenneth R. Russell, Leader

Phone: (303) 491-5396  
Established: 1947

Unit is part of a cooperative program between the U. S. Fish and Wildlife Service, Department of the Interior; the Department of Fishery and Wildlife Biology, College of Forestry and Natural Resources, Colorado State University; the Colorado Division of Wildlife; and the Wildlife Management Institute, Washington, DC. Staff includes 2 research professionals, 1 technician, and 2 others.

Unit conducts research, trains wildlife personnel at the graduate level, provides technical services to conservation agencies, and promotes education in natural resources through demonstration, lecture, and publication. Current staff offers expertise in wildlife population analysis and modeling; reproductive physiology and ecology; habitat analysis; environmental impact assessment; management planning; management information systems; and wildlife administration. Recent subjects of study have included: 1) mountain lion harvest management; 2) management planning systems for wildlife mitigation and enhancement; 3) movements of mule deer and elk in relation to planned mining disturbances; 4) energy expenditures of mule deer fawns; 5) evaluations of moose reintroduction; and 6) habitat analysis.

Research results are published as journal articles, research reports, and proceedings.

## ★ 990 ★

## COMMUNICATIONS SCIENCES DIVISION

Naval Research Laboratory  
Washington, DC 20375  
Dr. J. R. Davis, Superintendent

Division is part of the Space and Communications Technology Directorate, Naval Research Laboratory (NRL). NRL is a component of the Office of Naval Research; the Chief of Naval Research reports to the Assistant Secretary (Research, Engineering, and Systems), Department of the Navy.

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Division conducts research and development in the systems, sensors, techniques, instrumentation, and phenomenology of communications, command, and control; signal exploitation; and information processing. Emphasis is on new concepts and techniques that will specifically enhance the Navy's capabilities in the collection, processing, transmission, and distribution of information.

Remarks: See Agency Index for listings of other components of the Space and Communications Technology Directorate, and of the Naval Research Laboratory, all included in this issue.

★ 991 ★

COMPETITIVE RESEARCH GRANTS OFFICE

Department of Agriculture  
1300 Wilson Blvd.

Rosslyn, VA 22209

Dr. L. E. Schrader, Chief

Phone: (703) 235-2628

Established: 1977

Office is a component of Cooperative Research, Science and Education Administration, Department of Agriculture. Staff includes 6 research professionals, 6 supporting professionals, and 7 others.

Office provides support for basic research in plant biology (including studies on nitrogen fixation, genetic mechanisms for crop improvement, photosynthesis, and biological stress on plants) and human nutrition (particularly on human nutrient requirements). Research proposals are selected for support on a competitive basis.

Research results are published by the principal investigators in primary journals and as proceedings.

★ 992 ★

COMPUTER AIDED OPERATIONS RESEARCH FACILITY (CAORF)

National Maritime Research Center

Kings Point, NY 11024

J. Puglisi, Managing Director

Phone: (516) 482-8200

CAORF is a facility of the National Maritime Research Center, Maritime Administration, Department of Commerce.

Although marine simulators have been in use since the 1950's, CAORF is the first simulator specifically dedicated to research. Using the most advanced visual system, CAORF simulates real world situations, under controlled conditions, in a safe, realistic operational environment. Each experiment conducted at the Facility has an underlying research goal to measure human performance. Exercises are managed by a research coordinator from a remote multipurpose console in the Control Center and monitored by an experimental psychologist to build a data base of human performance. These human factors studies are conducted as part of research projects in: 1) collision analysis; 2) ship control, navigation, and operational procedures; 3) bridge systems design; and 4) analyses of harbor designs and restricted waterways.

Results are published as technical reports.

Remarks: See separate entry in this issue for description of the National Maritime Research Center.

★ 993 ★

CONCEPT DEVELOPMENT STAFF

Naval Research Laboratory

Washington, DC 20375

Mr. G. E. Price, Manager

Staff is part of the Space and Communications Technology Directorate, Naval Research Laboratory (NRL). NRL is a component of the Office of Naval Research; the Chief of Naval Research reports to the Assistant Secretary (Research, Engineering, and Systems), Department of the Navy.

Staff's primary function is to conceive, develop, analyze, and plan system concepts that meet Navy operational requirements. To support these tasks, Staff carries out programs in: 1) Directed Research, applying new or emerging technologies to current requirements; and 2) Concept Validation, where total system concepts are validated experimentally, analytically, and by simulation.

Remarks: See Agency Index for listings of other components of the Space and Communications Technology Directorate, and of the Naval Research Laboratory, all included in this issue.

★ 994 ★

CONDENSED MATTER AND RADIATION SCIENCES DIVISION

Naval Research Laboratory

Washington, DC 20375

Dr. E. A. Wolicki, Acting Superintendent

Division is part of the Material Science and Component Technology Directorate, Naval Research Laboratory (NRL). NRL is a component of the Office of Naval Research; the Chief of Naval Research reports to the Assistant Secretary (Research, Engineering, and Systems), Department of the Navy.

Division conducts a broad program of basic and applied research on the fundamental properties of materials and on the interactions of various types of radiation with matter. Physical properties of matter, including pure metals, alloys, crystals, semiconductors, superconductors, lower dimensional materials, liquids, and plasmas, are investigated theoretically and experimentally as well as by various radiation probes. Damage produced by radiation, ranging from laser and x-ray beams through charged and neutral particle beams in the megavolt region, are studied. Techniques to utilize radiation for beneficial modification of materials are also developed. Radiations of military significance are studied and simulated in the laboratory by various radiation facilities maintained and operated by the Division (primarily for Department of Defense users).

Remarks: See Agency Index for listings of other components of the Material Science and Component Technology Directorate, and of the Naval Research Laboratory, all included in this issue.

★ 995 ★

CONSERVATION ANALYTICAL LABORATORY

National Museum of American History

12th St. and Constitution Ave., N. W.

Washington, DC 20560

Robert M. Organ, Director

Phone: (202) 357-2444

Parent organization is the Smithsonian Institution. Staff includes 5 research professionals.

Laboratory serves the various museums of the Smithsonian and the museum profession in general through application of the exact sciences to the study and conservation of museum objects. Laboratory maintains equipment for physical and chemical methods of analysis and has capabilities for: 1) neutron-activation analysis; 2) x-ray spectrography and x-ray diffraction; 3) ultra-violet and visible optical-emission spectrography; 4) infrared spectrophotometry; 5) metallography and microscopic examination of non-metals; and 6) microchemical analysis.

Laboratory maintains a small specialized library.

Remarks: The Smithsonian Institution, through the Conservation Analytical Laboratory, offers a residential fellowship for graduate research in materials analysis dealing with the application of techniques of the physical sciences to problems in art history, anthropology, archeology, and the history of technology. Actual treatment of objects in quantity is limited at the Laboratory, but cooperation with other laboratories may permit experience to be gained in treatment of bronze, brass, iron, lead, tin, pewter, wood, leather and animal products, ceramics, and graphic art on paper. Theoretical background to practical work is available through lectures, seminars, and bibliographies. For further information on this research opportunity, contact: Office of Fellowships and Grants, Smithsonian Institution, 955 L'Enfant Plaza, S. W., Washington, DC 20560.

★ 996 ★

## CONSUMER NUTRITION CENTER

6525 Belcrest Rd.  
Hyattsville, MD 20782  
Dr. Robert L. Rizek, Director

Phone: (301) 436-8458  
Established: 1980

Known as the Consumer and Food Economics Institute before 1980, Center is a component of Human Nutrition, Science and Education Administration, Department of Agriculture.

Center plans and conducts nutritional and dietary intake assessment surveys of the total U. S. population and selected groups to define food use and consumption. Center also develops techniques to assist consumers in selecting nutritionally adequate diets, including suitable and safe procedures for food management and preparation for home and institutional consumers. Activities are carried out in five main areas: 1) Office of the Director administers the Center's program and, in some instances, arranges for services by others on a cooperative, contract, or grant basis; 2) the Food Consumption Research Group makes periodic nationwide surveys and special-purpose surveys of the food consumption and food management practices of families and individuals; 3) Food and Diet Appraisal Research Group develops research-based source materials for use in evaluating and improving dietary levels; 4) Nutrient Data Research Group compiles a Nutrient Data Bank on the composition of all important foods for nutrients required by and biologically useful to humans, and develops these data into reliable standard reference tables for use by consumers, dietitians, nutritionists, health professionals, food technologists, and others involved in the food chain; and 5) the Survey Statistics Group participates in the Center's overall research program by developing and testing techniques of statistical measurement in the field of consumer and food economics.

Research is reported in technical reports and through numerous popular publications prepared by the Center.

Remarks: Center is one of six Human Nutrition research components. See Agency Index for listings of others in GRCD Issues 2 and 3.

★ 997 ★

## CONSUMER SCIENCES DIVISION

National Bureau of Standards  
Gaithersburg, MD  
(Mailing address: Washington, DC 20234)  
Dr. Harold P. Van Cott, Chief

Phone: (301) 921-2907

Division is part of the Center for Consumer Product Technology (CCPT), National Engineering Laboratory, National Bureau of Standards, Department of Commerce.

Division: 1) applies the data, theory, and methods of the behavioral sciences, ergonomics, anthropometry, biomechanics, and systems analysis to programs concerned with product technology, safety, and energy efficiency; 2) conducts controlled laboratory and field research and conducts survey research to characterize, measure, and predict product-user attributes and consumer product interactions; 3) assists in providing industry, consumers, and other agencies with information related to the product-consumer interface, product usage, and product safety; and 4) evaluates the impact of CCPT programs in the area of product technology.

Remarks: See GRCD Issue 1, entry #43, for description of CCPT. See Agency Index for listings of other Center components, described individually in this issue.

★ 998 ★

## CONTRACTING OFFICE

U. S. Arms Control and Disarmament Agency  
320 21st St., N. W.  
Washington, DC 20451  
Evalyn W. Dexter, Contracting Officer

Phone: (703) 235-8248  
Established: 1962

Parent agency is U. S. Arms Control and Disarmament Agency (ACDA). Contracting Office staff totals 6.

Office administers contracts for extramural research on arms control issues, including non-proliferation issues; Strategic Arms Limitation and Comprehensive Test Ban issues; the economics of disarmament; and regional force reduction problems.

Results are published as research reports. ACDA publishes ANNUAL REPORT TO CONGRESS, DOCUMENTS ON DISARMAMENT (annual), and WORLD MILITARY EXPENDITURES AND ARMS TRANSFERS (annual). ACDA also maintains a library of 7000 volumes and 170 periodical titles on subjects related to arms control and disarmament; Mrs. Diane Ferguson, Librarian.

★ 999 ★

## COOPERATIVE RESEARCH (SEA-CR)

Department of Agriculture  
14th St. and Independence Ave., S. W.  
Washington, DC 20250  
Dr. Walter L. Thomas, Administrator

Phone: (202) 447-4423

Parent agency is Science and Education Administration (SEA), Department of Agriculture. Staff includes 40 research professionals, 3 technicians, and 35 others.

Cooperative Research staff administers Federal funds for research in agriculture, agricultural marketing, rural development, and forestry. Funds are made available to the State agricultural experiment stations, the 1980 land-grant universities, and other State institutions in the 50 States, Puerto Rico, Guam, the Virgin Islands, and the District of Columbia. (See Agency Index for listings of those institutions involved in SEA-CR programs included in GRCD Issues 1-3.)

Research results are published by the individual units supported. SEA-CR sponsors Directors' Workshops and Business Managers' Workshops (biennially, in winter) for persons in those roles at the cooperating institutions.

Remarks: Unit was called Cooperative State Research Service before 1978.

★ 1000 ★

## COOPER-HEWITT MUSEUM OF DESIGN AND DECORATIVE ARTS

2 E. 91st St.  
New York, NY 10028  
Lisa Taylor, Director

Phone: (212) 860-6868  
Established: 1897

Parent organization is the Smithsonian Institution. Staff includes 7 research professionals.

Museum's collections provide opportunities for in-depth studies in the history of art, culture, and manufacture; comparison of style and design motifs; or analysis of techniques and materials. The collections contain more than 300,000 objects (contemporary and from the past) representing decorative arts of all kinds, including textiles, wallpaper, metalwork, furniture, ceramics, glass, architectural ornament, woodwork, drawings, and prints. The collections were assembled with the singular purpose of providing visual information for the study of design. For information on research opportunities offered by the Museum, contact the Museum directly at the above address.

Although the collections are used largely by students and designers, the Museum involves the public through exhibitions, publications, and programs on all aspects of environmental design. Visiting scholars are encouraged to contribute to museum publications and participate in museum activities. Library contains more than 30,000 volumes and pamphlets on fine and applied arts, approximately 1700 rare books of original design for architecture and decoration, and a picture collection of 1.5 million classified photographs and illustrations in the fields of fine and decorative arts; Robert Kaufmann, Librarian.

Remarks: Originally founded by the Misses Sarah, Eleanor, and Amy Hewitt, granddaughters of Peter Cooper, the Museum became affiliated with the Smithsonian Institution in 1968 and opened to the public in 1976.

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## ★ 1001 ★

## DAIRY EXPERIMENT STATION

Rte. 6, Box 408

Lewisburg, TN 37091

John R. Owen, Superintendent

Phone: (615) 359-1578

Established: 1929

Station is a field component of Agricultural Research - Southern Region, Science and Education Administration, Department of Agriculture, and operates in cooperation with the University of Tennessee, Lewisburg, TN, and the University's Agricultural Experiment Station at Knoxville, TN. Staff includes 5 research professionals and 15 others.

Station conducts research in all aspects of dairy production, including nutrition, genetics, reproduction, and waste management.

Results are published in primary journals and in Tennessee Agricultural Experiment Station Bulletins.

## ★ 1002 ★

## DEFENSE ADVANCED RESEARCH PROJECTS AGENCY (DARPA)

1400 Wilson Blvd.

Arlington, VA

(Mailing address: Washington, DC 22209)

Robert R. Fossum, Director

Phone: (202) 694-3007

DARPA is a separate agency within the Department of Defense.

The purpose of the Agency is to discover innovative multi-Service (Air Force, Army, and Navy) applications of new technologies to potential future defense missions, to provide alternative approaches to ongoing Service developments, and to provide centralized management of programs of significant interest to the Under Secretary of Defense for Research and Engineering. DARPA's role in basic research is to develop selected new ideas (usually high-risk, high-payoff) from conception to hardware prototypes for transfer to Service development agencies. DARPA does not conduct in-house research, but relies on Military Departments and other government agencies for technical and administrative support. Programs are conducted through contracts with industrial, university, and non-profit organizations and with selected Service research and development laboratories. DARPA's programs are executed through Service organizations to augment technical review and coordination and to facilitate the eventual technology transfer to the appropriate Service. DARPA research is usually interdisciplinary and focused generally on potential contributions to the national defense and specifically on expansion of the U. S. technological base needed to meet future strategic and conventional weapon system requirements. Areas of major emphasis are: 1) advanced cruise missile technology; 2) space defense; 3) space surveillance; 4) antisubmarine warfare; 5) land combat (including the Advanced Indirect Fire Support Program and Tank Breaker Program); 6) air vehicle technology (including programs in the forward-swept wing and the X-wing aircraft); 7) command, control, and communications; 8) nuclear test verification technology; and 9) technology initiatives. DARPA also has responsibility for two major programs involving unconventional technology: The Assault Breaker Program is developing a demonstration of a nonnuclear targeting and weapon system that can engage many breakthrough forces in a short period of time. The Charged-Particle Beam program is assessing charged-particle beams as a weapons candidate (the main technical issue is whether the beam will propagate stably in the atmosphere).

## ★ 1003 ★

## DEFENSE INTELLIGENCE AGENCY (DIA)

The Pentagon

Washington, DC 20301

Established: 1961

DIA is a separate agency within the Department of Defense.

Mission of DIA is to satisfy the foreign military intelligence requirements of the Secretary of Defense, Joint Chiefs of Staff, and major components of the Defense Department. This is done through the use of DIA's own

assigned resources, through the management and coordination of other Defense Department components, and through cooperation with other Intelligence organizations such as the Central Intelligence Agency or National Security Agency. All of DIA's functional responsibilities can be encompassed within the broad areas of collection, analysis, and support. The Agency coordinates all Defense Intelligence collection and processing activities, but the Defense Attache System is the only operational component of any collection system actually operated directly by the DIA. (Defense Attache System responsibilities as human collectors encompass only the military environment, including analysis of military and political-military developments. Attaches represent a minimum, although effective, portion of the intelligence community's total human collection capability.) The finished intelligence product is provided in four main categories: 1) basic intelligence, which forms the data base for all military intelligence studies, estimates, and short-term assessments; 2) time-sensitive, current intelligence/indications and warning, which entails reports on major worldwide happenings and evaluates their significance (supported by the National Military Intelligence Center which DIA operates on a 24-hour basis); 3) intelligence estimates (mid- to long-range); and 4) foreign scientific and technical intelligence, which includes research in natural and applied sciences, applied engineering techniques, and all aspects of weapons technology (supplemented by specialized production units operated by the Military Departments).

## ★ 1004 ★

## DEPARTMENT OF ANTHROPOLOGY

National Museum of Natural History

10th St. and Constitution Ave., N. W.

Washington, DC 20560

Department is part of the National Museum of Natural History, Smithsonian Institution. Research staff totals approximately 19.

Department maintains archeological and ethnological collections which include over one million specimens from all parts of the world. Scientific staff members conduct extensive field research throughout the world. Principal fields of study are archeology, ethnology, linguistics, and physical anthropology. Current programs include research in paleo-Indian, paleo-fauna, and paleoclimatology of the Western Hemisphere; paleopathology and bone biology; ecological studies of the aboriginal cultures in the tropical forests and arctic; and the survival of arts, crafts, and household industries in various regions of the world. Department maintains a conservation laboratory, a collections-processing laboratory, a section for scientific illustration, and a docent office. Department also maintains the National Anthropological Archives, which serves as a depository of the records of the Department and its predecessor organizations, and which collects private papers relating to all cultures of the world and to the history of anthropology. The Archives' collections represent one of the world's greatest resources for the study of American Indians.

Department publishes SMITHSONIAN CONTRIBUTIONS TO ANTHROPOLOGY. Library of more than 50,000 volumes is open to qualified scholars.

Remarks: See Agency Index for listings of the National Museum of Natural History and its other Departments, each listed separately in this issue.

## ★ 1005 ★

## DEPARTMENT OF BOTANY

National Museum of Natural History

10th St. and Constitution Ave., N. W.

Washington, DC 20560

Department is part of the National Museum of Natural History, Smithsonian Institution. Research staff totals approximately 16.

Research in the Department of Botany is concerned with plant systematics, including taxonomy, identification, and nomenclature; investigations in comparative anatomy and morphology; cytology; palynology; phytogeogra-

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phy; ecology; and economic botany. Most studies are aimed at elucidating evolutionary development and phylogeny, with central consideration of the broad questions of classification. Both modern and fossil species of many plant groups (including algae, fungi, mosses, and lichens) are studied. Major facilities of the Department include: 1) the U. S. Herbarium, which contains worldwide collections of more than 3.5 million dried plant specimens; 2) a microtechnical laboratory; 3) the Palynology Laboratory, which houses over 7500 slides of pollen and spores and which functions primarily in basic research on the morphology and ultrastructural anatomy of pollen grains, their identification, and the adaptive significance of exine variation; 4) a greenhouse with warm and cool chambers; and 5) equipment for studies utilizing light microscopy and scanning electron microscopy. Department also conducts programs of field research in the American tropics.

Research results are published in SMITHSONIAN CONTRIBUTIONS TO BOTANY (formerly called CONTRIBUTIONS FROM THE U. S. NATIONAL HERBARIUM). Department also produces the INDEX NOMINUM GENERICORUM and compiles data on the taxonomy, habitats, and geographical ranges of endangered and threatened plant species of the U. S. and its administered territories in the Endangered Flora Project. In addition, a computerized file of type specimens is being prepared by the Type Register Project. Informal seminars on current botanical research are held monthly from October to May. Library facilities include the Hitchcock-Chase Agrostological Library of literature on grasses, the John A. Stevenson Mycological Library, and the John Donnell Smith Botanical Library, which contains original editions of classified botanical works.

Remarks: The Department of Botany facilities are available to trained investigators with special competence in plant anatomy, cytology, genetics, statistics, or biochemical taxonomy who may be able to enter into collaborative arrangements with one or more staff members. Programs for students are more limited, but are possible through certain cooperative arrangements. The Department is best equipped to offer research opportunities centering on the use of its herbarium collections. (See Agency Index for listings of the National Museum of Natural History and its other Departments, each listed separately in this issue.)

★ 1006 ★  
DEPARTMENT OF ENTOMOLOGY  
National Museum of Natural History  
10th St. and Constitution Ave., N. W.  
Washington, DC 20560

Department is part of the National Museum of Natural History, Smithsonian Institution. Research staff totals approximately 15.

The Department of Entomology has research and curatorial responsibilities for the classes Insecta, Chilopoda, Diplopoda, Arachnida, Symphyla, and Paurapoda. This assemblage comprises approximately 75% of the estimated known animal species of the world. Department's research objective is to investigate and make known all aspects of the animals comprising these arthropod classes. This aim is pursued by making available to Smithsonian and allied staff members, as well as to other qualified students, the specimens for study, the records, the information, and when possible the guidance upon which basic systematic and related investigations depend. The research program is oriented primarily toward those fundamental systematic studies that are required to elucidate the fauna comprising these classes. The morphological and supportively ancillary studies are supplemented by field investigations of the life history, ecology, and behavior of selected groups of insects, arachnids, and myriapods. Also underway is a special program dealing with the natural history of aquatic insects.

Department maintains its own library, which consists primarily of entomological periodicals, separate books, reference compendia, and other pertinent publications.

Remarks: The National Entomological Collections contain more than 24.5 million specimens. (See Agency Index for listings of the National Museum of Natural History and its other Departments, each listed separately in this issue.)

★ 1007 ★  
DEPARTMENT OF INVERTEBRATE ZOOLOGY  
National Museum of Natural History  
10th St. and Constitution Ave., N. W.  
Washington, DC 20560

Department is part of the National Museum of Natural History, Smithsonian Institution. Research staff totals approximately 23.

Department conducts research programs on systematics, distribution, and relationships of invertebrate animals other than insects. Most individual research projects are collection oriented, drawing upon information associated with the national reference collections of these animals. Programs include studies on marine and freshwater invertebrates, with emphasis on marine forms. Staff programs are complemented by research associates, students, and visitors. Department also cooperates with a number of universities in educational programs which permit graduate students to conduct research at the Museum under the direct supervision of Department staff members.

Department maintains its own libraries.

Remarks: Special facilities of the Department include a histology laboratory, transmission electron microscope, darkroom, aquarium room (artificial sea water), and an x-ray machine. (See Agency Index for listings of the National Museum of Natural History and its other Departments, each listed separately in this issue.)

★ 1008 ★  
DEPARTMENT OF MINERAL SCIENCES  
National Museum of Natural History  
10th St. and Constitution Ave., N. W.  
Washington, DC 20560

Department is part of the National Museum of Natural History, Smithsonian Institution. Research staff totals approximately 12.

Department's research activities include studies in meteorites, mineralogy, petrology, and volcanology. Long-term projects currently underway include: 1) studies of rocks dredged and drilled from the deep oceans; 2) field and laboratory investigations of active volcanoes; 3) experimental phase equilibrium studies of minerals; 4) systematic investigations of major mineral groups, including crystallographic and structural examination; 5) field and laboratory studies of significant mineral deposits; 6) chemical, mineralogical, and structural analysis of meteorites; and 7) field investigations of meteorite craters and related structures. Department's collections of minerals, rocks, meteorites, and tektites constitute a major source for research in mineralogy, petrology, meteorites, and geochemistry. Other Department facilities for research include a chemical analytical laboratory; emission and x-ray fluorescence spectroscopy, electron microprobe, and x-ray diffraction facilities; and modern optical microscopy, photographic, atomic absorption, and emission spectrographic equipment.

Remarks: See Agency Index for listings of the National Museum of Natural History and its other Departments, each listed separately in this issue.

★ 1009 ★  
DEPARTMENT OF PALEOBIOLOGY  
National Museum of Natural History  
10th St. and Constitution Ave., N. W.  
Washington, DC 20560

Department is part of the National Museum of Natural History, Smithsonian Institution. Research staff totals approximately 22.

Research of the Department of Paleobiology is aimed toward understanding the physical and biological environments, evolution, and systematics of fossil animals and plants. Studies follow the subject-oriented lines of vertebrate and invertebrate paleontology, paleobotany, and sedimentology.

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Department's laboratories are equipped for research in paleontology, sedimentology, and marine geology. The Department has a large collection of fossil vertebrates, invertebrates, and plants, arranged in both a biologic and stratigraphic series. (The type collection is one of the largest in the world.) Sediment bottom grab samples and cores from selected areas are also available for study.

Remarks: The Museum research group is complemented by a group of paleontologists from the U. S. Geological Survey who work at the Museum and are available for consultation in specialties of animal and plant groups not represented by the Smithsonian staff. (See Agency Index for listings of the National Museum of Natural History and its other Departments, each listed separately in this issue.)

★ 1010 ★

DEPARTMENT OF VERTEBRATE ZOOLOGY  
National Museum of Natural History  
10th St. and Constitution Ave., N. W.  
Washington, DC 20560

Department is part of the National Museum of Natural History, Smithsonian Institution. Research staff totals approximately 14.

Research in the Department of Vertebrate Zoology is an amalgam of systematics, morphology, biogeography, life history, behavior, and ecology of fishes, amphibians, reptiles, birds, and mammals. Worldwide collections of preserved specimens and extensive osteological collections are the basis for monographic studies of vertebrate species and their higher taxa, and for related studies that bear on the evolution and ecology of vertebrates. Staff field programs in the United States and in many parts of the world continue to augment the collections, while providing many kinds of information on the animals in their natural habitat. Scientists from all over the world study the collections and contribute to the scholarly environment of the Department.

Department maintains libraries of books and reprints in the areas of ichthyology, herpetology, ornithology, and mammalogy. (See Agency Index for listings of the National Museum of Natural History and its other Departments, each listed separately in this issue.)

★ 1011 ★

DEPUTY ASSISTANT SECRETARY FOR ASSESSMENTS AND RESEARCH (AR)  
Department of State  
2201 C St., N. W.  
Washington, DC 20520  
Dr. Carol Edler Baumann, Deputy  
Assistant Secretary Phone: (202) 632-1038

Parent organization is Bureau of Intelligence and Research (INR), Department of State.

The Deputy Assistant Secretary, AR, has primary responsibility for INR's long-range analytical studies. These studies and related activities are conducted, under the direction of the Deputy Assistant Secretary, by these offices and staffs: 1) Office of Long-Range Assessments and Research (see separate entry in this issue); 2) Office of Economic Analysis (see GRCD Issue 2, entry #754); 3) the Office of the Geographer, which prepares studies of policy issues associated with physical, cultural, economic, and political geography, emphasizing the law of the sea, U. S. maritime issues, and international boundaries and jurisdictional problems; 4) the Global Issues Staff, which produces finished intelligence on selected topics related to political issues important to the U. S. which are raised in international forums and on functional international issues such as science and technology, narcotics, human rights and refugees, oceans, and the environment; and 5) Reports Coordination and Review Staff, which is responsible for the final production of INR's formal reports.

AR studies are published as INR reports, which are generally classified.

Remarks: The Office of Economic Analysis mentioned above is listed in GRCD Issue 2 as the Office of Economic Research and Analysis, Directorate for Research, Bureau of Intelligence and Research (INR). A recent reorganization has resulted in these name changes. For further description of INR as it is presently organized, see separate entry in this issue.

★ 1012 ★

DEPUTY ASSISTANT SECRETARY FOR CURRENT ANALYSIS (CA)  
Department of State  
2201 C St., N. W.  
Washington, DC 20520  
Phillip H. Stoddard, Deputy Assistant Secretary

Parent organization is Bureau of Intelligence and Research, Department of State.

CA is made up of seven offices which, under the direction of the Deputy Assistant Secretary for Current Analysis, produce analyses of developments and issues that are, or will be, of concern to the policymaker. Six of the seven offices correspond to the principal geographic areas of the world (Africa; Latin America; East Asia and the Pacific; the Soviet Union and Eastern Europe; Western Europe; and the Near East and South Asia); the seventh is the Office of Politico-Military Analysis. The CA offices perform "traditional" research in that they acquire information and evaluate, store, retrieve, and use it for the benefit of their readers. They also produce finished intelligence in that their work is based on classified information as well as on open sources, is directed to issues of immediate or potential concern to policymakers, and is intended to analyze developments and not merely chronicle them.

The CA offices prepare regional and other special summaries, brief senior officers, and prepare the Bureau's contributions to Intelligence Community estimates and assessments. CA publications are generally classified.

Remarks: For further information, see separate entry in this issue on the Bureau of Intelligence and Research.

★ 1013 ★

DEPUTY ASSISTANT SECRETARY FOR INTELLIGENCE COORDINATION (INC)  
Department of State  
2201 C St., N. W.  
Washington, DC 20520  
Dennis H. Kux, Deputy Assistant Secretary

Parent organization is Bureau of Intelligence and Research (INR), Department of State.

Under the direction of the Deputy Assistant Secretary, the INC staff functions as a focal point for other elements of the Intelligence Community, other areas of the Department, and missions overseas on the conduct and direction of all U. S. Government intelligence collecting activities having significance for foreign affairs. INC is organized into three main units: 1) Office of Intelligence Liaison works with intelligence agencies on human collection efforts; coordinates proposals for special political activities; processes requests for biographic data and other intelligence agency documents; handles defector cases; conducts briefings on intelligence matters for State Department officers going to and returning from overseas posts; and handles liaison with designated foreign intelligence representatives. 2) Office of Intelligence Resources provides support for the Department's interests in the total national foreign intelligence program and budget, working with other Intelligence Community agencies, Department units, and overseas missions to plan, implement, and evaluate technical collection activities. This Office also advises Department officers on the use of intelligence produced by major technical systems. 3) Coordinator for Maps and Publications oversees procurement of foreign maps and publications.

Remarks: See separate entry in this issue for further description of the Bureau of Intelligence and Research.

## ★ 1014 ★

DEVELOPMENT LABORATORY  
University of Wisconsin  
Space Science and Engineering Center  
1225 W. Dayton St.  
Madison, WI 53706  
Dr. William L. Smith, Chief

Phone: (608) 264-5325  
Established: 1977

Laboratory is a component of the National Environmental Satellite Service (NESS), National Oceanic and Atmospheric Administration (NOAA), Department of Commerce. Laboratory is located at the University of Wisconsin's Space Science and Engineering Center and operates in cooperation with the Center and with the University's Meteorology Department. Staff includes 9 research professionals and 1 other.

The Development Laboratory is involved in research in: 1) atmospheric science; 2) satellite meteorology; 3) remote sensing of the atmosphere; 4) air-sea interaction; 5) analysis and forecasting (especially on the meso-scale); and 6) interactive computer methods applied to meteorology.

Research results are published in primary journals, as conference proceedings, and in NOAA TECHNICAL MEMORANDA and NOAA TECHNICAL REPORTS series (both irregular). A library of approximately 500 meteorological periodicals is maintained.

## ★ 1015 ★

DIRECTORATE OF ECONOMIC AND POLICY RESEARCH  
Securities and Exchange Commission  
500 N. Capital St.  
Washington, DC 20549

(See Issue 1, entry #91, for description.)

UPDATE: This unit is now called the Directorate of Economic and Policy Analysis.

## ★ 1016 ★

DIRECTORATE FOR ENGINEERING AND APPLIED SCIENCE (EAS)  
National Science Foundation  
1800 G St., N. W.  
Washington, DC 20550

Parent agency is National Science Foundation.

Engineering and Applied Science programs seek to strengthen the U. S. engineering and applied science research base and to enhance the links between research and applications in addressing selected national goals. This is accomplished by identifying and supporting basic research and related activities that have high potential for resolving significant societal problems. The Directorate is organized into six Divisions (see Agency Index in this issue for listings of each) involving eight major program areas: 1) electrical, computer, and systems engineering; 2) chemical and process engineering; 3) civil and environmental engineering; 4) mechanical sciences and engineering; 5) applied research; 6) problem-focused research; 7) intergovernmental programs; and 8) small business innovation and industrial technology. The most frequent recipients of support for basic research in the four broad areas of engineering are colleges, universities, and nonprofit research institutions. In special circumstances, awards may be made to profitmaking organizations and individuals. Proposals for research in the other four program areas may be submitted by colleges, universities, public and private laboratories, industry (including small businesses), other profit and nonprofit organizations, State, regional, and local units of government, and, in special cases, individuals without organizational affiliation.

Remarks: Requests for publications may be addressed to EAS Information Resources at the above address. Address general inquiries to the attention of the Programs and Resources Officer, also at the above address.

## ★ 1017 ★

DIRECTORATE FOR SCIENTIFIC, TECHNOLOGICAL, AND INTERNATIONAL AFFAIRS  
National Science Foundation  
1800 G St., N. W.  
Washington, DC 20550

Parent organization is National Science Foundation (NSF).

Programs within this Directorate involve NSF activities designed to address scientific and technological issues of concern to policymakers. Directorate is organized in four main Divisions: 1) Policy Research and Analysis Division; 2) Science Resources Studies Division; 3) International Programs Division; and 4) Information Science and Technology Division. See separate entries in this issue for descriptions of these Divisions.

## ★ 1018 ★

DISSEMINATION AND IMPROVEMENT OF PRACTICE PROGRAM  
National Institute of Education  
1200 19th St., N. W.  
Washington, DC 20208  
Eunice H. Turk, Acting Associate Director Phone: (202) 254-5310

Program is a component of the National Institute of Education (NIE), Office of Educational Research and Improvement, Department of Education.

Program seeks to ensure that the results of educational research, development, and exemplary practice are made available in usable form to those who need them. Program supports research, as well as national and regional service activities. Its research arm is the Research and Educational Practice Program (REP), which seeks to establish the ways in which knowledge in all forms (information, ideas, programs, materials, administrative and instructional processes, etc.) can effectively be brought to bear on, and help improve, educational practices and educational equity. To further these goals, REP supports exploratory research and assessments of Dissemination and Improvement of Practice programs, while also synthesizing and reporting the results of pertinent work sponsored by REP and others, and developing future research agendas.

Remarks: Dissemination and Improvement of Practice Program is one of three main programs in the NIE which support research. Others are the Educational Policy and Organization Program and the Teaching and Learning Program. See separate entries in this issue for descriptions of each.

## ★ 1019 ★

DIVISION OF BIOMETRY AND EPIDEMIOLOGY  
National Institute of Mental Health  
5600 Fishers Ln.  
Rockville, MD 20857  
Dr. Darrell Regier, Director

Division is part of the National Institute of Mental Health; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; Department of Health and Human Services.

Major objectives of the Division are: 1) to operate a national reporting program to obtain, analyze, and disseminate statistics on the major characteristics of the U. S. mental health service system, its resources, utilization patterns, costs, and financing; 2) to coordinate, develop, and support research, training, and field trials in epidemiology; 3) to develop, conduct, and support broad-scale research on the national mental health service system; 4) to conduct and support research and develop quantitative models for research and data collection in areas of biometric, epidemiologic, and demographic significance; 5) to provide technical assistance to State and local mental health service and statistical agencies; and 6) to analyze, synthesize, and disseminate statistical and research information to inform services policy and program development decisions at local, State, national, and international levels. Division carries out its mission through a program of intramural and extramural contract and grant-sup-

ported research. This program is conducted, coordinated, monitored, and evaluated by: Division's Applied Biometrics and Research Branch, Survey and Reports Branch, Statistical Program Development Branch, and Center for Epidemiologic Studies (see GRCD Issue 2, entry #501, for further description of Center).

Remarks: See separate entry in this issue for description of the National Institute of Mental Health.

★ 1020 ★

DIVISION OF CANCER BIOLOGY AND DIAGNOSIS

National Cancer Institute  
National Institutes of Health, Bldg. 31  
9000 Rockville Pike  
Bethesda, MD 20205  
Dr. Alan S. Rabson, Director

Phone: (301) 496-4345

Division is part of the National Cancer Institute (NCI), National Institutes of Health, Public Health Service, Department of Health and Human Services.

Division serves as the national focal point for programs to improve the detection and diagnosis of human cancers. Major Division components are: 1) Immunology Intramural Research Program, which includes Immunology Branch and Laboratories of Cell Biology, Immunodiagnosis, and Immunobiology; 2) Intramural Research Program, which includes Dermatology Branch, Metabolism Branch, and Laboratories of Pathology, Biochemistry, Pathophysiology, Molecular Biology, and Theoretical Biology; and 3) Extramural Research Program, including Diagnosis Branch, Breast Cancer Program Coordinating Branch, and Cancer Biology Branch.

Remarks: See separate entry in this issue for further description of the National Cancer Institute.

★ 1021 ★

DIVISION OF CANCER CAUSE AND PREVENTION

National Cancer Institute  
National Institutes of Health, Bldg. 31  
9000 Rockville Pike  
Bethesda, MD 20205  
Dr. Richard H. Adamson, Acting Director

Phone: (301) 496-6618

Division is part of the National Cancer Institute, National Institutes of Health, Public Health Service, Department of Health and Human Services.

Division plans and directs a program of laboratory, field, and demographic research on the cause and natural history of cancer, and means for preventing cancer, through direct in-house research and through research contracts; evaluates mechanisms of cancer induction by viruses and by environmental carcinogenic hazards; and serves as the focal point for the Federal Government on the synthesis of clinical, epidemiological, and experimental data relating to the cause of cancer. Major components of the Division include: 1) Field Studies and Statistics Program (including Biometry Branch, Environmental Epidemiology Branch, and Clinical Epidemiology Branch), which plans, conducts, and evaluates demographic research activities of the National Cancer Program (NCP) and provides statistical services for all NCP research programs; 2) Carcinogenesis Intramural Program (including Laboratories of Biology, Molecular Carcinogenesis, Experimental Pathology, Chemoprevention, Carcinogen Metabolism, Tumor Virus Genetics, Cellular and Molecular Biology, Molecular Virology, and Virol Carcinogenesis), which plans, directs, and conducts basic and applied research on the role of chemical and physical causative factors and the prevention of carcinogenesis, and which conducts programs in carcinogenesis and related areas; 3) Bioassay Program (including Technical Information Resources Branch, Toxicology Branch, and Tumor Pathology Branch), which involves testing of chemical and physical agents in the environment for carcinogenic and cocarcinogenic effects, as well as developing and evaluating standardized methods, designs, and models for carcinogenesis testing; and 4) Carcinogenesis Extramural Program which

includes the Biological Carcinogenesis Branch, Chemical and Physical Carcinogenesis Branch, and Special Programs Branch.

Remarks: See separate entry in this issue for further description of the National Cancer Institute.

★ 1022 ★

DIVISION OF CANCER TREATMENT

National Cancer Institute  
National Institutes of Health, Bldg. 31  
9000 Rockville Pike  
Bethesda, MD 20205  
Dr. Saul A. Schepartz, Acting Director

Phone: (301) 496-6404

Division is part of the National Cancer Institute, National Institutes of Health, Public Health Service, Department of Health and Human Services.

Division plans, directs, and coordinates an integrated program of cancer treatment activities with the objective of curing or controlling cancer in man by utilizing combination modalities (including chemical, surgical, radiological, and certain immunological techniques); administers a total drug development program; and serves as the national focal point for information and data on cancer treatment studies. Major Division components are: 1) Cancer Therapy Evaluation Program (including Investigational Drug Branch, Clinical Investigations Branch, Radiotherapy Development Branch, and Biologics Evaluation Branch), which plans and directs the clinical contract and grants programs; 2) Clinical Oncology Program (including Branches in Medicine, Pediatric Oncology, NCI-VA Medical Oncology, Surgery, Radiation Oncology, Clinical Pharmacology, and Biometric Research), which plans and directs clinical research aspects of Division's programs; 3) Developmental Therapeutics Program (including Branches in Toxicology, Research and Resources, Drug Synthesis and Chemistry, Drug Evaluation, Pharmaceutical Resources, and Natural Products, as well as Laboratories of Chemical Pharmacology, Molecular Pharmacology, Tumor Cell Biology, and Medicinal Chemistry and Biology), which plans, directs, conducts, and evaluates intramural and extramural research programs directed toward the preclinical development of therapeutic modalities, especially those related to chemotherapy; and 4) Baltimore Cancer Research Program (including Clinical Oncology Branch, Laboratory of Clinical Biochemistry, and Laboratory of Molecular Biology), which conducts an integrated program of laboratory and clinical research on the therapy and management of cancer patients.

Remarks: See separate entry in this issue for further description of the National Cancer Institute.

★ 1023 ★

DIVISION OF COMPUTER RESEARCH AND TECHNOLOGY (DCRT)

National Institutes of Health  
9000 Rockville Pike  
Bethesda, MD 20205  
Dr. Arnold W. Pratt, Director

Established: 1964

Division is part of the National Institutes of Health (NIH), Public Health Service, Department of Health and Human Services. Staff totals more than 250.

DCRT activities cover a broad spectrum ranging from conducting research in biology, statistics, mathematics, and computer science to providing computer facilities and services for NIH. These activities are carried out by various branches and laboratories within the Division: 1) Computer Center Branch designs, implements, and operates the NIH Computer Center and provides assistance, training, and technical communications to users; 2) Data Management Branch serves as a central resource of systems analysis, design, and programming for data processing projects relating to scientific, technical management, and administrative data; 3) Computer Systems Laboratory provides consultation and collaboration in the design and implementation of specialized computer systems for laboratory and clinical applications; 4) Laboratory of Statistical and Mathematical Methodology provides statistical and mathematical help in the computer analysis

of biomedical data, offers statistical and mathematical packages for users, and develops methodology in multivariate analysis, curve fitting, biological shape, and pattern theory; 5) Laboratory of Applied Studies relates mathematics, statistics, and computer sciences to such biomedical problems as ECG analysis, evaluation of physiological systems in health and disease, modeling of the microcirculation, and estimation problems in laboratory medicine; and 6) Physical Sciences Laboratory conducts research in mathematical theory and practical instrumentation to explain biological phenomena in terms of chemistry and physics at the subcellular molecular levels. In addition, the Division's Office of ADP Policy Coordination coordinates the complex Federal policies and procedures that govern getting and using computers at NIH; the Office of Administrative Management provides general administrative management support for the Division's work; and the Office of Scientific and Technical Communications serves as a central source of information about DCRT activities and about computer-related disciplines.

Research results are published in primary journals and as research reports and proceedings. Division publishes ANNUAL REPORT. Library in computer science and mathematics, statistics, engineering, information science, and management is maintained within the Office of Scientific and Technical Communications.

## ★ 1024 ★

DIVISION OF DRUG BIOLOGY (DDB)  
200 C St., S. W.  
Washington, DC 20204

Division is part of Pharmaceutical Research and Testing, Bureau of Drugs, Food and Drug Administration (FDA), Public Health Service, Department of Health and Human Services. Staff totals approximately 40.

DDB provides expert advice to Bureau units on matters involving the pharmacology, toxicology, microbiology, and bioanalysis of drugs and the analysis of insulin drugs. Division also plans and conducts research in a wide variety of pharmacological, toxicological, microbiological, and analytical problems; performs bioassays to determine drug potency (including testing insulin for certification); and appraises and approves current and proposed standards and specifications for drugs requiring bioanalysis and validates such analytical methodology. As the FDA's analytical laboratory for bioassay and insulin analysis, Division: 1) conducts research in pharmacology and toxicology in laboratory animals; 2) develops methodology and application of modern technology for control of potency, microbial attributes, and purity of drugs; 3) conducts research related to certification analysis of antibiotic and insulin drugs; 4) tests for potency of drugs requiring animal assays; 5) conducts research on antidotes to some poisons; and 6) conducts research and development of methods and materials used in radioimmunoassay for evaluation of biopharmaceutical problem drugs.

Remarks: See Agency Index for listings of other Bureau of Drugs components described in GRCD Issues 1-3.

## ★ 1025 ★

DIVISION OF DRUG CHEMISTRY (DDC)  
200 C St., S. W.  
Washington, DC 20204

Division is part of Pharmaceutical Research and Testing, Bureau of Drugs, Food and Drug Administration (FDA), Public Health Service, Department of Health and Human Services. Staff totals approximately 35.

DDC activities include: 1) providing expert advice to units of the Bureau of Drugs on problems involving the chemistry of drugs, developing methods of qualitative and quantitative analyses for drug components, and investigating the chemical basis of these methods and the chemico-physical applications and limitations of various analytical instrumental techniques; 2) appraising and approving drug standards and specifications, validating analytical methods for new drug applications, and reviewing validating data from FDA's field district laboratories; 3) cooperating in the prepara-

tion of drug monographs; and 4) supporting those Bureau of Drugs programs which require laboratory assistance and expertise in pharmaceutical chemistry.

Remarks: See Agency Index for listings of other Bureau of Drugs components described in GRCD Issues 1-3.

## ★ 1026 ★

DIVISION OF EXTRAMURAL ACTIVITIES  
National Cancer Institute  
National Institutes of Health, Bldg. 31  
9000 Rockville Pike  
Bethesda, MD 20205  
Dr. William A. Walter, Acting Director Phone: (301) 496-5147

Division is part of the National Cancer Institute (NCI), National Institutes of Health (NIH), Public Health Service, Department of Health and Human Services.

Known as the Division of Cancer Research Resources and Centers (DCRRC) until 1980, this unit was renamed Division of Extramural Activities as part of NCI's reorganization to separate program management from grant and contract administration, and from peer review of grants and contracts. With this reorganization, grant portfolios, and responsibility for their program administration, were transferred from DCRRC to other NCI Divisions with similar or related programs. At the same time, responsibility for peer review activities (for both grants and contracts) were transferred from other Divisions to the newly named Division of Extramural Activities. In addition to separating program management from grant and contract administration and peer review, the reorganization is designed: 1) to bring about more effective integration of scientific and training activities of the NCI; 2) to bring the NCI organization more into conformity with that of other NIH institutes; and 3) to give grant applications in all program areas an increased opportunity to compete on merit. Major components of the Division of Extramural Activities as it is presently organized are: Grants Administration Branch, Research Analysis and Evaluation Branch, Grants Financial and Data Analysis Branch, Contracts Review Branch, and Grants Review Branch.

Remarks: See separate entry in this issue for further description of the National Cancer Institute.

## ★ 1027 ★

DIVISION OF EXTRAMURAL RESEARCH  
National Institute on Alcohol Abuse and Alcoholism  
5600 Fishers Ln.  
Rockville, MD 20857  
Dr. G. C. Salmotrighi, Associate  
Director for Research Phone: (301) 443-4375

Division is part of the National Institute on Alcohol Abuse and Alcoholism (NIAA); Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; Department of Health and Human Services.

Division provides support for basic and applied research programs on the multiple determinants and processes of alcoholism and other alcohol-related problems; on the prevention of alcohol abuse; and on the diagnosis, treatment, and rehabilitation of persons who abuse alcohol. Division also develops and supports clinical research to assess the efficacy of therapeutic procedures for the treatment of alcoholism and alcohol-related disorders; and administers the Institute's National Research Centers program and scientists development and research training programs.

Division stimulates the dissemination of results of the research it supports through the development of conferences, symposia, and major scientific publications.

Remarks: See separate entries in this issue for further description of the NIAA and of its Division of Intramural Research.

## ★ 1028 ★

## DIVISION OF EXTRAMURAL RESEARCH PROGRAMS

National Institute of Mental Health

5600 Fishers Ln.

Rockville, MD 20857

Dr. Louis A. Wienckowski, Director

Phone: (301) 443-3563

Division is part of the National Institute of Mental Health; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; Department of Health and Human Services.

Division supports a broad range of research in basic biological, behavioral, and social sciences, social problems, and clinical studies on the full range of mental disorders. Current emphasis is on basic biological sciences and on treatment research programs. Division is organized into six major branches: 1) Neurosciences Research Branch, which includes Biobehavioral, Biological, and Psychopharmacology Sections; 2) Behavioral and Social Sciences Research Branch, which includes sections on Cognition and Learning Processes and Problems, Personality and Socio-Emotional Processes and Problems, Basic and Applied Social Sciences Research, and Family Mental Health and Policy Research; 3) Clinical Research Branch, which includes the Center for Studies of Affective Disorders, Center for Studies of Schizophrenia, Center for Studies of Child and Adolescent Mental Health Disorders, Behavioral Medicine and Psychobiological Processes Section, and Psychopathology and Clinical Methods Section; 4) Psychosocial Treatments Research Branch, with Sections on Treatment Development and Process, Outcome Studies, Evaluation Methods, and Special Studies; 5) Pharmacologic and Somatic Treatments Research Branch, which has Sections on Schizophrenic Disorders, Affective Disorders, Anxiety Disorders, and Special Populations; and 6) Research Resources Branch, which includes a Clinical Research Centers Program, Small Grants Program, Applied Therapeutics and Health Practices Program, Research Scientist Development Program, and the International Reference Center for Information on Psychotropic Drugs.

Remarks: See separate entry in this issue for description of the National Institute of Mental Health. Consult Agency Index for listings of individual components of Division of Extramural Research Programs included in GRCD Issues 1-3.

## ★ 1029 ★

## DIVISION OF FAMILY ASSISTANCE STUDIES

Social Security Administration

1875 Connecticut Ave., N. W.

Washington, DC 20009

David Amauda, Acting Director

Phone: (202) 673-5776

Established: 1976

Division is part of the Office of Research and Statistics, Social Security Administration (SSA), Department of Health and Human Services. Staff includes 29 research professionals, 5 technicians, and 6 others.

The Division of Family Assistance Studies collects and publishes program statistics related to the aid to families with dependent children (AFDC) program. Surveys of AFDC population groups are designed, conducted, and analyzed. In addition, the Division provides caseload and cost estimates for operating budgets and legislative requests and manages income-maintenance and demonstration projects.

Results are published in the monthly SOCIAL SECURITY BULLETIN and as research reports. Periodic seminars are sponsored.

Remarks: See Agency Index for listing of other Divisions of SSA's Office of Research and Statistics, and of the Office itself, in GRCD Issues 1-3.

## ★ 1030 ★

## DIVISION OF INTRAMURAL RESEARCH

National Institute on Alcohol Abuse and Alcoholism

5600 Fishers Ln.

Rockville, MD 20857

Dr. G. C. Salmofroghi, Associate

Director for Research

Phone: (301) 443-4375

Division is part of the National Institute on Alcohol Abuse and Alcoholism

(NIAA); Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; Department of Health and Human Services.

Division plans, develops, and conducts an in-house program of basic and applied research on the multiple determinants and processes of alcoholism and other alcohol-related problems and on prevention, diagnosis, treatment, and rehabilitation. Research includes metabolic, epidemiological, preclinical, and clinical investigations. Division also collaborates with other agencies, universities, and scientific organizations in the conduct of basic and applied research on alcohol and its effects.

Results are published in primary journals.

Remarks: See separate entries in this issue for description of the NIAA and of its Division of Extramural Research.

## ★ 1031 ★

## DIVISION OF MENTAL HEALTH SERVICE PROGRAMS

National Institute of Mental Health

5600 Fishers Ln.

Rockville, MD 20857

Dr. Steven S. Sharfstein, Director

Division is part of the National Institute of Mental Health; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; Department of Health and Human Services.

Division is made up of the Community Mental Health Services Support Branch; the Community Support and Rehabilitation Branch; the Mental Health Study Center (see GRCD Issue 2, entry #689, for description of Center); and the Mental Health Services Development Branch, which supports research and related activities. Specific objectives of the Mental Health Services Development Branch are to: 1) promote new and improved mental health services through research and through technical assistance and consultation to service providers; 2) study and facilitate the diffusion and adoption of knowledge gained from research and operations relevant to services planning, development, and evaluation; and 3) improve the interface between technology and services. Support is given to research on the initiation of new mental health service models and the introduction of improvements in existing programs. Emphasis is on studies of evaluation methods and strategies for a variety of mental health service programs and facilities.

Remarks: See separate entry in this issue for description of National Institute of Mental Health.

## ★ 1032 ★

## DIVISION OF OASDI STATISTICS

Social Security Administration

6401 Security Blvd.

Baltimore, MD 21235

Henry F. Patt, Director

Phone: (301) 594-0324

Division is part of the Office of Research and Statistics, Social Security Administration (SSA), Department of Health and Human Services. Staff includes 45 research professionals and 22 others.

The Division of OASDI (Old Age, Survivors, and Disability Insurance) Statistics plans and directs the development and maintenance of a broad statistical program concerning basic retirement, survivors, and disability insurance program statistics. Statistical services are provided throughout the Social Security Administration, and technical consultation is available to users of SSA statistics both within and outside the agency.

Results are published in the monthly SOCIAL SECURITY BULLETIN.

Remarks: See Agency Index for listing of other Divisions of SSA's Office of Research and Statistics, and of the Office itself, in GRCD Issues 1-3.

## ★ 1033 ★

## DIVISION OF RESEARCH AND DEMONSTRATION

Office of Vocational and Adult Education

7th and D Sts., S. W.

Washington, DC 20202

Dr. Howard F. Hjelm, Director

Phone: (202) 245-9634

Division is part of the Office of Vocational and Adult Education, Department of Education.

Division provides support for: 1) applied research and development in vocational education; 2) curriculum development; 3) personnel development; 4) Indian education; and 5) demonstration. All projects are funded under contracts on a competitive basis; proposals must be submitted in accordance with priorities and criteria published in the Federal Register for the appropriate fiscal year in which funding is being sought.

Division publishes ANNUAL REPORT OF FEDERALLY FUNDED R&D. Projects funded under Division's Personnel Development Branch hold annual conferences.

## ★ 1034 ★

## DIVISION OF RESEARCH GRANTS (DRG)

National Institutes of Health

Westwood Bldg.

5333 Westbard Ave.

Bethesda, MD 20205

Dr. Carl D. Douglass, Director

Established: 1946

Division is a component of the National Institutes of Health (NIH), Public Health Service, Department of Health and Human Services.

Division provides staff support to the Office of Extramural Research and Training (see separate entry in this issue) in the formulation of grant and award policies and procedures. Division also: 1) represents NIH in assigning applications among the components of the Public Health Service, and assigns NIH applications to supporting Institutes and Divisions and to initial review groups; 2) provides for scientific review of NIH grant applications, as well as consultative and advisory services relative to grant policy and management matters; 3) administers the Grants Associates Program (training of research scientists) and the Extramural Associates Program (supports participation of women and ethnic minorities); 4) collects, stores, retrieves, analyzes, and evaluates management and program data needed in the administration of extramural programs; and 5) disseminates information on extramural programs to the Congress, scientists, and the general public.

Remarks: See Agency Index for listings of NIH and its components included in GRCD Issues 1-3.

## ★ 1035 ★

## DIVISION OF RESEARCH RESOURCES

National Institutes of Health

9000 Rockville Pike

Bethesda, MD 20205

Dr. Thomas Bowery, Director

Established: 1970

Division is a component of National Institutes of Health (NIH), Public Health Service, Department of Health and Human Services.

Division meets the research resource needs of NIH by assuring the availability of those resources that are necessary to conduct human health research. Specifically, Division: 1) helps institutions establish and operate general clinical research centers where research studies can be conducted on patients over a wide range of human diseases; 2) supports sophisticated biotechnology resources, such as computer centers, high voltage electron microscopy centers, and biological structure determination centers; 3) supports primate research centers; 4) increases and improves laboratory animal facilities and resources; 5) makes awards for minority biomedical support; and 6) provides institutional research support for stabilizing and developmental efforts among a variety of institutions throughout the U. S. Division provides a unified approach to solving the complex needs of health-

oriented research that tends to be institutional, regional, or national in scale.

Remarks: See Agency Index for listings of NIH and its components included in GRCD Issues 1-3.

## ★ 1036 ★

## DIVISION OF RESEARCH SERVICES (DRS)

National Institutes of Health

9000 Rockville Pike

Bethesda, MD 20205

Dr. Joe R. Held, Director

Established: 1956

Division is a component of National Institutes of Health (NIH), Public Health Service, Department of Health and Human Services.

DRS provides centralized research services to NIH, including: 1) environmental health and safety services; 2) provision of research animals, facilities for their care and use, and disease control services; 3) sterile glassware and media preparation; 4) biomedical engineering and instrumentation services; 5) medical library and translating services; and 6) medical illustration, design graphics, and photographic services.

Remarks: See Agency Index for listings of NIH and its components included in GRCD Issues 1-3.

## ★ 1037 ★

## DIVISION OF RESOURCES, CENTERS, AND COMMUNITY ACTIVITIES

National Cancer Institute

National Institutes of Health, Bldg. 31

9000 Rockville Pike

Bethesda, MD 20205

Dr. William D. Terry, Acting Director

Phone: (301) 496-6616

Division is part of the National Cancer Institute (NCI), National Institutes of Health (NIH), Public Health Service, Department of Health and Human Services.

Division was established in 1980 as part of the NCI reorganization which abolished the Division of Cancer Control and Rehabilitation and transferred all its functions, as well as several major components of the Division of Cancer Research Resources and Centers (DCRRC), to the newly formed Division of Resources, Centers, and Community Activities. (As part of this same reorganization, DCRRC became the Division of Extramural Activities. See entry on Division of Extramural Activities, listed elsewhere in this issue, for further information.) Responsibilities of the Division of Resources, Centers, and Community Activities include: 1) planning and conducting programs of research, evaluation, demonstration, technology transfer, education, and information dissemination; 2) planning, directing, and coordinating the support of cancer research at cancer centers and through organ site programs; 3) planning and conducting basic and applied research programs in pain and rehabilitation; 4) supporting professional and paraprofessional clinical education, research training, and continuing education; 5) administering grants for the construction, alteration, renovation, and equipping of basic and clinical research facilities; 6) coordinating program activities with related activities of NCI, other NIH Institutes, and other Federal and State agencies; and 7) establishing liaison with professional and voluntary health agencies, labor organizations, and trade associations.

Remarks: See separate entry in this issue for further description of National Cancer Institute.

## ★ 1038 ★

## DIVISION OF SPECIAL MENTAL HEALTH PROGRAMS

National Institute of Mental Health

5600 Fishers Ln.

Rockville, MD 20857

Dr. Juan Ramos, Director

Division is part of the National Institute of Mental Health; Alcohol, Drug

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Abuse, and Mental Health Administration; Public Health Service; Department of Health and Human Services.

Objectives of the Division are: 1) to provide new knowledge through research directed toward meeting critical needs in social problem areas such as crime and delinquency, sexual assault, metropolitan mental health, minority group mental health, and mental health problems of the aging; and 2) to promote and support interdisciplinary research training and clinical training geared toward training in new and improved methods of social service delivery. Division is composed of the Office of the Director, which plans, directs, and coordinates all Division activities, and five centers which support and conduct research and training. These five centers are: 1) Center for Studies of Crime and Delinquency (see GRCD Issue 2, entry #505); 2) Center for Minority Group Mental Health Programs (see separate entry in this issue); 3) Center for Studies of Metropolitan Problems (see GRCD Issue 1, entry #52); 4) Center for Studies of Mental Health of the Aging (see GRCD Issue 1, entry #51); and 5) National Center for the Prevention and Control of Rape (see separate entry in this issue).

Remarks: Inquiries about training programs should be addressed to the individual Centers rather than to the Division. For description of the National Institute of Mental Health, see separate entry in this issue.

★ 1039 ★

EARTH RESOURCES OBSERVATION SYSTEM (EROS) PROGRAM

Geological Survey National Center

12201 Sunrise Valley Dr.

Reston, VA 22092

Phone: (703) 860-7000

Established: 1966

Program is administered by the Geological Survey, Department of the Interior, and is conducted in cooperation with the National Aeronautics and Space Administration (NASA), the National Oceanic and Atmospheric Administration (NOAA), and other Federal agencies.

The EROS Program was established to apply remote-sensing techniques to the inventory, monitoring, and management of natural resources. (Much of the work is made possible by data acquisition systems of NASA, such as Landsat, by data drawn from NOAA weather satellites, and from aircraft with remote-sensing capabilities sponsored by other Federal and State agencies.) The three main activities of the EROS Program are: 1) data production and dissemination; 2) user training and assistance; and 3) research and applications demonstration of uses of satellite and aerial data. Examples of research are: mapping floods and measuring areas of lands flooded; analyzing vegetation and surface-water features in coastal and interior wetlands; monitoring long-term worldwide changes in the regimes of active volcanoes, rivers, and glaciers; determining short-term changes in the depth of surface water, extent of snow cover, cropland vegetation, and sea ice dynamics; analyzing regional geologic structure and related information in prospecting for new deposits of minerals and petroleum; and compiling image maps. Potential also exists for increased use of remote-sensing technology in the study of dam safety.

Data production and dissemination functions of the Program are carried out by the EROS Data Center, Sioux Falls, SD 57198. Center reproduces and distributes as sale items copies of imagery, photography, electronic data, and computer products. The EROS Program Library, located at the Data Center, contains more than 7000 books, monographs, periodicals, reprints, and reports, in paper copy or on microfiche, on all aspects of remote-sensing technology.

★ 1040 ★

EARTHQUAKE HAZARDS MITIGATION PROGRAM

National Science Foundation

1800 G St., N. W.

Washington, DC 20550

Parent organization is Problem-Focused Research Division, Directorate for Engineering and Applied Science, National Science Foundation (NSF).

Program supports earthquake engineering and research for utilization, particularly in the general areas of siting, design, and policy. (For further

discussion of programs sponsored by the Problem-Focused Research Division, see GRCD Issue 1, entry #100. See Agency Index in this issue for specific listings of individual programs.)

Remarks: To strengthen the research potential in engineering and earthquake hazards mitigation, the NSF also offers a Research Initiation Grants program for qualified investigators. For information, write to the Directorate for Engineering and Applied Science at the above address.

★ 1041 ★

EASTERN OREGON AGRICULTURAL RESEARCH CENTER

P. O. Box 833

Burns, OR 97720

Phone: (503) 573-2064

Dr. Robert J. Raleigh, Superintendent

Established: 1935

Center operates in cooperation with Cooperative Research, Science and Education Administration, Department of Agriculture (USDA-SEA-CR); the Agricultural Experiment Station of Oregon State University, Corvallis, OR 97331; and the State of Oregon. Staff includes 5 research professionals, 7 supporting professionals, 6 technicians, and 3 others.

Center conducts livestock and range research, principally as related to cattle feeding and forage production on meadow and rangelands.

Research results are published in primary journals and in Oregon State University bulletins and reports series. Center sponsors annual field days; attendance is open to all interested parties.

Remarks: Center comprises the Squaw Butte Station in Burns, OR and the Union Station, Union, OR. Staff figures given above are for both units. (See separate entry in this issue for further description of USDA-SEA's Cooperative Research program.)

★ 1042 ★

ECONOMIC RESEARCH DIVISION

Economic Development Administration

Main Commerce Bldg.

Washington, DC 20230

Hugh Knox, Acting Chief

Phone: (202) 377-4805

Division is a component of the Office of Policy, Evaluation, and Research; Economic Development Administration (EDA); Department of Commerce.

Division sponsors research in support of EDA's primary function of long-range economic development of areas with severe unemployment and low family income problems. The research program is undertaken, in part, through grants and cooperative agreements. While the Division occasionally publishes formal requests for proposals in high priority areas, unsolicited proposals from educational institutions, non-profit research corporations, individuals, other government agencies, and for-profit groups with special expertise may be submitted at any time. EDA is interested primarily in basic and applied research which is relevant to economic development programs and policy development. Areas of emphasis during fiscal year 1981 include: 1) national and international sectoral adjustment; 2) development incentives; 3) changing U. S. demographics; and 4) infrastructure.

Remarks: For specific information on research proposal requirements, contact the Economic Research Division at the above address.

★ 1043 ★

ECONOMIC RESEARCH DIVISION

Small Business Administration

1441 L St., N. W.

Washington, DC 20416

Dr. William B. Whiston, Director

Phone: (202) 634-4885

Established: 1979

Division is a component of the Bureau for Advocacy, Small Business Ad-

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ministration. Staff includes 8 research professionals, 3 supporting professionals, and 4 others.

Division supports economic research and analysis pertaining to small business economic issues and statistics through grants, cooperative agreements, and contracts. Programs supported in fiscal year 1980 included studies on: 1) the effects of Government programs, policies, and regulations on small business; 2) the contribution of small business to the economic and social welfare of the U. S.; and 3) the development of theories or methodology useful in studying small business problems. Of particular interest are projects which are policy oriented to develop alternative approaches to solving small business problems. Proposals may be submitted by any individual or firm (including small and large businesses and non-profit institutions). Universities and large research organizations are encouraged to form joint ventures with or subcontract to independent small businesses.

Results are published as research reports. Division sponsors Economic Research Seminar Series on current and completed studies (held every Tuesday; open to research professionals).

★ 1044 ★

EDUCATIONAL POLICY AND ORGANIZATION PROGRAM

National Institute of Education

1200 19th St., N. W.

Washington, DC 20208

Marc S. Tucker, Associate Director

Phone: (202) 254-5040

Program is a component of the National Institute of Education (NIE), Office of Educational Research and Improvement, Department of Education.

Program provides support for research in three main areas: 1) Law and Public Management Program supports research on the process by which educational policy is developed, influenced, implemented, and monitored at the municipal, State, and Federal levels; 2) Educational Finance Program supports research on issues related to the production, allocation, and expenditure of education resources and how school financing is affected by economic and demographic trends; and 3) Education Organizations and Local Communities Program supports research on the governance, organization, and management of schools, school systems, and institutions of higher education, including their relationships to their communities and the ways in which they have integrated educational and other social services. Program also supports studies on desegregation programs, processes, and results.

Remarks: The Educational Policy and Organization Program is one of three main programs in the NIE which support research. Others are the Teaching and Learning Program and the Dissemination and Improvement of Practice Program. See separate entries in this issue for descriptions of each.

★ 1045 ★

ELECTROMAGNETIC TECHNOLOGY DIVISION

National Bureau of Standards

Boulder, CO 80303

Dr. Robert A. Kamper, Chief

Phone: (303) 497-3535

Division is part of the Center for Electronics and Electrical Engineering, National Engineering Laboratory, National Bureau of Standards, Department of Commerce.

Division: 1) develops, evaluates, and applies systems, devices, and techniques to measure and analyze electromagnetic signals (both pulsed and continuous) confined in waveguide structures or laser beams, and the transmission characteristics of such structures; 2) provides national reference standards and measurement services required to determine the characteristics of guided wave systems and lasers; and 3) promotes the application of superconductivity and other low temperature phenomena to new electrical measuring techniques and systems, and assists other divisions of NBS to adapt them to their needs.

Remarks: See GRCD Issue 1, entry #45, for description of Center for Electronics and Electrical Engineering.

★ 1046 ★

ELECTRON DEVICES DIVISION

National Bureau of Standards

Gaithersburg, MD

(Mailing address: Washington, DC 20234)

Dr. W. Murray Bullis, Chief

Phone: (301) 921-3786

Division is part of the Center for Electronics and Electrical Engineering, National Engineering Laboratory, National Bureau of Standards, Department of Commerce.

Division: 1) develops and evaluates measurement methods, data, and associated technology for the characterization of electron devices and the materials, processes, and equipment used in their manufacture; and 2) disseminates and fosters application and standardization of these methods for the marketplace exchange of devices, equipment, and materials, and for the enhancement of performance and reliability for electron devices and the systems in which they are applied.

Remarks: See GRCD Issue 1, entry #45, for description of Center for Electronics and Electrical Engineering.

★ 1047 ★

ELECTRONICS TECHNOLOGY DIVISION

Naval Research Laboratory

Washington, DC 20375

Dr. B. D. McCombe, Superintendent

Division is part of the Material Science and Component Technology Directorate, Naval Research Laboratory (NRL). NRL is a component of the Office of Naval Research; the Chief of Naval Research reports to the Assistant Secretary (Research, Engineering, and Systems), Department of the Navy.

Division carries out programs of basic and applied research and development in the fields of: electronic properties of solid materials; materials development; surface physics; microwave techniques; microelectronic devices research and fabrication; and highpower microwave generation; as well as basic research in electronic materials, especially semiconductors, and in magnetism and cryoelectronics. Activities of the Division couple device research both to basic materials investigations and to systems research and development.

Remarks: See Agency Index for listings of other components of the Material Science and Component Technology Directorate, and of the Naval Research Laboratory, all included in this issue.

★ 1048 ★

ELECTRO-OPTICAL TECHNOLOGY PROGRAM OFFICE (EOPTO)

Naval Research Laboratory

Washington, DC 20375

Dr. J. C. Kerstenstein, Head

Office is part of the Material Science and Component Technology Directorate, Naval Research Laboratory (NRL). NRL is a component of the Office of Naval Research; the Chief of Naval Research reports to the Assistant Secretary (Research, Engineering, and Systems), Department of the Navy.

EOPTO conducts technology assessment, model validation, and sensitivity analysis for electro-optical (E-O) sensors; conducts special technical analyses on controversial issues (such as the "optimal" spectral band for Infrared Search and Track Systems); formulates and proposes new E-O programs of Navy-wide interest (such as the Optical Signature Program); and recommends redirection of programs which have reached maturity. To accomplish these goals, EOPTO establishes working groups to address specific technical issues; maintains a cross-referenced data bank on all E-O work unit summaries; maintains liaison with foreign technology activities to facilitate data exchange; conducts Navy-wide meetings to disseminate and coordinate activities; and interacts with the intelligence community to aid in threat assessment. As the focal point of scientific and technical

support for the Chief of Naval Material/Chief of Naval Development (CNM/CND), the EOPTO provides backup material in response to questions from higher authority and acts as technical staff to the Naval Material Command Electro-Optics Council.

Remarks: See Agency Index for listings of other components of the Material Science and Component Technology Directorate, and of the Naval Research Laboratory, all included in this issue.

## ★ 1049 ★

## ELECTROSYSTEMS DIVISION

National Bureau of Standards  
Gaithersburg, MD

(Mailing address: Washington, DC 20234)

Dr. Oskars Petersons, Chief

Phone: (301) 921-3238

Division is part of the Center for Electronics and Electrical Engineering, National Engineering Laboratory, National Bureau of Standards, Department of Commerce.

Division: 1) develops and evaluates measurement methods, data, and associated technology for characterizing and defining performance parameters and electrical/electronic systems, components, and materials; 2) applies these to the advancement of dynamic measurement instrumentation and sensors, and to the efficient utilization of electric power transmission and distribution systems; and 3) develops and maintains national reference standards for practical electrical units derived from the basic units.

Remarks: See GRCD Issue 1, entry #45, for description of Center for Electronics and Electrical Engineering.

## ★ 1050 ★

## ENERGY TECHNOLOGY ENGINEERING CENTER (ETEC)

P. O. Box 1449

Canoga Park, CA 91304

Phone: (213) 341-1000

H. C. Wieseneck, General Manager

Established: 1966

Center is operated under contract by Rockwell International Corporation (Energy Systems Group) for the Assistant Secretary for Nuclear Energy, Department of Energy (DOE). Staff totals approximately 350.

ETEC provides DOE contractors with a testing facility comparable to national laboratories, where component designs can be tested and engineering counsel obtained. Primary mission has been to aid the Liquid Metal Fast Breeder Reactor (LMFBR) Program in developing industry capability for production of fast-breeder reactor systems. (Until 1978, ETEC was named Liquid Metal Engineering Center.) Center also provides engineering, testing, and consultation services for all other DOE programs and to the Nuclear Regulatory Commission.

Results are published in DOE publications.

## ★ 1051 ★

## ENGINEERING SERVICES LABORATORY (ESL)

Air Force Engineering and Services Center

Tyndall AFB, FL 32403

Phone: (904) 283-6310

Col. Francis Crowley III, Director

Established: 1975

Laboratory is part of the Air Force Engineering and Services Center, Air Force Systems Command, Department of the Air Force. Staff includes 60 research and 4 supporting professionals, 30 technicians, and 12 others.

ESL conducts research, development, test, and evaluation in the fields of civil engineering, facilities energy, and structures, including geotechnical and environmental (air, water, solid waste) studies.

Results are published as technical reports.

## ★ 1052 ★

## ENTREPRENEURIAL INNOVATION CENTERS

National Science Foundation

1800 G St., N. W.

Washington, DC 20550

Phone: (202) 357-7527

Parent organization is Intergovernmental Science and Public Technology Division, Directorate for Engineering and Applied Science (EAS), National Science Foundation (NSF).

NSF has sponsored the establishment of four Centers on university campuses (Carnegie-Mellon University, Pittsburgh, PA; University of Utah, Salt Lake City, UT; Massachusetts Institute of Technology, Cambridge, MA; and University of Oregon, Eugene, OR) to determine whether the entrepreneurial behavior of students can be enhanced by participation in academic course work and clinical experience provided in the university environment. Each Center has a common objective to demonstrate that university-based activities can stimulate innovation and entrepreneurship in the external business community. (However, Centers have somewhat different approaches for carrying out their common objectives.) Programs of these Centers combine education (curriculum development), clinical experience for students, research, and outside business interests and assistance.

Remarks: Individuals and firms interested in learning more about these Centers and the potential help they may be able to provide may contact the Program Director for University/Industry Cooperative Research Centers, Room 1121, EAS Directorate, National Science Foundation, Washington, DC 20550.

## ★ 1053 ★

## ENVIRONMENT, ENERGY, AND RESOURCES STUDIES PROGRAM

National Science Foundation

1800 G St., N. W.

Washington, DC 20550

Parent organization is Policy Research and Analysis Division, Directorate for Scientific, Technological, and International Affairs, National Science Foundation.

Program seeks to clarify the role of science and technology in improving the Nation's capability to adapt to changes in energy, environmental, and national resource conditions and to contribute to forming policies that may both improve conditions and ameliorate the negative effects of these changes. Research in this area centers on issue definition and assistance to policymakers in finding techniques to deal with critical problems and improved methods for assessing effects of alternative governmental actions.

Remarks: Consult Agency Index for listings of the Policy Research and Analysis Division and its other programs, each described individually in this issue.

## ★ 1054 ★

## ENVIRONMENTAL BIOLOGY DIVISION

National Science Foundation

1800 G St., N. W.

Washington, DC 20550

Frank B. Golley, Director

Phone: (202) 357-7332

Division is part of the Directorate for Biological, Behavioral, and Social Sciences, National Science Foundation.

Division's programs provide support for research in: 1) ecology, including studies on community ecology of land and inland waters, microbial ecology of soils and sediments, and the mechanisms that influence the distribution and abundance of animals and plants; 2) ecosystem studies, including laboratory, field, and mathematical modeling studies on ecosystems, development of new methods of predicting ecosystem change, and studies on ecosystem management and exploitation; 3) systematic biology studies, including studies on living species and extinct species, development of improved

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methods of gathering, processing, and analyzing pertinent data, and studies in functional morphology, chemosystematics, and paleobiology; 4) research resources, which involves operational support for biological research resources; and 5) population biology and physiological ecology.

Remarks: Requests for additional information on Division's programs may be addressed to the Division Director at the above address. For descriptions of the Directorate for Biological, Behavioral, and Social Sciences and its other Divisions, consult specific listings in Agency Index in this issue. See GRCD Issue 1, entry #262, for further information on support mechanisms of the National Science Foundation.

★ 1055 ★

ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE (ECAO)

26 W. St. Clair St.

Cincinnati, OH 45268

Dr. Jerry F. Stara, Director

Phone: (513) 684-7531

Parent organization is Office of Health and Environmental Assessment (OHEA), Office of Research and Development (ORD), Environmental Protection Agency (EPA).

ECAO is responsible for the preparation of criteria and risk assessment documents primarily concerning (but not limited to) water pollution and solid wastes in support of program needs for use in EPA regulatory activities. ECAO serves as an ORD focal point to collect, summarize, evaluate, and assess all available scientific data, national and international, on toxic effects resulting from exposure to environmental pollutants. Primary functions of ECAO include: 1) preparing, publishing, and periodically revising criteria documents for establishing environmental standards; 2) preparing and publishing health and ecological risk assessment documents; 3) responding to requests for scientific documentation from other Agency offices and preparing special reports and assessments to these groups as needed; 4) communicating with and assisting international agencies in the execution of ORD's role as a collaborating center for environmental pollution control; and 5) maintaining liaison/interaction with the ECAO in Research Triangle Park, NC and with other OHEA components. Research activities primarily involve data collection and analysis for preparation of ambient water quality criteria documents, scientific assessment on selected water pollutants, and hazard profile summaries on selected chemicals found in solid waste effluent streams.

Remarks: See GRCD Issue 1, entry #112, for description of the ECAO at Research Triangle Park, NC.

★ 1056 ★

ENVIRONMENTAL MONITORING AND SUPPORT LABORATORY

26 W. St. Clair St.

Cincinnati, OH 45268

Dr. Robert Booth, Director

Phone: (513) 684-2200

Laboratory is a component of the Office of Monitoring Systems and Quality Assurance, Office of Research and Development, Environmental Protection Agency (EPA).

Laboratory's mission is to: 1) develop analytical test procedures to identify and measure major pollutants and quality characteristics in drinking water, ambient receiving waters, and municipal and industrial effluents; 2) develop monitoring techniques to identify and enumerate microorganisms of health significance in drinking water, ambient waters, and municipal wastes; 3) devise laboratory procedures to detect, identify, and measure viruses in water, municipal wastes, and sludges; and 4) devise field and laboratory procedures to determine the biological effects of waste discharges on receiving waters.

Laboratory publishes official EPA test methods for monitoring drinking water, municipal and industrial effluents, and ambient waters. Laboratory also provides research reports to Regional Offices, States, and Program Offices in support of monitoring programs.

Remarks: In addition to its published materials, Laboratory provides quality assurance guidelines, reference materials, quality control samples, and performance audit samples for evaluating and maintaining the quality of monitoring data provided by EPA, State, municipal, and industrial laboratories; and provides technical support (including consultation and analytical services) to Regional Offices, States, and Program Offices in support of water and waste monitoring programs. (Consult Agency Index for listings of other EPA laboratories assigned to the Office of Monitoring Systems and Quality Assurance.)

★ 1057 ★

ENVIRONMENTAL MONITORING SYSTEMS LABORATORY

P. O. Box 15027

Las Vegas, NV 89114

Glenn Schweitzer, Director

Phone: (702) 595-2969

Laboratory is a component of the Office of Monitoring Systems and Quality Assurance, Office of Research and Development, Environmental Protection Agency (EPA).

Laboratory's mission is to develop methods, systems, and strategies for monitoring the environment in order to assess the exposure of man and other receptors to pollutants in the environment; and to characterize and quantify movement and fate of environmental pollutants. Specific activities include: 1) developing and maintaining sophisticated monitoring and analytical capabilities for laboratory and field studies and conducting EPA programs for monitoring data quality assurance (including radiation and biological quality assurance); 2) developing and providing capability for overhead monitoring (including contact and remote sensing) and providing quick-response capability for synoptic monitoring of pollution situations or accidental releases (Laboratory serves as EPA's aerial support facility); and 3) under an agreement with the Department of Energy, collecting radiological surveillance data and performing pathways research to determine radiation exposure to man and his environment from past and present testing of nuclear devices.

Results are disseminated in EPA publications.

Remarks: In the fall of 1980, Laboratory developed and directed a bio-monitoring program at Love Canal to identify toxic chemicals present in selected biological species in the Love Canal area. Findings were to be released early in 1981. (See Agency Index for listings of other EPA laboratories assigned to the Office of Monitoring Systems and Quality Assurance.)

★ 1058 ★

ENVIRONMENTAL RESEARCH LABORATORIES HEADQUARTERS

National Oceanic and Atmospheric Administration

325 N. Broadway

Boulder, CO 80303

Joseph O. Fletcher, Director

Phone: (303) 499-1000

Parent organization is Office of the Assistant Administrator for Research and Development, National Oceanic and Atmospheric Administration (NOAA), Department of Commerce.

The Director of Environmental Research Laboratories is responsible for establishing basic policies and providing management for the overall activities of NOAA's nationwide system of laboratories. (Consult Agency Index for listings of the individual laboratories which make up the NOAA Environmental Research Laboratories, described separately in GRCD Issues 1-3.)

★ 1059 ★

ENVIRONMENTAL RESEARCH LABORATORY

Athens, GA 30605

Dr. David W. Duttweiler, Director

Phone: (404) 546-3134

Laboratory is a component of the Office of Environmental Processes and

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Effects Research (OEPER), Office of Research and Development (ORD), Environmental Protection Agency (EPA).

Laboratory conducts research and development on analytical chemistry of pollutants; pollutant transport, transformation, and fate in water, sediment, and soil; and control of agricultural or silvicultural non-point sources of water pollution. Laboratory is also involved in environmental management to achieve water quality goals. Specific activities are to: 1) develop techniques, methods, and instruments for the identification and measurement of low concentrations of chemical constituents in drinking water, in wastewaters, in rivers or lakes, and in sediments and soils; 2) define and quantitatively describe the individual microbial, chemical, and physical-chemical processes that control the transport, transformation, and impact of pollutants in water, sediment, and soil; 3) define, quantitatively describe, and test the conceptual validity of chemical pollutant transport and transformation systems in water and sediment; 4) develop computerized analysis methods for predicting chemical concentrations in water and sediment and estimating environmental exposures to toxic chemicals; 5) develop technology for controlling agricultural or silvicultural non-point sources of water pollution; and 6) develop analysis and planning techniques for comprehensive environmental management to achieve water quality objectives.

Results are issued in EPA publications.

Remarks: See Agency Index in this issue for listings of other laboratories assigned to the Office of Environmental Processes and Effects Research.

★ 1060 ★

ENVIRONMENTAL RESEARCH LABORATORY

6201 Congdon Blvd.

Duluth, MN 55804

Dr. Norbert Jaworski, Director

Phone: (218) 727-6692

Laboratory is a component of the Office of Environmental Processes and Effects Research (OEPER), Office of Research and Development (ORD), Environmental Protection Agency (EPA).

Laboratory conducts research in aquatic toxicology methods; evaluates the predictive capability of these methods in natural surface waters; provides toxicology data for Agency use; and develops methods to predict effects of pollutants in the Great Lakes. Specifically, the Laboratory: 1) develops toxicity test methods for aquatic life for EPA's regulation development; 2) provides primary Agency consultation on freshwater toxicology problems; 3) provides toxicity data to confirm effects of problem chemicals for court cases; 4) prepares Agency criteria documents for aquatic life; 5) conducts EPA's Great Lakes research program; 6) evaluates toxicity of complex effluents treated by various control technologies; and 7) interfaces pollutant fate, toxicity, and accumulation data with on-going human health research of other EPA Laboratories and Program Offices.

Research results are issued in EPA publications.

Remarks: See Agency Index in this issue for listings of Laboratory's field units and for listings of other EPA laboratories assigned to the Office of Environmental Processes and Effects Research.

★ 1061 ★

ENVIRONMENTAL RESEARCH LABORATORY

200 S. W. 35th St.

Corvallis, OR 97330

Dr. Thomas A. Murphy, Director

Phone: (503) 757-4601

Laboratory is a component of the Office of Environmental Processes and Effects Research (OEPER), Office of Research and Development (ORD), Environmental Protection Agency (EPA).

Mission of the Corvallis Laboratory is to conduct research and development

(and provide technical assistance) on: 1) the movement, transformation, and fate of toxic and other environmentally harmful substances within terrestrial ecosystems, with emphasis on predicting the amounts to which man may be exposed by terrestrial pathways such as the agricultural food chain; and 2) the pathways and mechanisms by which aquatic biota transform and accumulate toxic and other environmentally harmful substances within freshwater ecosystems, with emphasis on predicting the concentrations to which man may be exposed. Laboratory also conducts field studies to assess the ability of an ecosystem to support specific uses; to determine the benefits of improved environmental quality and/or the costs of degradation; to determine criteria to protect or achieve the ability of an ecosystem to support specific uses; and to assess the degree of risk of injury to the environment.

Results are issued in EPA publications.

Remarks: See Agency Index in this issue for listings of other laboratories assigned to the Office of Environmental Processes and Effects Research.

★ 1062 ★

ENVIRONMENTAL SCIENCES DIVISION

Naval Research Laboratory

Washington, DC 20375

Dr. J. O. Elliot, Superintendent

Division is part of the General Science and Technology Directorate, Naval Research Laboratory (NRL). NRL is a component of the Office of Naval Research; the Chief of Naval Research reports to the Assistant Secretary (Research, Engineering, and Systems), Department of the Navy.

Division conducts basic and applied research in support of environmentally related needs and requirements of the Navy. Problems in environmental chemistry and biology, applied hydrodynamics, physical oceanography, and atmospheric physics are studied to gain a better understanding of the Navy's operational media. This knowledge is applied to Navy problems in submarine warfare, surveillance, weather prediction, degradation of materials, and prediction of oceanic and atmospheric phenomena affecting Naval capabilities.

Remarks: See Agency Index for listings of other components of the General Science and Technology Directorate, and of the Naval Research Laboratory, all included in this issue.

★ 1063 ★

EVALUATION AND RESEARCH BRANCH

Internal Revenue Service

1111 Constitution Ave., N. W.

Washington, DC 20224

Grant A. Newman, Chief

Phone: (202) 566-4323

Established: 1979

Branch is part of the Collection Division, Office of the Assistant Commissioner (Compliance), Internal Revenue Service (IRS), Department of the Treasury. Staff includes 11 research and 18 supporting professionals, 7 technicians, and 5 others.

Primary mission is to identify causes for noncompliance with filing and payment requirements of tax law and to determine cost beneficial means of discovering and dealing with such noncompliance. Branch plans, designs, and implements collection management information systems and conducts research studies related to these systems. Branch coordinates internal audit matters related to the Collection Division, and serves as Division's representative on Taxpayer Compliance Measurement Program (TCMP) surveys. Principal activities include testing, survey data collection and analysis, field research, development of research models, and operation of a computer facility.

Results are published as research reports.

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## ★ 1064 ★

## EVALUATION RESEARCH DIVISION

Community Services Administration  
1200 19th St., N. W.  
Washington, DC 20506  
Dr. Robert F. Clark, Chief

Phone: (202) 632-6630  
Established: 1977

Division is a component of the Office of Policy, Planning, and Evaluation, Community Services Administration. Staff includes 3 research professionals, 4 supporting professionals, and 3 others.

Activities involve the evaluation of poverty-related policies and programs through survey data collection and analysis; field research; case studies (discrete and comparative); and policy research coordination. Principal areas of study include housing; energy (conservation, income support, and appropriate technology); community economic development; aging; and community action. Research focuses on the causes, conditions, and alleviation of poverty in these areas.

Research results are published as technical reports. Annual meeting of regional evaluation staff is held in November.

## ★ 1065 ★

## EXPERIMENTAL PROGRAM TO STIMULATE COMPETITIVE RESEARCH

National Science Foundation  
1800 G St., N. W.  
Washington, DC 20550

Established: 1978

Program is an intergovernmental program of the Intergovernmental Science and Public Technology Division, Directorate for Engineering and Applied Science, National Science Foundation (NSF).

Program was established in response to a recommendation from an NSF Task Force on Geographic Distribution of NSF Awards. The Foundation adopted the program in order to ensure that no State need remain a nonparticipant in scientific research. During the first phase of this program, ad hoc committees were established in seven eligible States (Arkansas, Maine, Montana, North Dakota, South Carolina, South Dakota, and West Virginia) to assess research activities within their respective States, identify resources and options for improvement, and create five-year plans to improve the quantity of science within the States and the ability of local scientists to compete favorably for Federal research awards. These five-year plans are competing against one another for up to five second-phase implementation awards. No State will be permitted to participate in the implementation phase for more than five years.

Remarks: Proposals from States not previously involved in this program will not be considered during fiscal year 1981. (See entry on Intergovernmental Science and Public Technology Division in this issue for further description of NSF intergovernmental programs.)

## ★ 1066 ★

## EXPLORATORY FIRE RESEARCH GROUP

National Bureau of Standards  
Gaithersburg, MD  
(Mailing address: Washington, DC 20234)  
Dr. Richard Gann, Head

Phone: (301) 921-3771

Group is part of the Center for Fire Research, National Engineering Laboratory, National Bureau of Standards, Department of Commerce.

Group carries out long range fundamental and exploratory studies of:  
1) the physical and chemical processes which underlie macroscopic fire phenomena, including chemical processes in burning solids and flames;  
2) the formation and properties of smoke particulates and toxic gases;  
3) mass and energy transport in flames;  
4) the mechanism of action of fire retardants; and  
5) ignition, flame spread, and flame extinguishment processes. Group also devises new techniques for studying these phenomena. In addition, Group furnishes fundamental scientific information to support the activities of the Center's Fire Safety Engineering Division and Fire Performance Evaluation Division (see separate entries in this issue for des-

cription of these Divisions, and of Center's Fire Research Resources Division).

Remarks: The Center for Fire Research provides policy level liaison with the Federal Emergency Management Agency and coordinates fire research activities with the U. S. Fire Administration. See GRCD Issue 1, entry #47, for further description of Center.

## ★ 1067 ★

## EXTRAMURAL AND COLLABORATIVE PROGRAMS

National Eye Institute  
National Institutes of Health, Bldg. 31  
9000 Rockville Pike  
Bethesda, MD 20205  
Dr. Ronald Geller, Associate Director

Phone: (301) 496-4903  
Established: 1968

Parent organization is the National Eye Institute (NEI), National Institutes of Health (NIH), Public Health Service, Department of Health and Human Services. Staff includes 18 professionals and 19 support personnel.

The Extramural and Collaborative Programs unit administers NEI programs which support research aimed at improving the prevention, diagnosis, and treatment of visual disorders. This support includes the awarding of grants, fellowships, and contracts for research in retinal and choroidal diseases, corneal diseases, cataract, glaucoma, and sensory and motor disorders of vision. Program offices include Retinal and Choroidal Diseases Branch; Sensory and Motor Disorders of Vision and Rehabilitation Branch; Anterior Segment Diseases Branch; and Extramural Services Branch (all located in NIH Bldg. 31).

Findings of research projects are submitted by the project investigators to scientific journals for publication.

Remarks: For further description of NEI, see separate entry in this issue.

## ★ 1068 ★

FAA TECHNICAL CENTER  
Atlantic City, NJ 08405

Phone: (609) 641-8200  
Established: 1958

Originally established as the National Aviation Facilities Experimental Center, Center was redesignated the FAA Technical Center with the completion of a new, expanded complex of facilities in 1980. Parent organization is the Federal Aviation Administration (FAA), Department of Transportation. Staff totals approximately 1200.

Center's mission is to advance civil aviation safety. This mission is carried out through test and evaluation projects and through conceptual design, advanced research, and development. The Center complex includes:  
1) the FAA-Atlantic City Airport, one of three federally-owned and operated airports;  
2) specially instrumented aircraft, including a helicopter;  
3) an Air Traffic Control Simulation Facility which can duplicate air traffic operations any place in the world on its laboratory radar displays, and which uses simulated flight targets to solve complex air traffic problems;  
4) two Automation Laboratories which develop and test advanced, automated air traffic control hardware and software for en route operations and for airport terminal operations;  
5) a third Automation Laboratory dedicated to development of new automated terminal systems;  
6) three Radar Beacon facilities which solve field problems generated by new radar and beacon equipment;  
7) Precise Tracking Systems, including photostereolithography, a mobile laser tracker, and a missile radar dual-tracking system;  
8) a Standards and Measurement Laboratory which calibrates test equipment used at the Center and at FAA avionics repair shops throughout the country;  
9) an Aircraft Safety Area comprising a variety of special facilities, including the Government's largest, full-scale, indoor fire test laboratory; and  
10) an impact track, engine test cells, wind flow tunnel, security and chemistry laboratories, and an outdoor fire-fighting test site.

Remarks: In addition to its work for FAA, Center also undertakes projects for other Government agencies and state and private organizations. Tenant groups located at the Center include representatives of the National Weather Service, the New Jersey Air National Guard, and contractor personnel.

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## ★ 1069 ★

## FAMILY ECONOMICS RESEARCH GROUP (FERG)

6505 Belcrest Rd.

Hyattsville, MD 20782

Katherine S. Tippett, Leader

Phone: (301) 436-8461

Parent agency is Agricultural Research - Northeastern Region, Science and Education Administration, Department of Agriculture. Staff includes 5 research and 5 supporting professionals, 1 technician, and 2 others.

FERG conducts research to establish principles which can be used to improve family use of resources and to provide educators and extension program leaders with sound guidance material for an improved level of living of families. Principal area of study is family economics, including family finances, housing, clothing, and energy.

Results are published in primary journals, as in-house research reports, and in Group's FAMILY ECONOMICS REVIEW, issued quarterly. Group sponsors Family Living sessions at the annual Agricultural Outlook Conference which is held in November (open to the public).

## ★ 1070 ★

## FAMILY PLANNING PROGRAM OFFICE

Health Services Administration

5600 Fishers Ln.

Rockville, MD 20857

William J. White, Associate Director

Phone: (301) 443-2430

Office is part of the Bureau of Community Health Services, Health Services Administration, Public Health Service, Department of Health and Human Services. Staff includes 3 research professionals and 3 others.

Office supports a program of research and development for improvement of services delivery.

Research results are available for dissemination.

## ★ 1071 ★

## FAR WEST LABORATORY FOR EDUCATIONAL RESEARCH AND DEVELOPMENT (FWL)

1855 Folsom St.

San Francisco, CA 94103

Dr. John K. Hemphill, Director

Phone: (415) 565-3000

Established: 1966

Laboratory is an independent, non-profit organization supported primarily by Department of Education funds. Staff includes 90 research professionals, 37 supporting professionals, 4 technicians, and 63 others.

Goals of FWL are to: procure new knowledge through research; conduct programmatic development leading to new high-quality products or processes that will serve the needs of all learners, including the very young, the elderly, women, and minorities; provide technical assistance in support of quality education for those who seek or need such services; and maintain an impartial environment where educational issues can be confronted and assessed. FWL's activities center on six major areas of concern: 1) schooling; 2) adult satisfaction and productivity; 3) human development; 4) quality of life education; 5) equal educational opportunity; and 6) educational communication.

Research results are published as journal articles, research reports, and proceedings. Laboratory publishes ANNUAL REPORT. Library holds 20,000 volumes on educational psychology, educational research, women's education, equity, desegregation, evaluation, child development, and tests and measurements.

Remarks: For further description of Laboratory's relationship to the Department of Education, see separate entry in this issue on the National Institute of Education.

## ★ 1072 ★

## FBI LABORATORY

9th St. and Pennsylvania Ave., N. W.

Washington, DC 20535

James W. Greenleaf, Assistant Director

Phone: (202) 324-4410

Established: 1932

Laboratory functions as a Division of Law Enforcement Services, Federal Bureau of Investigation (FBI), Department of Justice.

Laboratory comprises a number of sections and units, each specializing in various aspects of scientific examinations: 1) Document Section conducts studies of physical evidence, including ink, paper, alterations, obliterations, infrared, ultraviolet, handwriting, hand printing, typewriting, shoe print, tire tread, and special forensic photography. Section also conducts scientific research on all above matters. In addition, this Section assumes responsibility for translation and interpretation of written and oral foreign language material; examines evidence in gambling cases and in extortion/credit transaction cases; and conducts cryptanalytic examinations. 2) Special Projects Section conceives, plans, designs, and fabricates special purpose visual aids equipment to be used in the field and in the laboratory. 3) Engineering Section (which was formerly part of the Laboratory but is now in the Technical Services Division) is also involved in the examination of physical evidence. Section designs and develops new radio communications equipment for use in the field. 4) Scientific Analysis Section is composed of several units which handle a variety of highly specialized types of examinations (see separate entry on this Section for further description of these units). Laboratory facilities are available to State, county, and municipal law enforcement agencies in the U. S. Much of the work done by the Laboratory is conducted on the scene as well as in the Laboratory.

Research results are published in primary journals and as research reports. Laboratory publishes CRIME LABORATORY DIGEST bimonthly.

## ★ 1073 ★

## FIRE PERFORMANCE EVALUATION DIVISION

National Bureau of Standards

Gaithersburg, MD

(Mailing address: Washington, DC 20234)

Richard L. P. Custer, Acting Chief

Phone: (301) 921-3143

Division is part of the Center for Fire Research (CFR), National Engineering Laboratory, National Bureau of Standards, Department of Commerce.

Division: 1) plans, coordinates, and conducts research and development studies to evaluate the fire and high temperature performance of materials, products, and construction assemblies; 2) develops and improves test methods and analytical techniques to measure ignitability, flammability, heat release, and smoke generation from textiles, furnishings, and other consumer products, electrical and industrial equipment, building materials, and assemblies and transportation systems; 3) maintains liaison with government and voluntary standards organizations to promote the use of new and improved test methods and performance criteria for greater fire safety; and 4) manages the Center's large scale fire experimental facilities.

Remarks: The Center for Fire Research provides policy level liaison with the Federal Emergency Management Agency and coordinates fire research activities with the U. S. Fire Administration. For further description of Center, see GRCD Issue 1, entry #47. See Agency Index for listing of other CFR component described individually in this issue.

## ★ 1074 ★

## FIRE RESEARCH RESOURCES DIVISION

National Bureau of Standards

Gaithersburg, MD

(Mailing address: Washington, DC 20234)

Dr. Robert S. Levine, Chief

Phone: (301) 921-3845

Division is part of the Center for Fire Research (CFR), National Engineering Laboratory, National Bureau of Standards, Department of Commerce.

Division manages Center's grants and contracts program for basic and op-

plied research to complement in-house research and provides policy level and planning liaison in the Center's extramural research program. Division also maintains a fire research information center and maintains and operates the Center's in-house computing facility. In addition, Division manages the Center's fire investigation and arson control related activities.

Division publishes ARSON INVESTIGATOR'S HANDBOOK and sponsors the CFR Annual Conference with contractors and grantees.

Remarks: The Center for Fire Research provides policy level liaison with the Federal Emergency Management Agency and coordinates fire research activities with the U. S. Fire Administration. For further description of Center, see GRCD Issue 1, entry #47. See Agency Index for listing of other CFR components, described individually in this issue.

★ 1075 ★

FIRE SAFETY ENGINEERING DIVISION

National Bureau of Standards

Gaithersburg, MD

(Mailing address: Washington, DC 20234)

Irwin Benjamin, Chief

Phone: (301) 921-3255

Division is part of the Center for Fire Research (CFR), National Engineering Laboratory, National Bureau of Standards, Department of Commerce.

Division plans, coordinates, and conducts research and engineering studies applicable to designs for fire safety and the evaluation of fire risks and hazards in structures. Division conducts programs to assess the biological and physiological effects of fire, smoke, and toxic gases; develops mathematical and physical models of fire growth and spread; evaluates the effectiveness of detectors, sprinkler systems, and other suppression devices; and develops fire safety evaluation systems, design data, and performance criteria which integrate the results of fire research into practical, cost-effective fire safety systems. Division also coordinates the CFR's work on voluntary standards; and maintains liaison with code and standards organizations and with Federal agencies to promote the use of fire safety design concepts and practices.

Remarks: The Center for Fire Research provides policy level liaison with the Federal Emergency Management Agency and coordinates fire research activities with the U. S. Fire Administration. For further description of Center, see GRCD Issue 1, entry #47. See Agency Index for listing of other CFR components, described individually in this issue.

★ 1076 ★

FLORIDA AGRICULTURAL EXPERIMENT STATION

McCarthy Hall

University of Florida

Gainesville, FL 32611

Dr. F. A. Wood, Dean for Research

Phone: (904) 392-1784

Established: 1888

Station operates in cooperation with Cooperative Research, Science and Education Administration, Department of Agriculture (USDA-SEA-CR); the University of Florida's Institute of Food and Agricultural Sciences; and the State of Florida. Staff includes 390 research professionals and 1102 supporting professionals, technicians, and others.

Research is conducted in all fields of agriculture, including food and resource economics; agricultural engineering; agronomy; animal and plant sciences; dairy and poultry sciences; entomology; food technology and nutrition; forest resources and conservation; horticulture; plant pathology; soils; vegetable crops; veterinary science; and environmental quality.

Research results are published as journal articles and research reports. Station publishes SUNSHINE STATE AGRICULTURAL RESEARCH REPORT (quarterly) and sponsors various seminars, professional meetings, conferences, and special programs which are open to the public. The University of Florida's Hume Library holds 125,000 volumes on agriculture.

Remarks: Station maintains a pesticide laboratory and agricultural research and education centers located throughout the State of Florida. (See separate entry in this issue for further description of USDA-SEA's Cooperative Research program.)

★ 1077 ★

FOREIGN DEMOGRAPHIC ANALYSIS DIVISION

Bureau of the Census

711 14th St., N. W.

Washington, DC 20230

John S. Aird, Chief

Established: 1951

Division is a component of the Office of the Assistant Director for International Programs, Bureau of the Census, Department of Commerce.

Division prepares detailed studies of the population, manpower, and economies of foreign countries, with special emphasis on countries of the communist world. Division engages in research and publication on a broad range of subjects within the general areas of its concern. Recent subjects of study have included: 1) a study on Chinese fertility control programs; 2) an analysis of the growth of nonagricultural labor in China since 1957; 3) a study of causes of a recent rise in infant mortality in the Soviet Union; and 4) a report on scientific and technical personnel in the U.S.S.R.

Division publishes reports, bibliographies, and journal articles related to its fields of interest and has assembled an extensive, selected collection of monographic and periodic literature on countries of the communist world. Materials include both primary and secondary source materials, mostly in the languages of the originating countries. In addition, Division staff members participate as subject specialists in seminars, panel discussions, and meetings of experts.

★ 1078 ★

FOREIGN TECHNOLOGY DIVISION (FTD)

Wright-Patterson AFB, OH 45433

Col. H. E. Wright, Commander

Established: 1945

Division is a component of Air Force Systems Command (AFSC), Department of the Air Force. Staff totals approximately 1600.

FTD is responsible for producing scientific and technical studies on the current aerospace capabilities and potential threats of major adversary powers. This information supports AFSC research and development efforts to develop militarily superior aerospace weapons systems, provides the Defense Intelligence Agency (DIA) and the Air Force Assistant Chief of Staff, Intelligence, with information for inclusion in national intelligence estimates, and satisfies the technical intelligence needs of Air Force operational commands. Scientific and technical intelligence is developed by analyzing all available data on foreign aerospace weapon systems to determine their performance characteristics, capabilities, and vulnerabilities. Division also evaluates surprise to the U. S. Analysis responsibilities include the full range of aerospace systems but primarily involve aircraft, ballistic missiles, space systems, radars, lasers, electronics countermeasures, communications, air defense systems, industrial resources, and new technological advances with potential military applications.

FTD's intelligence studies are published as DIA documents and as Department of the Air Force studies.

Remarks: Division has two detachments, one in Europe and one in the Pacific, which acquire, assess, and report on foreign aerospace scientific and technical information, and which provide liaison and support to other Air Force activities and agencies.

★ 1079 ★

FOREST INSECT AND DISEASE RESEARCH

Rosilyn Ploza, Bldg. E

1621 N. Kent St.

Rosilyn, VA

(Mailing address: P. O. Box 2417,

Washington, DC 20013)

Dr. Gerald Anderson, Director

Phone: (703) 235-8065

Parent agency is Forest Service, Department of Agriculture.

Unit coordinates the national Forest Service research program for the study of forest insects and diseases. Recent subjects of research have included studies on root parasites of southern forests; establishment of biological

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control for the pine shoot borer; identification of Pacific coast conifer diseases; and control of the larch casebearer.

Research results are published in primary journals and in Forest Service publications series.

★ 1080 ★

FOREST RESOURCES ECONOMICS RESEARCH

14th St. and Independence Ave., S. W.

Washington, DC

(Mailing address: P. O. Box 2417,

Washington, DC 20013)

Dr. Ross S. Whaley, Director

Phone: (202) 447-2747

Parent agency is Forest Service, Department of Agriculture.

Unit coordinates the national Forest Service research program in forest resources economics. This involves studies which provide a factual basis for the resolution of complicated issues in the management and use of forest and forest-related resources, as well as analysis and publication of resource data to provide a sound technical information base for resource decisions and policy at multicounty, State, regional, and national levels.

Results are published in primary journals, in Forest Service publications series, as research reports, and as proceedings.

★ 1081 ★

FOREST SERVICE REGIONAL EXPERIMENT STATIONS

Forest Service research is conducted primarily through eight regional experiment stations located throughout the U. S. (1) Intermountain Forest and Range Experiment Station; 2) North Central Forest Experiment Station; 3) Northeastern Forest Experiment Station; 4) Pacific Northwest Forest and Range Experiment Station; 5) Pacific Southwest Forest and Range Experiment Station; 6) Rocky Mountain Forest and Range Experiment Station; 7) Southeastern Forest Experiment Station; and 8) Southern Forest Experiment Station). Each of these stations comprises a number of field units (usually called forestry sciences laboratories or research work units) which have been listed individually in GRCD Issues 1-3. The reader should be aware that the experiment stations provide information services for the field units, and general inquiries about the work of an individual unit should be addressed to the appropriate station, rather than to the field unit itself. (Consult the Agency Index in this issue for a complete list of the eight regional experiment stations, together with the field units assigned to each.)

★ 1082 ★

FOREST SERVICE RESEARCH WORK UNIT

G. W. Andrews Forestry Sciences Laboratory

Auburn University

DeVall St.

Auburn, AL 36830

Dr. William D. Boyer, Project Leader

Phone: (205) 887-7542

Parent organization is Southern Forest Experiment Station, Forest Service, Department of Agriculture. Staff includes 3 research professionals and 4 technicians.

Unit conducts research on the control of undesirable vegetation in southern pine and upland hardwood forests. Activities include the development of principles and practices for regeneration and management of longleaf pine.

Research results are published in primary journals. Unit sponsors periodic conferences, seminars, and workshops on various aspects of southern pine

silviculture.

Remarks: General questions about Unit's activities should be addressed to Southern Forest Experiment Station, 701 Loyola Ave., New Orleans, LA 70113. See separate entry in this issue for description of Station.

★ 1083 ★

FOREST SERVICE RESEARCH WORK UNIT

830 Fairview St.

Fayetteville, AR 72701

Unit is a field component of Southern Forest Experiment Station, Forest Service, Department of Agriculture.

Unit conducts research on shortleaf pine on the Ozark-Ouachita Highlands of Arkansas, Missouri, and Oklahoma, and on hardwood sawtimber. Emphasis is on development of multi-resource management, which involves determining the effects of forest management practices on water quality and quantity, wildlife habitat, and plant succession. Efforts include both field and laboratory research.

Research results are published in Southern Forest Experiment Station publications, in primary journals, and as proceedings.

Remarks: Requests for general information about the Unit should be addressed to Southern Forest Experiment Station, 701 Loyola Ave., New Orleans, LA 70113. (See separate entry in this issue for description of Station.)

★ 1084 ★

FOREST SERVICE RESEARCH WORK UNIT

2810 Chiles Rd.

Davis, CA 95616

Phone: (916) 758-7850

Parent organization is Pacific Southwest Forest and Range Experiment Station, Forest Service, Department of Agriculture.

Unit conducts small- and large-scale field experiments to determine whether certain chemical insecticides can control destructive forest insects without endangering beneficial forest life.

Remarks: General questions about Unit's activities should be addressed to Pacific Southwest Forest and Range Experiment Station, 1960 Addison St., Berkeley, CA 49701. See GRCD Issue 1, entry #322, for description of Station.

★ 1085 ★

FOREST SERVICE RESEARCH WORK UNIT

2400 Washington Ave.

Redding, CA 96001

Douglass F. Roy, Project Leader

Phone: (916) 246-5455

Unit is a field component of Pacific Southwest Forest and Range Experiment Station, Forest Service, Department of Agriculture. Staff includes 7 research professionals.

Unit is conducting a project in the silviculture of Sierra Nevada conifer types to develop guidelines for establishing, tending, and harvesting pine, true fir, and mixed-conifer forests in California. In addition, a soil-vegetation survey is being conducted at the Redding location to investigate and map the distribution, productivity, and relation of soils and vegetation on State-managed and privately owned wildlands in California.

Research results are published in Pacific Southwest Forest and Range Experiment Station publications.

Remarks: See GRCD Issue 1, entry #322, for description of Pacific Southwest Station. See Agency Index in this issue for listing of other Station components described in GRCD Issues 1-3.

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## ★ 1086 ★

## FOREST SERVICE RESEARCH WORK UNIT

Renewable Resources Center  
University of Nevada  
920 Valley Rd.  
Reno, NV 89502  
Richard O. Meeuwig, Project Leader Phone: (702) 784-6763

Unit is a field component of Intermountain Forest and Range Experiment Station, Forest Service, Department of Agriculture. Staff includes 3 research professionals.

The Research Work Unit in Reno is conducting a project on the ecology and management of pinyon-juniper woodlands in the Great Basin to improve their wildlife habitat, forage, woodland products, soil, water, and recreational values.

Research results are published in Intermountain Forest and Range Experiment Station publications.

Remarks: General questions about Unit activities should be addressed to: Intermountain Forest and Range Experiment Station, 507 25th St., Ogden, UT 84401. (See separate entry in this issue for description of Station.)

## ★ 1087 ★

## FOREST SERVICE RESEARCH WORK UNITS

Redwood Sciences Laboratory  
1700 Bayview Dr.  
Arcata, CA 95521 Phone: (707) 822-3691

Parent organization is Pacific Southwest Forest and Range Experiment Station, Forest Service, Department of Agriculture.

The two Forest Service Research Work Units of the Pacific Southwest Station located in Arcata, CA, conduct research on: 1) intensive timber culture of northwestern California conifers; and 2) processes affecting management of Pacific coastal forests on unstable lands.

Remarks: General questions about Units' activities should be addressed to Pacific Southwest Forest and Range Experiment Station, 1960 Addison St., Berkeley, CA 49701. See GRCD Issue 1, entry #322, for description of Station.

## ★ 1088 ★

## FOREST SERVICE RESEARCH WORK UNITS

Federal Bldg.  
1130 "O" St.  
Fresno, CA 93721 Phone: (209) 487-5194

Parent organization is Pacific Southwest Forest and Range Experiment Station, Forest Service, Department of Agriculture.

The two Forest Service Research Work Units of the Pacific Southwest Forest and Range Experiment Station located in Fresno, CA, conduct research on: 1) range management in California; and 2) protection and management of sensitive species of animals and plants in California.

Remarks: General questions about Units' activities should be addressed to Pacific Southwest Forest and Range Experiment Station, 1960 Addison St., Berkeley, CA 49701. See GRCD Issue 1, entry #322, for description of Station.

## ★ 1089 ★

## FOREST SERVICE RESEARCH WORK UNITS

316 E. Myrtle St.  
Boise, ID 83706  
Walter F. Megahan and Russell A. Ryker, Project Leaders Phone: (208) 334-1457

Units are field components of Intermountain Forest and Range Experiment

Station, Forest Service, Department of Agriculture. Staff includes 9 research professionals.

Research Work Units in Boise are conducting projects on: 1) minimizing nonpoint source pollution in the northern Rocky Mountains; and 2) ecology and silviculture of Rocky Mountain Douglas-fir and Ponderosa Pine ecosystems.

Research results are published in Intermountain Forest and Range Experiment Station publications.

Remarks: General questions about Unit activities should be addressed to: Intermountain Forest and Range Experiment Station, 507 25th St., Ogden, UT 84401. (See separate entry in this issue for description of Station.)

## ★ 1090 ★

## FOREST SERVICE TREE SEED LABORATORY

P. O. Box 906  
Starkville, MS 39759 Established: 1966

Laboratory is a field component of the Southern Forest Experiment Station, Forest Service, Department of Agriculture, and operates in cooperation with Mississippi State University.

The Starkville Laboratory functions as the chief center in the South for Forest Service research on: 1) forest tree seed; 2) hardwood genetics; and 3) forest fire prevention.

Research results are published in Southern Forest Experiment Station publications, in primary journals, and as proceedings.

Remarks: Requests for general information about the Laboratory should be addressed to Southern Forest Experiment Station, 701 Loyola Ave., New Orleans, LA 70113. (See separate entry in this issue for description of Station.)

## ★ 1091 ★

## FORESTRY SCIENCES LABORATORY

1221 S. Main St.  
Moscow, ID 83843 Phone: (208) 882-3557

Laboratory is a field component of Intermountain Forest and Range Experiment Station, Forest Service, Department of Agriculture. Staff includes 16 research professionals.

Research work units at the Moscow Laboratory are conducting projects on: 1) insects of northern Rocky Mountain forest trees and associated wildland shrubs; 2) diseases of natural and nursery-grown seedlings in the central and northern Rocky Mountains; 3) genetics and pest resistance of Rocky Mountain conifers; 4) quantitative analysis of forest management practices and resources for planning and control; and 5) silviculture of cedar, hemlock, and grand fir ecosystems.

Research results are published in Intermountain Forest and Range Experiment Station publications.

Remarks: General questions about Laboratory activities should be addressed to: Intermountain Forest and Range Experiment Station, 507 25th St., Ogden, UT 84401. (See separate entry in this issue for description of Station.)

## ★ 1092 ★

## FORESTRY SCIENCES LABORATORY

Drawer G  
Missoula, MT 59806 Phone: (406) 729-3533

Laboratory is a field component of the Intermountain Forest and Range Experiment Station, Forest Service, Department of Agriculture. Staff includes 12 research professionals.

Research work units at the Laboratory are conducting projects in: 1) wil-

derness management research; 2) ecology and management of forest wildlife habitats in the northern Rocky Mountains; 3) forest ecosystems; 4) wood resources utilization in the intermountain west; 5) engineering technology for improved forest resource management and protection; and 6) economics of multiple use management on public forest lands. In addition, a research and development program on Systems of Timber Utilization for Environmental Management (STEM) is being conducted at the Missoula laboratory.

Research results are published in Intermountain Forest and Range Experiment Station publications.

Remarks: General questions about Laboratory activities should be addressed to: Intermountain Forest and Range Experiment Station, 507 25th St., Ogden, UT 84401. (See separate entry in this issue for description of Station.)

★ 1093 ★  
**FUNDING OF SCIENCE AND TECHNOLOGY PROGRAM**  
 National Science Foundation  
 1800 G St., N. W.  
 Washington, DC 20550

Parent organization is Science Resources Studies Division, Directorate for Scientific, Technological, and International Affairs, National Science Foundation.

Program provides support for the collection, analysis, and dissemination of information on the characteristics and patterns of funding for research and development and for other scientific and technological activities. Support is also provided for the development of modeling and simulation techniques to improve the capability to project research and development funding.

Remarks: See separate entry in this issue for description of the Science Resources Studies Division. Persons interested in further information on the program described above should contact the Division.

★ 1094 ★  
**GAS AND PARTICULATE SCIENCE DIVISION**  
 National Bureau of Standards  
 Gaithersburg, MD  
 (Mailing address: Washington, DC 20234)  
 Harry L. Rook, Chief

Division is part of the Center for Analytical Chemistry, National Measurement Laboratory, National Bureau of Standards, Department of Commerce.

Division is responsible for research on measurement methods for gaseous molecules and for research in microanalysis. Research is carried out in five main areas (gas metrology, atmospheric chemistry, X-ray fluorescence, particle research, and microanalysis research), with scientific effort generally divided equally between gas measurement research and microanalytical research.

Results are published in NBS publications series.

Remarks: See separate entry in this issue for description of Center for Analytical Chemistry.

★ 1095 ★  
**GENERAL SCIENCE AND TECHNOLOGY DIRECTORATE**  
 Naval Research Laboratory  
 Washington, DC 20375  
 Dr. Timothy Coffey, Associate Director

Directorate is part of the Naval Research Laboratory (NRL), which is a component of the Office of Naval Research; the Chief of Naval Research reports to the Assistant Secretary (Research, Engineering, and Systems), Department of the Navy.

Directorate conducts research in oceanographic, atmospheric, ionospheric, space, and plasma physics. Areas of particular interest involve studies of the marine environment; modeling of atmospheric processes; experimental and theoretical studies of the ionospheric and space environments; nuclear weapons effects simulation; pulse power; and directed energy devices. Directorate comprises a Laboratory for Cosmic-Ray Physics, Laboratory for Computational Physics, Space Science Division, Environmental Sciences Division, and Plasma Physics Division. (See separate entries in this issue for descriptions of each.)

Remarks: See separate entry in this issue for further description of NRL; consult Agency Index for listings of its other major components, all included in this issue.

★ 1096 ★  
**GEOLOGIC DIVISION**  
 Geological Survey National Center  
 12201 Sunrise Valley Dr.  
 Reston, VA 22092  
 Dallas L. Pack, Chief Geologist Phone: (703) 860-6531

Division is part of the Geological Survey, Department of the Interior.

The Geologic Division conducts programs to assess energy and mineral resources, to identify and to predict geologic hazards, and to investigate the effects of climate. In recent years Division programs have been concerned particularly with assessing the Nation's resources in the areas of energy (oil and gas, coal, geothermal, and uranium). Activities have involved: 1) mineral assessments of areas designated by Congress as Wilderness Areas; 2) studies to evaluate the energy-resource potential of offshore areas and environmental hazards related to development of that energy; 3) a program for earthquake hazard mitigation and prediction; and 4) investigation of geologic hazards related to nuclear reactor siting. Division programs are supported by extensive, on-going basic research on geologic processes and events.

Remarks: For further description of the Geological Survey, see separate entry in this issue. See Agency Index for listings of other Survey components, and other Geologic Division components, included in GPCD Issues 1-3.

★ 1097 ★  
**GEOLOGICAL SURVEY**  
 National Center  
 12201 Sunrise Valley Dr.  
 Reston, VA 22092 Phone: (703) 860-7000  
 Doyle G. Frederick, Acting Director Established: 1879

Parent organization is Department of the Interior.

The Geological Survey is one of the Federal Government's major earth science research and fact-finding agencies, with activities oriented toward both scientific and regulatory missions. The broad objectives of the Survey are: 1) to perform surveys, investigations, and research covering topography, geology, and the mineral and water resources of the U. S.; 2) to classify land as to its mineral character and water and power resources; 3) to enforce departmental regulations applicable to oil, gas, and other mining leases, permits, licenses, development contracts, and gas storage contracts; and 4) to publish and disseminate data resulting from these activities. The Survey is organized into four main program Divisions (Geologic, Water Resources, National Mapping, and Conservation), the Office of Earth Sciences Applications, and support divisions (including the Computer Center Division), with headquarters for all at the National Center in Reston, VA. In addition, the Survey's field organization includes Regional Offices in Reston, VA, Denver, CO, and Menlo Park, CA, as well as a network of field and special-purpose offices throughout the U. S. These offices coordinate and administer the work of the Survey's widely dispersed activities.

Results and findings of the scientific and technical work conducted by the Geological Survey are disseminated through a wide range of services and

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information sources, including scientific and technical publications (professional papers, bulletins, water-supply papers, circulars, and miscellaneous reports); popular publications; maps, charts, geodetic control, aerial and space imagery, and related cartographic data; flood information; photographs, transparencies, and motion picture films; and technical exhibits. General information about results of Geological Survey research may be obtained from the Office of the Director at the Survey headquarters in Reston. The Survey's main library (in Reston) contains more than 400,000 bound volumes, 26,000 periodicals, and approximately 100,000 topographic and geologic maps. The Survey also maintains large branch libraries at the regional offices and at other field locations. A photographic library at the regional center in Denver, CO, contains more than 140,000 prints of geological and historical importance, including about 8000 transparencies.

Remarks: See Agency Index for listings of Geological Survey components described individually in GRCD Issues 1-3.

★ 1098 ★

**GEOPHYSICAL FLUID DYNAMICS LABORATORY (GFDL)**

Princeton University  
P. O. Box 308  
Princeton, NJ 08540  
Dr. Joseph Smagorinsky, Director

Phone: (609) 452-6502  
Established: 1955

Laboratory is one of several Environmental Research Laboratories of the National Oceanic and Atmospheric Administration (NOAA), Department of Commerce. Staff includes 20 research professionals, 35 supporting professionals, 20 technicians, and 10 others.

GFDL is engaged in comprehensive, long lead-time research to expand the scientific understanding of the physical processes which govern the behavior of the atmosphere and the oceans as complex fluid systems. These fluids can then be modeled mathematically and their phenomenology studied by computer simulation methods. In particular, research is conducted toward understanding: 1) the predictability of weather (large and small scale); 2) the nature of the Earth's atmospheric general circulation within the context of the family of planetary atmospheric types; 3) the structure, variability, predictability, stability, and sensitivity of climate (global and regional); and 4) the interaction of the atmosphere and oceans with each other, and how they influence and are influenced by various trace constituents. Laboratory activities include studies in meteorology, oceanography, hydrology, classical physics, fluid dynamics, chemistry, applied mathematics, high-speed digital computation, and experimental design and analysis.

Results are published in primary journals and as proceedings. Laboratory publishes annual report.

Remarks: Research of GFDL is facilitated by the Geophysical Fluid Dynamics Program which is conducted in collaboration with Princeton University. Under this program regular Princeton faculty, visiting scientists, and graduate students participate in theoretical studies, both analytical and numerical, and in observational experiments, both in the laboratory and in the field.

★ 1099 ★

**GRAND FORKS ENERGY TECHNOLOGY CENTER (GFETC)**

P. O. Box 8213  
University Station  
Grand Forks, ND 58202  
Everett Sonderal, Director

Phone: (701) 795-8000

Center is a federally-operated fossil energy facility assigned to the Assistant Secretary for Fossil Energy, Department of Energy (DOE). Staff totals approximately 100.

GFETC specializes in research on combustion, gasification, and liquefaction of western U. S. coals, primarily those coals that are low in rank (geologically young). Research emphasis is on studies of specialized problems in industrial-scale combustion of low-rank coals, as well as on pilot-scale studies of coal conversion into clean gases and liquids. GFETC also emphasizes technology transfer.

Research results are published in primary journals, as research reports and proceedings, and in DOE publications. Center publishes ANNUAL REPORT and co-sponsors biennial Lignite Symposium with the University of North Dakota.

Remarks: GFETC is the principal center of expertise in the U. S. in the technology and use of lignite and other low-rank western coals. Center works closely with the lignite mining industries and lignite-burning electric utilities to develop ways to better utilize lignite reserves in the Northern Great Plains and Texas Gulf Coast.

★ 1100 ★

**GRASSLAND, SOIL, AND WATER RESEARCH LABORATORY**

P. O. Box 748  
Temple, TX 76501  
Dr. Earl Bumett, Director

Phone: (817) 774-1201  
Established: 1972

Parent agency is Agricultural Research - Southern Region, Science and Education Administration, Department of Agriculture. Staff includes 20 research and 5 supporting professionals, 29 technicians, and 18 others.

Laboratory's mission is to develop technology to: 1) maximize forage and crop production; 2) revegetate brush-infested watersheds; 3) control non-economic brush and weeds; 4) breed forages with increased quality and yield potential; and 5) solve problems relating to soil and water management, soil fertility, erosion, hydrology, and water quality. Principal fields of research include soil and water management; plant breeding; weed control; hydrology; erosion control; strip mine reclamation; conservation tillage; and crop physiology.

Results are published in primary journals and in USDA and Texas Agricultural Experiment Station bulletins.

Remarks: Laboratory operates in cooperation with the Texas Agricultural Experiment Station's Blackland Research Center in Temple, TX. Laboratory also conducts projects in affiliation with the research watershed in Riesel, TX.

★ 1101 ★

**GULFPORT RESEARCH LABORATORY**

U. S. Forest Service  
P. O. Box 2008 GMF  
Gulfport, MS 39503

Laboratory is a field component of the Southern Forest Experiment Station, Forest Service, Department of Agriculture.

The Gulfport Laboratory is a major federal research center for the study of: 1) the biology and control of termites; 2) fusiform rust; and 3) genetic improvement of southern pine.

Research results are published in Southern Forest Experiment Station publications, primary journals, and as proceedings.

Remarks: Requests for general information about the Laboratory should be addressed to Southern Forest Experiment Station, 701 Loyola Ave., New Orleans, LA 70113. (See separate entry in this issue for description of Station.)

★ 1102 ★

**HARRY DIAMOND LABORATORIES (HDL)**

Adelphi, MD 20783

HDL is a component of the U. S. Army Electronics Research and Development Command (ERADCOM), Materiel Development and Readiness Command (DARCOM), Chief of Staff of the Army, Department of the Army. Staff totals approximately 1200.

HDL's program emphasizes research and development of electronic fuzes,

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nuclear weapons effects, special-purpose radars, fluidics, and basic electronics technology. Efforts in fuzing include development of fuzes for nuclear artillery projectiles; the Army's first electronic artillery fuze; a new multioption fuze for use with mortar projectiles; a short-intrusion proximity fuze for artillery projectiles; and fuzes for the General Support Rocket System, the PATRIOT missile, and the HAWK anti-aircraft missile. Other efforts at HDL include: 1) the application of new technologies to a variety of Army electronic systems to make them more survivable in a tactical nuclear battlefield; 2) the study of a new method of battle area observation in fog, clouds, smoke, or dust; and 3) the application of fluidics for the stabilization of helicopters, tank turrets, and gas turbine engines. HDL is also involved in studies of rare-earth solid-state lasers; the use of acousto-optics in signal processing and memory correlation; and development of a hand-cranked, lightweight generator.

Remarks: See GRCD Issue 2, entry #862, for description of ERADCOM. See indexes for listings of other Command components in GRCD Issues 2 and 3.

★ 1103 ★

HAWAII COOPERATIVE FISHERY RESEARCH UNIT

University of Hawaii

The Mall

Honolulu, HI 96822

Dr. James D. Parrish, Unit Leader

Phone: (808) 948-8350

Established: 1966

Unit is part of a cooperative program between U. S. Fish and Wildlife Service, Department of the Interior; the University of Hawaii; and the Hawaii Department of Land and Natural Resources. Staff includes 2 research professionals.

Unit conducts research on freshwater, estuarine, and inshore marine biology. Program includes studies on the life history of fishes; stream and estuarine ecosystems; trophic relationships; and aquatic communities.

Research results are published in primary journals.

★ 1104 ★

HEALTH PHYSICS STAFF

Naval Research Laboratory

Washington, DC 20375

Mr. J. N. Stone, Head

Staff is part of the Material Science and Component Technology Directorate, Naval Research Laboratory (NRL). NRL is a component of the Office of Naval Research; the Chief of Naval Research reports to the Assistant Secretary (Research, Engineering, and Systems), Department of the Navy.

The Health Physics Staff provides a Laboratory-wide protection program for the possession and use of all sources of ionizing radiation and microwave radiation. Staff performs technical monitoring, evaluations, and research to assure that NRL radiological and microwave operations are safe and in compliance with Federal, State, and Navy regulations. It provides employees with the instructions, instruments, assistance, and controls needed to carry out the protection responsibilities.

Remarks: See Agency Index for listings of other components of the Material Science and Component Technology Directorate, and of the Naval Research Laboratory, all included in this issue.

★ 1105 ★

HEALTH SERVICES RESEARCH AND DEVELOPMENT SERVICE

Veterans Administration

810 Vermont Ave., N. W.

Washington, DC 20420

Dr. Richard Greeve, Director

Phone: (202) 389-2666

Service is one of three which make up the Office of Research and Develop-

ment, Department of Medicine and Surgery, Veterans Administration (VA). Staff totals 8.

Unit provides funds for research initiated by individual investigators on staff at VA Medical Centers throughout the country. (Proposals are submitted to the central office through research and development committees at the centers.) Research projects administered by this unit involve studies in health services research.

Results are generally published by the investigators.

Remarks: See GRCD Issue 2, entries #761, 688, and 805, respectively, for descriptions of the VA's Office of Research and Development and of the other two Services which comprise it.

★ 1106 ★

HOUSING ASSISTANCE RESEARCH DIVISION

451 Seventh St., S. W.

Washington, DC 20410

Dr. Terrence L. Connell, Acting Director

Phone: (202) 755-5900

Established: 1970

Division is part of the Office of Research, Assistant Secretary for Policy Development and Research, Department of Housing and Urban Development. Staff includes 11 research professionals and 2 others.

Principal field of research is housing, primarily as related to existing, new construction, and substantial rehabilitation programs, as well as other housing assistance programs. Delivery systems for low-income households in both urban and rural areas are also studied.

Results are published as research reports.

★ 1107 ★

HUMAN NUTRITION PROGRAM

National Science Foundation

1800 G St., N. W.

Washington, DC 20550

Parent organization is Problem-Focused Research Division, Directorate for Engineering and Applied Science, National Science Foundation (NSF).

Program supports research aimed at increasing the knowledge and understanding of key issues involved in the design and implementation of an effective human nutrition policy for the Nation. The program focuses on determining the effects of cooking, processing, packaging, and storage on the nutrient value of processed food in terms of such factors as: bioavailability of proteins, carbohydrates, vitamins, and minerals; binding of nutrients and toxicants with nondigestible ingredients; digestion, absorption, and metabolism of nutrients; functions of microflora; and the interaction between nutrients and food additives.

Remarks: For further discussion of programs sponsored by the Problem-Focused Research Division, see GRCD Issue 1, entry #100. See Agency Index in this issue for specific listings of individual programs.

★ 1108 ★

HUMAN NUTRITION RESEARCH CENTER ON AGING

Tufts University

15 Kneeland St.

Boston, MA 02111

Dr. Hamish N. Munro, Director

Parent agency is Human Nutrition, Science and Education Administration, Department of Agriculture (USDA-SEA-HN).

Center plans and conducts research on nutrient needs of the elderly and the relation of dietary factors to the aging process. Program includes studies on: 1) nutritional needs for optimal health, function, and per-

45

formance throughout the lifespan; 2) the physiological and biochemical factors associated with aging which influence dietary requirements; and 3) dietary factors which influence the aging process.

Remarks: Center is one of six Human Nutrition research components. See Agency Index for listings of others in GRCD Issues 2 and 3.

★ 1109 ★

**HYPERVELOCITY TUNNEL**  
 Naval Surface Weapons Center  
 White Oak Laboratory  
 Silver Spring, MD 20910

Tunnel is a facility of the Naval Surface Weapons Center (NSWC), Naval Material Command, Chief of Naval Operations, Department of the Navy.

The Hypervelocity Tunnel operates in support of research and development programs for all three armed services and the National Aeronautics and Space Administration. It provides aerodynamics simulation in the critical moderate altitude regime experienced by strategic offensive missile systems and advanced defensive interceptor systems. The Tunnel is one of a number of facilities in NSWC's aerodynamic testing complex. Other facilities include three wind tunnels used primarily in support of strategic weapon system development; the Hypervelocity Research Tunnel for high altitude testing; the Hypersonic Tunnel for low altitudes; two Supersonic Tunnels to support tactical weapon system development; and a Boundary Layer Channel which delivers data for studying viscous flow phenomena.

Remarks: The Hypervelocity Tunnel is available to government agencies and private industry for aerodynamics simulation testing of models. Test models may be built by NSWC or by the customer. (See separate entry in this issue for description of NSWC.)

★ 1110 ★

**IDAHO COOPERATIVE FISHERY RESEARCH UNIT**  
 College of Forestry, Wildlife, and Range Sciences  
 University of Idaho  
 Moscow, ID 83843 Phone: (208) 885-6336  
 Theodore C. Bjornn, Leader Established: 1963

Unit is part of a cooperative program between the U. S. Fish and Wildlife Service, Department of the Interior; the Department of Fishery Resources in the College of Forestry, Wildlife, and Range Sciences, University of Idaho; the Idaho Department of Fish and Game; and other Federal, State, and private agencies. Staff includes 2 research professionals.

Unit conducts a program of graduate student training and applied research in salmonid ecology and management and inflow stream needs. Principal areas of research are: 1) management of anadromous salmonid stocks; 2) effects of sediment and turbidity on fish and invertebrate populations; 3) effects of reduced stream discharge on fish and aquatic insect populations; 4) a multi-agency project to enhance the endangered populations of Colorado squawfish and humpback chub in the Colorado River drainage; and 5) effects of water releases to meet peak power demands on steelhead behavior, steelhead fishermen, and other recreationists.

Results are published as research reports and proceedings.

★ 1111 ★

**IDAHO NATIONAL ENGINEERING LABORATORY (INEL)**  
 Idaho Falls, ID 89415 Phone: (208) 526-1905  
 Dr. Charles E. Williams, Manager Established: 1949

Laboratory is operated for the Assistant Secretary for Nuclear Energy, Department of Energy (DOE), by EG&G Idaho, Inc., and Allied Chemical Corporation. (Two other DOE contractors, Argonne National Laboratory and Westinghouse Electric Corporation, also conduct energy research and development functions for the Department at INEL.) Staff totals approximately 9000.

Laboratory has been the principal center for nuclear reactor safety testing since 1954. In addition, Laboratory conducts programs in: 1) reactor fuels reprocessing; 2) geothermal research and development; 3) breeder reactor research (reactors are operated in the Argonne National Laboratory-West area); 4) nuclear waste management; 5) conservation; 6) gas reactor safety; and 7) training Navy crews in Naval propulsion reactors. The Radiological and Environmental Science Laboratory at INEL carries on a year-round program to study and monitor the underground water supply and the air to substantiate the safety of INEL operations for site employees and for the public. INEL has been designated as a National Environmental Research Park where scientists can study the changes caused by man's activities.

Results are published in primary journals and as research reports and proceedings. Library holdings include 30,000 books, 10,500 bound periodicals, 458,000 research reports, and 1140 volumes of periodicals on film; George B. Stultz, Librarian.

Remarks: Laboratory was originally established to provide an isolated station where various kinds of nuclear reactors and support facilities could be tested. Three major commercial power reactor concepts (pressurized water, boiling water, and liquid metal-coiled fast breeder reactors) were first prototyped at INEL.

★ 1112 ★

**IDAHO OPERATIONS OFFICE**  
 550 Second St.  
 Idaho Falls, ID 83401

Parent agency is Department of Energy (DOE).

Office is responsible for administration of the Idaho National Engineering Laboratory (see separate entry in this issue), a government-owned, contractor-operated facility of the Department of Energy. Office provides management for projects both on- and off-site; works with state, county, city, and other Federal agencies in support of DOE objectives; manages contracts and procurement programs; and maintains university relations involving Associated Western Universities.

★ 1113 ★

**INDUSTRIAL SYSTEMS DIVISION**  
 National Bureau of Standards  
 Gaithersburg, MD  
 (Mailing address: Washington, DC 20234)  
 Dr. Russell D. Young, Program Manager

Division is part of the Center for Manufacturing Engineering, National Engineering Laboratory, National Bureau of Standards, Department of Commerce. Staff includes 4 research professionals (group leaders).

Division operates largely in a new discipline combining the features of both industrial and plant engineering. It develops and maintains competence in: 1) systems engineering; 2) industrial engineering; 3) parametric and sensitivity analysis; and 4) general adaptive control technology. In addition, Division produces evaluated data, performance criteria, and technical analyses relating to the feasibility of manufacturing systems, including robots. Division is concerned with such problems as the appropriate roles of men and machines as automation is introduced. It is concerned as well with the interface of production planning, computer-aided design, and value engineering. Division also provides a focus for the generic work on how sensor outputs become control inputs (i.e., control strategies).

Remarks: Formerly known as the Industrial Engineering Division (see GRCD Issue 1, entry #180), Division was established under its present name with the reorganization of the Center for Manufacturing Engineering (previously called the Center for Mechanical Engineering and Process Technology) in 1980. See separate entries in this issue for further description of Center and its other divisions.

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## ★ 1114 ★

**INDUSTRY/UNIVERSITY COOPERATIVE RESEARCH PROJECTS**  
National Science Foundation  
1800 G St., N. W.  
Washington, DC 20550

Program is administratively assigned to the Intergovernmental Science and Public Technology Division, Directorate for Engineering and Applied Science, National Science Foundation (NSF).

The NSF provides grants for support of cooperative research projects involving both universities and industrial firms in order to encourage the development of ties between industry and universities. Proposals for such projects must be prepared jointly by the researchers and must be submitted jointly by their respective institutions. Awards are made to either the academic or the industrial organization (depending on which is more appropriate for the particular effort), with a subcontract in the award to the other cooperating institution. Collaborating scientists should be listed as co-principal investigators in the proposal. The cooperating institutions must represent bona fide independent operations, and collaboration should involve active participation by scientists or technical personnel at both the university and the industrial organization in aspects of the proposed research. The industrial participant should support a substantial part of the costs of its participation. The proposed research should focus on fundamental scientific or engineering questions of a basic or applied nature. Technological development and clinical research are not supported.

Remarks: Further information may be obtained from the Directorate for Engineering and Applied Science at the above address. See separate entry in this issue for description of the Directorate.

## ★ 1115 ★

**INFORMATION SCIENCE AND TECHNOLOGY DIVISION**  
National Science Foundation  
1800 G St., N. W.  
Washington, DC 20550

Division is part of the Directorate for Scientific, Technological, and International Affairs, National Science Foundation (NSF).

Division provides support for basic and applied research in information science. Specific categories of research supported include: 1) standards and measures for information science; 2) structural properties of information and language; 3) behavioral aspects of information transfer; 4) "infometrics" (the role of information in the economy); and 5) information technology. This program does not provide support for primary publications or monographs, nor does it provide bibliographic or reference services or perform literature searches, furnish copies of publications resulting from research sponsored by NSF or other organizations, or hire translators or perform translations of foreign publications.

Remarks: Institutions eligible for support are professional scientific and technical societies, universities and colleges, and profit and nonprofit organizations. Division also sponsors Special Research Initiation Awards for New Investigators in Information Science, a program aimed at strengthening the Nation's research potential in information science through support for young scientists. For further information on research opportunities offered through this Division, contact the Division at the above address.

## ★ 1116 ★

**INNOVATION PROCESSES AND THEIR MANAGEMENT PROGRAM**  
National Science Foundation  
1800 G St., N. W.  
Washington, DC 20550

Parent organization is Policy Research and Analysis Division, Directorate for Scientific, Technological, and International Affairs, National Science Foundation.

Major objective of this Program is to improve understanding of innovation processes in private and public sectors in order to identify leverage points

or mechanisms that may be affected by public policies. Research supported includes: 1) studies of issues related to industrial innovation and innovation process decisions in private firms; 2) studies of how regional, State, and local governments identify problems concerned with science and technology, set priorities, use formal or informal evaluative feedback, and deal with problems of accountability in the acquisition and implementation of innovative technology; and 3) analyses of how civilian sector organizations successfully use government-supported research and development, technical information, and hardware.

Remarks: Consult Agency Index for listings of the Policy Research and Analysis Division and its other programs, each described individually in this issue.

## ★ 1117 ★

**INORGANIC ANALYTICAL RESEARCH DIVISION**  
National Bureau of Standards  
Gaithersburg, MD  
(Mailing address: Washington, DC 20234)  
Ernest L. Gomer, Chief

Division is part of the Center for Analytical Chemistry, National Measurement Laboratory, National Bureau of Standards, Department of Commerce.

Division functions in four main areas: 1) activation analysis, which involves research to improve analytical accuracy, sensitivity, and selectivity in diverse matrices of technological and scientific importance; 2) electro-analytical chemistry, with activities focused on the utilization of electrochemical principles for chemical analysis using voltammetry, coulometry, ion-chromatography, amperometry, potentiometry, and conductimetry; 3) analytical mass spectrometry, which involves the development and maintenance of a capability for high accuracy isotope ratio measurements; and 4) atomic and molecular spectrometry, which involves the development of improved plasma emission and atomic absorption instrumentation, investigation of controlled spectrochemical excitation, development of novel sample preparation and dissolution techniques, and issuance of more useful spectrophotometric transmittance standards.

Results are published in NBS publications series.

Remarks: See separate entry in this issue for description of Center for Analytical Chemistry.

## ★ 1118 ★

**INSTITUTE FOR COMPUTER SCIENCES AND TECHNOLOGY (ICST)**  
National Bureau of Standards  
Gaithersburg, MD  
(Mailing address: Washington, DC 20234)  
James H. Burrows, Director

Institute is a component of the National Bureau of Standards, Department of Commerce.

ICST is responsible for scientific and technical work to: 1) develop Federal computer standards and guidelines for efficient utilization and procurement of computers by Federal agencies and departments; and 2) provide technical assistance and advice to other Federal agencies in the selection and use of computers. Institute also performs computer science research to support standards development and advisory activities. Institute comprises the Center for Programming Science and Technology (see GRCD Issue 1, entry #50) and the Center for Computer Systems Engineering.

ICST publishes automatic data processing standards and guidelines in the Federal Information Processing Standards (FIPS) series. Reports and studies in program areas such as programming languages, computer system interfaces, and data base systems are published in NBS Special Publication Series 500.

★ 1119 ★

INSTITUTE OF MUSEUM SERVICES (IMS)

200 Independence Ave., S. W.  
Washington, DC 20201  
Lelia Kimche, Director

Phone: (202) 254-0413  
Established: 1976

Institute is a component of the Office of Educational Research and Improvement, Department of Education.

IMS supports the Nation's museums with a program of grants and services designed to help museums in their dual role as educators and conservators of our cultural, historic, and scientific heritage. In carrying out this program, IMS conducts research to: 1) establish a museum universe; 2) obtain information on all major facets of museum operations; and 3) establish a museum data base.

★ 1120 ★

INSTITUTE FOR RESEARCH ON EDUCATIONAL FINANCE AND GOVERNANCE (IFG)

CERAS Bldg.  
School of Education  
Stanford University  
Stanford, CA 94305  
Dr. Henry Levin, Director

Phone: (415) 497-0957

Institute is supported by the National Institute of Education, Office of Educational Research and Improvement, Department of Education. It is administered through the Stanford University School of Education and is located in the Center for Educational Research (CERAS) at Stanford.

IFG's mission is to play a national role in research related to the origins, implementation, and consequences of different educational finance and governance patterns in education, with special focus on the organizational processes, outcomes, and equity implications of these patterns. The Institute uses an interdisciplinary approach that is designed to link both the finance and governance dimensions of major policy issues.

Remarks: For further description of Institute's relationship to the Department of Education, see separate entry in this issue on the National Institute of Education.

★ 1121 ★

INTERAGENCY ARCHEOLOGICAL SERVICES - WASHINGTON

Heritage Conservation and Recreation Service  
440 G St., N. W.  
Washington, DC 20243

(See Issue 2, entry #650, for description.)

UPDATE: The Heritage Conservation and Recreation Service has been abolished. Many of its programs have been transferred to the National Park Service.

★ 1122 ★

INTERGOVERNMENTAL SCIENCE AND PUBLIC TECHNOLOGY DIVISION

National Science Foundation  
1800 G St., N. W.  
Washington, DC 20550  
William H. Wetmore, Director

Phone: (202) 357-7552

Division is part of the Directorate for Engineering and Applied Science, National Science Foundation (NSF).

Through this Division the NSF provides support for: 1) Intergovernmental programs which facilitate the integration of scientific and technical resources into the activities of State and local governments (see separate entry in this issue on the Experimental Program to Stimulate Competitive Research); 2) a Small Business Innovation Program, which draws upon the scientific and technological capabilities of small businesses and universities with a view toward moving the most promising research into commercialization as soon as possible (see separate entry in this issue for further description); 3) the Industrial Technology program, which seeks to test and evaluate selected incentives that the Federal Government may use to increase research and development investment in the private sector and stimulate accelerated introduction of innovative technology into commercial use (see "Remarks" below for references to related programs); and 4) the Appropriate Technology Program (see separate entry in this issue for description).

Remarks: The Industrial Technology program mentioned above is listed as Industry Program in GRCD Issue 2, entry #643. Specific programs within this general program area are listed separately as: Industry/University Cooperative Research Projects (included in this issue); University/Industry Cooperative Research Centers (see GRCD Issue 1, entry #427; also, a separate entry in this issue provides additional information); Technology Innovation Projects (in this issue); and Entrepreneurial Innovation Centers (also in this issue).

★ 1123 ★

INTERMOUNTAIN FOREST AND RANGE EXPERIMENT STATION

507 25th St.  
Ogden, UT 84401  
Roger R. Boy, Director

Phone: (801) 626-3361

Station is a component of Forest Service, Department of Agriculture.

Research at the Intermountain Station is conducted by research work units and through research and development programs established for special needs. These units are located at the Station headquarters in Ogden and at research facilities in Montana, Idaho, Utah, and Nevada. Research units presently operating at the headquarters location are involved in the study of population dynamics of the mountain pine beetle and in resources evaluation. Consult Agency Index for listings of other Station components described in GRCD Issues 1-3.

Results are published in Station publications. Station also sponsors workshops and symposia.

Remarks: Station's research program is coordinated with forestry and range organizations in western universities, private companies, and other Federal and State agencies.

★ 1124 ★

INTERNATIONAL ECONOMIC POLICY PROGRAM

National Science Foundation  
1800 G St., N. W.  
Washington, DC 20550

Parent organization is Policy Research and Analysis Division, Directorate for Scientific, Technological, and International Affairs, National Science Foundation.

Program supports research, modeling, and policy analysis on issues of international economic policy which will affect domestic economic progress and the conduct of foreign relations.

Remarks: Consult Agency Index for listings of the Policy Research and Analysis Division and its other programs, each described individually in this issue.

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★ 1125 ★  
**INTERNATIONAL PROGRAMS DIVISION**  
 National Science Foundation  
 1800 G St., N. W.  
 Washington, DC 20550

Division is part of the Directorate for Scientific, Technological, and International Affairs, National Science Foundation (NSF).

The International Programs Division (INT) administers NSF programs which encourage and support U. S. scientific participation in international scientific programs and activities that promise significant benefit to U. S. science efforts. NSF programs involving bilateral cooperative science activities focus on cooperation with particular countries, including the industrial countries of Western Europe, East Asia, and Oceania; China, the Soviet Union, and other countries of Eastern Europe; and countries that are neither industrially developed nor rich in natural resources. The general goals of these bilateral activities are: 1) to stimulate scientific progress by bringing together scientists with different traditions but similar interests; 2) to enhance scientific knowledge in priority areas of mutual interest; 3) to provide U. S. scientists with opportunities to participate in projects aimed at improving scientific infrastructure in developing countries; 4) to share in the allocation of personnel and work; and 5) to improve mutual understanding with other nations and cultures. The U. S. has formal arrangements for these activities with: Argentina, Australia, Belgium, Brazil, Bulgaria, Federal Republic of Germany, France, Greece, Hungary, India, Italy, Japan, Republic of Korea, Mexico, New Zealand, Pakistan, Romania, Switzerland, U.S.S.R., and Venezuela. INT also supports less formal arrangements with countries in Africa, Latin America, South Asia, and Southeast Asia. Other programs supported by the Division include a Science in Developing Countries Program and an International Travel Grant Program.

Remarks: For further information, contact the Division at the above address.

★ 1126 ★  
**INTRAMURAL RESEARCH PROGRAM**  
 National Eye Institute  
 National Institutes of Health, Bldg. 6  
 9000 Rockville Pike  
 Bethesda, MD 20205  
 Dr. Jin Kinoshita, Acting Scientific Director

Phone: (301) 496-3552  
 Established: 1968

Program is part of the National Eye Institute (NEI), National Institutes of Health (NIH), Public Health Service, Department of Health and Human Services. Staff includes 85 professionals and 37 support personnel.

NEI's Intramural Research Program is organized into three main units: 1) Clinical Branch (NIH Bldg. 10); 2) Laboratory of Sensorimotor Research (NIH Bldg. 36); and 3) Laboratory of Vision Research (NIH Bldg. 6). The Clinical Branch and the two Laboratories conduct in-house research aimed at improving the prevention, diagnosis, and treatment of visual disorders. Major areas of research include retinal and choroidal diseases, corneal diseases, cataract, glaucoma, and sensory and motor disorders of vision.

Research results are published in NEI's ANNUAL REPORT.

Remarks: See separate entry in this issue for further description of the National Eye Institute.

★ 1127 ★  
**IOWA AGRICULTURE AND HOME ECONOMICS EXPERIMENT STATION**  
 Curtis Hall  
 Iowa State University  
 Ames, IA 50011  
 Dr. Lee R. Kolmer, Director

Phone: (515) 294-4762  
 Established: 1888

Station operates in cooperation with Cooperative Research, Science and Education Administration, Department of Agriculture (USDA-SEA-CR);

Iowa State University; and the State of Iowa. Staff includes 67 research and 60 supporting professionals.

Station activities include the conduct of agricultural research involving the biological, physical, and social sciences.

Results are published in primary journals. Station publishes special reports and bulletins.

Remarks: See separate entry in this issue for further description of USDA-SEA's Cooperative Research program.

★ 1128 ★  
**KANSAS CITY PLANT**  
 Bendix Corporation, Kansas City Division  
 2000 E. 95th St.  
 Kansas City, MO 64131

Phone: (816) 997-2161

The Kansas City Plant is assigned to the Assistant Secretary for Defense Programs, Department of Energy (DOE). It is operated for the DOE by the Kansas City Division, Bendix Corporation. Staff totals approximately 6000.

Basic mission at the Kansas City Plant is producing or procuring electrical, electronic, electromechanical, mechanical, plastic, and nonflamable metal components for nuclear weapons. Plant also supplies small quantities or one of a kind development items for the Sandia National Laboratories, Los Alamos Scientific Laboratory, and the Lawrence Livermore National Laboratory. In addition to its production functions, the Kansas City Plant provides support for design laboratory advanced development programs through a broad range of technical activities, from basic materials development (such as the formulation of polymers) to the design and processing of prototype hardware.

Remarks: See Agency Index for listings of the laboratories named above, as well as other research components assigned to the DOE's Assistant Secretary for Defense Programs, in GRCD Issues 1-3.

★ 1129 ★  
**KAWISHIWI FIELD LABORATORY**  
 SRI Box 7200  
 Ely, MN 55731  
 Dr. Lew Ohmann, Plant Ecologist

Phone: (218) 365-4138

Laboratory is a field unit of North Central Forest Experiment Station (NCFES), Forest Service, Department of Agriculture. Staff includes 2 research professionals and 7 technicians.

Unit conducts field and laboratory research, as well as survey data collection and analysis, in wildlife habitat factors related to deer, moose, beaver, bear, and vegetation.

Research results are published in primary journals and in NCFES RESEARCH PAPERS.

Remarks: See index for listings of NCFES and its other field units in previous issues of GRCD.

★ 1130 ★  
**KENTUCKY WATER RESOURCES RESEARCH INSTITUTE**  
 University of Kentucky  
 University Station  
 Lexington, KY 40506  
 Dr. Robert B. Grieves, Director

Institute is part of a cooperative program between the Office of Water Research and Technology, Department of the Interior; the State of Kentucky; and the University of Kentucky.

Institute conducts research on water and on other resources which affect

water. Program includes studies in economics, hydrology, transpiration and response of plants to soil moisture stress, climatology, water quality control, and strip mine-polluted water. Recent studies have focused on the economic effects of major water resources projects; recreational benefits of water resource development; and the eutrophication and ecological effects resulting from pollution or impoundment.

Research results are published in primary journals and as project reports.

Remarks: See entry for Office of Water Research and Technology in GRCD Issue 1 (entry #310) for a more specific description of the Federal role in the State university water resources institutes program.

★ 1131 ★

KEWEENAW RESEARCH CENTER (KRC)

Michigan Technological University

Houghton, MI 49931

Prof. Sung M. Lee, Director

Phone: (906) 487-2750

Established: 1965

KRC is a research agency of Michigan Technological University. The Center operates from the Keweenaw Field Station, which it maintains and operates under contract with the U. S. Army Tank-Automotive Command (TACOM), a subordinate command of the Materiel Development and Readiness Command, Chief of Staff of the Army, Department of the Army. Staff includes 11 research professionals, 4 supporting professionals, 5 technicians, and 1 other.

KRC conducts research related to vehicles, vehicular components, vehicle-terrain interaction, and surveillance and counter-surveillance of combat vehicles. Principal fields of investigation are: 1) target signature analysis and prediction modeling; 2) atmospheric spectroscopy; 3) vehicle dynamics; 4) vehicle systems engineering; 5) transportation research; and 6) vegetation in adverse climate. Projects include work in applied physics, biology, transportation, and engineering systems. Facilities at the Field Station include an optics-spectroscopy laboratory, biology laboratory, soils laboratory, cold rooms, and a computer room equipped with a microcomputer system as well as a terminal link to the University's main computer. The microcomputer collects data on a continuing basis from a well-equipped weather station. A variety of military and commercial vehicles are available for vehicle-related field experiments.

Results are published in primary journals and as technical reports and proceedings. Center publishes annual PROCEEDINGS OF THE KRC SYMPOSIUM ON GROUND VEHICLE INFRARED SIGNATURE. The Symposium, which is held in June or July, is sponsored by the Tank-Automotive Command. Attendance is limited to those members of the infrared research community with appropriate security clearance.

Remarks: A unique feature of the KRC operation is the Basic Ordering Agreement it has with TACOM. Under this agreement, contract work can be issued by TACOM in the form of a task order, eliminating much of the cumbersome paper work usually associated with negotiation of a research contract. Other military laboratories or commands can utilize this feature by issuing an Intra-Army or Intra-Military Order for Reimbursable Services.

★ 1132 ★

KNOLLS ATOMIC POWER LABORATORY (KAPL)

P. O. Box 1072

Schenectady, NY 12301

Alfred E. Kakretz, General Manager

Phone: (518) 393-6611

Laboratory is a nuclear development facility operated for the Assistant Secretary for Nuclear Energy, Department of Energy (DOE) under contract to the General Electric Company (GE). Laboratory is administered by the Schenectady Naval Reactors Office, which is located on-site and staffed by DOE employees. Staff at KAPL totals approximately 3000.

KAPL's mission is the design and development of improved naval nuclear

propulsion plants and reactor cores in a wide range of power ratings to meet military requirements of the Department of the Navy. Emphasis is on developing improved longer-life cores and on increasing the reliability and maintainability of reactor plant components.

Remarks: KAPL includes three sites, the principal one being at Niskayuna, Schenectady County, NY. Land-based prototypes of shipboard pressurized-water reactor plants are located at the Kenneth A. Kesselring site in West Milton, NY and at Windsor, CT. All three sites are operated by GE and administered by DOE's Division of Naval Reactors.

★ 1133 ★

LABORATORY FOR COMPUTATIONAL PHYSICS

Naval Research Laboratory

Washington, DC 20375

Dr. J. P. Boris, Chief Scientist

Laboratory is part of the General Science and Technology Directorate, Naval Research Laboratory (NRL). NRL is a component of the Office of Naval Research; the Chief of Naval Research reports to the Assistant Secretary (Research, Engineering, and Systems), Department of the Navy.

Laboratory is responsible for the research leading to and the application of advanced numerical simulation techniques which are relevant to Navy, Department of Defense, and other programs of national interest. The specific objectives are: 1) to develop and maintain a state-of-the-art computational physics capability in fluid dynamics and related fields of physics; 2) to perform analyses and computations on specific relevant problems using these capabilities; and 3) to transfer this numerical technology to new and ongoing projects through cooperative programs with the research divisions and detachments of NRL and elsewhere. Areas of current interest include: studies of the hydrodynamic stability of imploding systems, solution of fluid dynamic flows which involve free surfaces for naval hydrodynamics and other applications, studies of combustion dynamics and reactive flow modeling in which convection and turbulent mixing may be important, modeling of ionospheric and heliospheric dynamics and chemistry, and pursuit of advanced numerical techniques for general application.

Remarks: See Agency Index for listings of other components of the General Science and Technology Directorate, and of the Naval Research Laboratory, all included in this issue.

★ 1134 ★

LABORATORY FOR COSMIC-RAY PHYSICS

Naval Research Laboratory

Washington, DC 20375

Dr. M. M. Shapiro, Chief Scientist

Laboratory is part of the General Science and Technology Directorate, Naval Research Laboratory (NRL). NRL is a component of the Office of Naval Research; the Chief of Naval Research reports to the Assistant Secretary (Research, Engineering, and Systems), Department of the Navy.

Laboratory carries out investigations of the penetrating particle environment on and near the earth, including: experiments to measure the flux and composition of heavy ions near earth; analysis of nucleus-nucleus interactions to better understand cosmic-ray transport through matter; and study of the deep underwater radiation environment, with special emphasis on neutrino and muon interactions. Results of this basic research are applied to predict cosmic-ray effects on micro-electronics and the radiation hazards to personnel in space and on board high-flying aircraft.

Remarks: See Agency Index for listings of other components of the General Science and Technology Directorate, and of the Naval Research Laboratory, all included in this issue.

## ★ 1135 ★

## LABORATORY FOR STRUCTURE OF MATTER

Naval Research Laboratory  
Washington, DC 20375  
Dr. J. Karle, Chief Scientist

Laboratory is part of the Material Science and Component Technology Directorate, Naval Research Laboratory (NRL). NRL is a component of the Office of Naval Research; the Chief of Naval Research reports to the Assistant Secretary (Research, Engineering, and Systems), Department of the Navy.

Laboratory carries out experimental and theoretical investigations of the atomic, molecular, glassy, and crystalline structures of materials. The methods of x-ray, electron, and neutron diffraction are used in a broad program of structure studies which can form the basis for understanding and interpreting the results of research investigations in a wide variety of scientific disciplines. Applications are made to device materials and other substances whose chemical and physical properties are of interest.

Remarks: See Agency Index for listings of other components of the Material Science and Component Technology Directorate, and of the Naval Research Laboratory, all included in this issue.

## ★ 1136 ★

## LAND AND WATER RESOURCES CENTER

University of Maine at Orono  
Coburn Hall  
Orono, ME 04469  
Paul D. Uttormark, Director

Center is part of a cooperative program between the Office of Water Research and Technology, Department of the Interior; the State of Maine; and the University of Maine at Orono.

Purpose of the Center is to foster, administer, and conduct research responsive to the needs of Maine; to compile and disseminate information; and to support student training in disciplines related to land and water management. In carrying out this mission, Center works closely with state and local officials to identify important water problems in Maine and with the University community to establish research programs which will aid in solving these problems. Current emphasis is on applied research related to: 1) acidic precipitation, 2) groundwater management, and 3) lakes planning.

Results are published as project completion reports. Center publishes REPORT OF ACTIVITIES and sponsors several conferences and workshops throughout the year. Center also maintains a small reference collection of topical, often hard-to-obtain, technical reports.

Remarks: For a more specific description of the Federal role in the State university water resources institutes program, see entry for Office of Water Research and Technology in GRCD Issue 1 (entry #310).

## ★ 1137 ★

## LEARNING RESEARCH AND DEVELOPMENT CENTER (LRDC)

University of Pittsburgh  
3939 O'Hara St.  
Pittsburgh, PA 15260  
Dr. Robert Glaser and Laura Resnick,  
Directors

Phone: (412) 624-4800  
Established: 1964

Center is an independent, non-profit organization supported primarily by Department of Education funds. Staff includes 39 research and 35 supporting professionals, 11 technicians, and 80 others.

Center's principal area of research interest is application of engineering and behavioral science to education, with emphasis on development of theories of instruction and principles of teaching as distinguished from theories of learning. Program includes projects on reading and compre-

hension; mathematical and scientific literacy and problem-solving; design of adaptive educational environments; evaluative theory and techniques; and social cognition and the processes of schooling.

Research results are published in primary journals and in Center's working paper series (CENTER SERIES). Conferences are sponsored irregularly. Library holds 3000 volumes on educational psychology, computer technology, and curriculum design; Joretta Flint, Librarian.

Remarks: For further description of Center's relationship to the Department of Education, see separate entry in this issue on the National Institute of Education.

## ★ 1138 ★

## LENGTH AND MASS MEASUREMENTS AND STANDARDS DIVISION

National Bureau of Standards  
Physics Bldg.

Gaithersburg, MD

(Mailing address: Washington, DC 20234)

Phone: (301) 921-2001

Dr. Joe D. Simmons, Chief

Established: 1978

Division is part of the Center for Absolute Physical Quantities, National Measurement Laboratory, National Bureau of Standards, Department of Commerce. Staff includes 5 research professionals.

Division conducts research and development in primary standards of physical measurement. Specific areas of research include: 1) laser physics; 2) interferometry; and 3) the physics of length, mass, and density comparisons at the highest levels of accuracy.

Results are published in primary journals and as research reports and proceedings.

Remarks: See separate entry in this issue for description of Center for Absolute Physical Quantities.

## ★ 1139 ★

## LOUISIANA COOPERATIVE WILDLIFE RESEARCH UNIT

Louisiana State University  
School of Forestry and Wildlife Management  
Baton Rouge, LA 70803  
John D. Newsam, Unit Leader

Unit is part of a cooperative program between U. S. Fish and Wildlife Service, Department of the Interior; Louisiana State University; the Louisiana Wildlife and Fisheries Commission; and Wildlife Management Institute.

Unit conducts research in wildlife ecology, conservation, and management and utilization. Recent projects have involved studies on the ecological factors affecting waterfowl foods; foods of cottontail and swamp rabbits; marsh plant ecology; deer nutrition; coyote food habits; and the chronology of deer breeding seasons.

Results are published in primary journals.

## ★ 1140 ★

## LOUISIANA STATE UNIVERSITY AGRICULTURAL RESEARCH PROGRAM

P. O. Drawer U  
University Station  
Baton Rouge, LA 70893

Dr. G. H. Willis, Location Leader

Phone: (504) 766-5128

Program operates in cooperation with Agricultural Research - Southern Region, Science and Education Administration, Department of Agriculture. Staff includes 15 research professionals, 1 supporting professional, 9 technicians, and 10 others.

Program involves laboratory and field research in soil and water management, including soil and water pollution, as well as studies of cotton insects, bee breeding, and nematode control.

Results are published in primary journals.

★ 1141 ★

MANPOWER MODELING AND RESEARCH BRANCH

Health Resources Administration  
3700 East-West Hwy.  
Hyattsville, MD 20782

(See Issue 1, entry #211, for description.)

UPDATE: Because of changes in the Health Resources Administration, Public Health Service, Department of Health and Human Services, the Manpower Modeling and Research Branch is now called the Modeling and Research Branch and is part of the Health Professions Analysis Division, Bureau of Health Professions, Health Resources Administration.

★ 1142 ★

MARINE AVIATION DETACHMENT (MAD)

Pacific Missile Test Center  
Point Mugu, CA 93042 Phone: (805) 982-7018  
Col. O. C. Boker, Commanding Officer Established: 1957

Detachment is a Marine Corps unit attached directly under the military command of the Commander, Pacific Missile Test Center (PMTC). PMTC is a component of the Naval Air Systems Command, Naval Material Command, Chief of Naval Operations, Department of the Navy.

MAD performs research, development, test, and evaluation functions related to radar and aviation weapon systems; provides support for PMTC projects of special interest to the Marine Corps; and maintains liaison between activities at PMTC and Marine Corps Headquarters.

Detachment prepares Test Result Papers and MAD Quarterly Liaison Report.

★ 1143 ★

MARINE TECHNOLOGY DIVISION

Naval Research Laboratory  
Washington, DC 20375  
Dr. R. T. Swim, Superintendent

Division is part of the Systems Research and Technology Directorate, Naval Research Laboratory (NRL). NRL is a component of the Office of Naval Research; the Chief of Naval Research reports to the Assistant Secretary (Research, Engineering, and Systems), Department of the Navy.

Division conducts research and development programs to provide the technology base for marine engineering and systems. Goal is to establish principles and systematic procedures for the design of marine systems and for the performance of marine operations. Division's Shock and Vibration Information Center provides services for engineers nationwide, and the Special Applications Group provides engineering support to the Division and to other naval activities.

Remarks: See Agency Index for listings of other components of the Systems Research and Technology Directorate, and of the Naval Research Laboratory, all included in this issue.

★ 1144 ★

MARKET RESEARCH AND TECHNICAL ANALYSIS DIVISION

National Furniture Center  
Crystal Mall Bldg. #4  
Washington, DC 20406 Phone: (703) 557-8473  
Arnold H. Brogan, Director Established: 1975

Known as the Technical Support Branch until 1979, Division is part of the National Furniture Center (NFC), Federal Supply Service, General Services Administration (GSA). Staff includes 4 research and 5 supporting professionals, 7 technicians, and 4 others.

Division provides technical support to the NFC in the form of research pertaining to customer requirements and industry capabilities, furniture and furnishings, procurements and quality requirements, and specification development. Forms of research include contractor quality reviews, laboratory research, and user satisfaction surveys, primarily as related to furniture construction, procurements, and quality control. Industry evaluations and customer surveys are also conducted.

Division publishes GSA FURNITURE CATALOG.

Remarks: Two Branches affiliated with the Market Research and Technical Analysis Division are: 1) Customer and Industry Relations Branch and 2) Engineering Branch. Both are located at the above address.

★ 1145 ★

MARSHALL (GEORGE C.) SPACE FLIGHT CENTER

Marshall Space Flight Center, AL 35812  
Dr. William R. Lucas, Director Phone: (205) 453-2121

Center is one of ten major field installations of the National Aeronautics and Space Administration (NASA). Staff totals approximately 3500.

Recent projects at the Center have focused primarily on development and testing of three of the four principal elements of the Space Shuttle: 1) the Space Shuttle main engine, which was developed by the Marshall Center and its prime contractor, the Rocketdyne Division of Rockwell International; 2) the Shuttle's external tank, the largest element of the shuttle, which was designed and manufactured under Marshall's management at the Center's Michoud Assembly Facility, New Orleans, LA, by the Denver Division of Martin Marietta Aerospace; and 3) the Shuttle's solid rocket booster, which is the first large solid propellant rocket ever used to boost a manned vehicle. Detailed design and integration work on the solid rocket booster's subsystems was performed in-house at the Marshall Center as part of Marshall's role as overall project manager for development of the entire booster, including the motor. Structural elements of the booster were manufactured to Marshall design by the McDonnell Douglas Astronautics Corporation, Huntington Beach, CA; motors were developed and produced by Thiokol Corporation's Wasatch Division in Brigham City, UT. (Marshall was not involved in development of the Space Shuttle's fourth principal element, the Orbiter.) In addition, Shuttle systems engineering and analysis is a major Marshall activity that uses the Center's technical competence in propulsion systems, large launch vehicle structures, and aerodynamics and flight predictions to perform varied Shuttle tasks. Center is also involved in systems tasks for the total Shuttle vehicle, including tasks in systems engineering and integration, determination of ground and flight operations requirements, and development and integration of systems common to more than one Shuttle element. Marshall has conducted developmental testing on all the major elements of the Space Shuttle and will continue to have responsibility for follow-up development of its propulsion system (main engines, external tank, and solid rocket boosters). Center's involvement in future work on the Space Shuttle will include: management and coordination of the Inertial Upper Stage program (Air Force has primary responsibility for its development); and involvement in various aspects of the Spacelab system (which is to be placed inside the cargo bay of the Shuttle on future missions for use as an orbital research center), including development of experiments to be flown in space aboard Shuttle and Spacelab. Development of the Spacelab system is being done by the European Space Agency, with Marshall providing guidance and assistance as NASA's lead center for this project. Marshall is, however, directly responsible

for development of certain related equipment, and the Center's Spacelab Payload Project Office is the focal point for planning and directing the actual Spacelab mission. In addition to involvement in Space Shuttle development, projects at the Marshall Center include development of the High Energy Astronomy Observatory spacecraft series; development of a 2.4 meter optical Space Telescope which will enable astronomers to see seven times deeper into space than is now possible (to be launched by the Space Shuttle into Earth orbit in the 1980's); involvement in solar energy projects; and application of space technology to assist in problems of mineral extraction.

Research results are published in NASA technical information publication series.

Remarks: Formally established projects of the Marshall Center are managed by project offices responsible to the Center director. Project office responsibility includes direction of in-house design and development work, as well as management of contracts with private industry. The Center structure also includes three main directorates: 1) Program Development Directorate generates plans for promising new programs; 2) the Administration and Program Support Directorate provides various supporting services; and 3) Science and Engineering Directorate, which employs more than half the Center's personnel, is discipline-oriented and provides technical support to various task teams and project offices, furnishing a research base for the advancement of technology. Marshall is one of the nation's pioneering space centers, evolving from the team of rocket experts headed by Dr. Wernher von Braun. These engineers and scientists formed the nucleus of the new Marshall Center when the group joined NASA in 1960. Dr. von Braun served as Center director 1960-1970.

★ 1146 ★

MASSACHUSETTS COOPERATIVE FISHERY RESEARCH UNIT

Department of Forestry and Wildlife Management

College of Food and Natural Resources

University of Massachusetts

Amherst, MA 01003

Dr. Henry E. Boone, Leader

Phone: (413) 545-2011

Established: 1964

Unit is part of a cooperative program between the U. S. Fish and Wildlife Service, Department of the Interior; the University of Massachusetts; and the Massachusetts Division of Fisheries and Wildlife and Massachusetts Division of Marine Fisheries. Staff includes 2 research professionals.

Unit conducts a program of field research related to: 1) biology and restoration of anadromous fisheries, focusing principally on the mainstream of the Connecticut River; and 2) studies on coastal estuarine fisheries, including projects on the artificial restoration of rainbow smelt spawning runs into coastal streams, management of clam areas, and spawning habitat of dominant inshore prey species of fish.

Results are published as journal articles, technical reports, and proceedings.

★ 1147 ★

MATERIAL SCIENCE AND COMPONENT TECHNOLOGY DIRECTORATE

Naval Research Laboratory

Washington, DC 20375

Dr. Albert T. Schindler, Associate Director

Directorate is part of the Naval Research Laboratory, which is a component of the Office of Naval Research; the Chief of Naval Research reports to the Assistant Secretary (Research, Engineering, and Systems), Department of the Navy.

Directorate carries out a multidisciplinary research program to: 1) develop new, improved materials; 2) generate new concepts associated with materials behavior; and 3) develop advanced components based on these new and improved materials and concepts. Theoretical and experimental research is conducted to determine the origins of materials behavior and to

develop procedures for modifying these materials to meet Navy needs. Program includes investigations of the properties of a broad spectrum of materials, including insulators, semiconductors, metals and alloys, optical materials, polymers, plastics, and composites which are used in naval devices, components, and systems. New techniques are developed for producing, processing, and fabricating these materials for naval applications, and performance limits are established under deleterious conditions such as those associated with the marine environment, neutron or directed energy beam irradiation, or extreme temperatures and pressures. Major components of the Directorate include the Electro-Optical Technology Program Office, Laboratory for the Structure of Matter, Health Physics Staff, Chemistry Division, Material Science and Technology Division, Optical Sciences Division, Condensed Matter and Radiation Sciences Division, and Electronics Technology Division. (See separate entries in this issue for descriptions of each.)

Remarks: See separate entry in this issue for further description of NRL; consult Agency Index for listings of its other major components, all included in this issue.

★ 1148 ★

MATERIAL SCIENCE AND TECHNOLOGY DIVISION

Naval Research Laboratory

Washington, DC 20375

Dr. L. R. Hettche, Superintendent

Division is part of the Material Science and Component Technology Directorate, Naval Research Laboratory (NRL). NRL is a component of the Office of Naval Research; the Chief of Naval Research reports to the Assistant Secretary (Research, Engineering, and Systems), Department of the Navy.

Division conducts basic and applied research and engages in exploratory and advanced development of materials technology having substantive value to the Navy. Programs encompass the intrinsic behavior of metals, alloys, ceramics, glasses, and composites; the fabrication of naval structures and devices from these materials; and the effects of projected military service environment on the performance and reliability of these materials. Program objectives include achieving fundamental understanding of the mechanical and physical properties of materials; identifying composition, processing, and microstructural factors to produce improved materials; and developing criteria for the selection, design, certification, and life-cycle management of materials in naval vehicles and systems. Division's diverse programs are carried out by interdisciplinary teams of material scientists, metallurgists, ceramists, physicists, chemists, and engineers, using the most advanced testing facilities and diagnostic techniques.

Remarks: See Agency Index for listings of other components of the Material Science and Component Technology Directorate, and of the Naval Research Laboratory, all included in this issue.

★ 1149 ★

MATHEMATICAL ANALYSIS DIVISION

National Bureau of Standards

Gaithersburg, MD

(Mailing address: Washington, DC 20234)

Dr. Frederick C. Johnson, Chief

Phone: (301) 921-2631

Division is part of the Center for Applied Mathematics, National Engineering Laboratory, National Bureau of Standards, Department of Commerce.

Division: 1) provides consulting services, performs research, and collaborates in the application of mathematical analysis, numerical analysis, and requisite computer science technology to science and engineering; 2) develops and applies mathematical models to complex scientific and management problems in physical and engineering systems; 3) provides computational techniques for NBS scientific computation and data processing; and 4) collaborates in the development and application of mathematical meth-

53

ods, including modern non-linear theories of fluid mechanics, solid mechanics, and finite element methods.

Results are published in NBS publications series.

Remarks: See separate entry in this issue for description of Center for Applied Mathematics.

★ 1150 ★

MECHANICAL PRODUCTION METROLOGY DIVISION

National Bureau of Standards  
Gaithersburg, MD  
(Mailing address: Washington, DC 20234)  
Daniel R. Flynn, Program Manager

Division is part of the Center for Manufacturing Engineering, National Engineering Laboratory, National Bureau of Standards, Department of Commerce. Staff includes 4 research professionals (group leaders).

Division operates largely in the discipline of applied physics. It develops and maintains competence in engineering measurements and sensors (both static and dynamic) of force, mass, dimensions, and other parameters needed for inspection, such as quality control, process control, and monitoring of the discrete parts industry. Division is also concerned with the nature of the measurement process and the transducers used in mechanical discrete parts manufacturing.

Remarks: Division was established with the reorganization of the Center for Manufacturing Engineering (previously called the Center for Mechanical Engineering and Process Technology) in 1980. See separate entries in this issue for further description of Center and its other divisions.

★ 1151 ★

MINNESOTA AGRICULTURAL EXPERIMENT STATION

Coffey Hall  
1420 Eckles Ave.  
University of Minnesota  
St. Paul, MN 55108 Phone: (612) 373-0751  
Dr. Richard J. Sauer, Director Established: 1885

Station operates in cooperation with Cooperative Research, Science and Education Administration, Department of Agriculture (USDA-SEA-CR); the University of Minnesota's Institute of Agriculture, Forestry, and Home Economics; and the State of Minnesota.

Station conducts research in agriculture and allied disciplines to: 1) improve the production, processing, marketing, distribution, and quality of food and agricultural products and forests and forest products; and 2) improve human nutrition, family and community life, recreation and tourism, and overall environmental quality.

Research results are published as journal articles, research reports, and proceedings. Station publishes MINNESOTA SCIENCE (quarterly) and STATION BULLETIN, SPECIAL REPORT, MISCELLANEOUS PUBLICATION, and TECHNICAL BULLETIN (all issued irregularly). Seminars, conferences, field days, and other special programs are sponsored by various subunits of the Station.

Remarks: Station is affiliated with several other experiment stations located throughout the State of Minnesota. (See separate entry in this issue for further description of USDA-SEA's Cooperative Research program.)

★ 1152 ★

MISSOURI AGRICULTURAL EXPERIMENT STATION

Agriculture Bldg.  
University of Missouri  
Columbia, MO 65211 Phone: (314) 882-3846  
Dr. A. Max Lennon, Director Established: 1888

Station operates in cooperation with Cooperative Rese. Science and

Education Administration, Department of Agriculture (USDA-SEA-CR); the University of Missouri College of Agriculture; and the State of Missouri. Staff includes 107 research and 246 supporting professionals, 84 technicians, and 176 others.

Station conducts a program of field and laboratory research in agricultural production, as well as studies in food processing and marketing. Its research interests involve the biological, physical, and social sciences, including projects in: 1) fertilizer and limestone control; 2) international agriculture; 3) soil and water conservation; and 4) forestry, fisheries, and wildlife; crops; livestock; human nutrition; and basic biological research. Emphasis in all research areas is on agriculture in Missouri.

Research results are published as journal articles, research reports, and proceedings. Station publishes RESEARCH BULLETIN (irregular). A library is maintained.

Remarks: Station maintains numerous test stations and is affiliated with several other research centers throughout the State of Missouri. (See separate entry in this issue for further description of USDA-SEA's Cooperative Research program.)

★ 1153 ★

MOLECULAR SPECTROSCOPY DIVISION

National Bureau of Standards  
Physics Bldg.  
Gaithersburg, MD  
(Mailing address: Washington, DC 20234) Phone: (301) 921-2021  
Dr. Merrill M. Heslop, Chief Established: 1940

Division is part of the Center for Thermodynamics and Molecular Science, National Measurement Laboratory; National Bureau of Standards; Department of Commerce. Staff includes 20 research professionals, 1 supporting professional, 1 technician, and 3 others.

Division conducts research in experimental and theoretical molecular spectroscopy to: 1) advance spectroscopic measurement methods; 2) model fundamental chemical processes; and 3) provide reliable reference wavelength standards and data. Specific fields of research include high resolution laser spectroscopy, laser chemistry, quantum chemistry, and modern microwave techniques.

Research results are published in primary journals.

★ 1154 ★

MONTANA AGRICULTURAL EXPERIMENT STATION

Montana State University  
Bozeman, MT 59717 Phone: (406) 994-3681  
Dr. James Welsh, Director Established: 1893

Station operates in cooperation with Cooperative Research, Science and Education Administration, Department of Agriculture (USDA-SEA-CR); Montana State University; and the State of Montana. Staff includes 82 research and 77 supporting professionals, 66 technicians, and 159 others.

Station conducts agricultural research, principally in livestock production and crop production. Program includes studies in agricultural economics and plant and animal pathology.

Research results are published in primary journals. Station publishes quarterly FOCUS, as well as bulletins and research reports (irregular).

Remarks: Station operates in affiliation with the Livestock and Range Research Station, Mile City, MT, and with other agricultural research centers located throughout the State of Montana. (See separate entry in this issue for further description of USDA-SEA's Cooperative Research program.)

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## ★ 1155 ★

## MONTANA COOPERATIVE FISHERY RESEARCH UNIT

Biology Department  
College of Letters and Science  
Montana State University  
Bozeman, MT 59717  
Dr. Robert G. White, Leader

Phone: (406) 994-2450  
Established: 1963

Unit is part of a cooperative program between the U. S. Fish and Wildlife Service, Department of the Interior; Montana State University; and the State of Montana. Staff includes 2 research professionals.

Unit's research projects are primarily management oriented and deal largely with aquatic habitat-population relationships and the evaluation of fisheries. In recent years focus has been on habitat and population assessment, with data from Unit studies used to monitor influences of land use practices and, when necessary, to serve as a basis for mitigation. Examples of these studies include investigation of the effects of effluents from surface coal mines on the zooplankton and water quality of the Tongue River Reservoir and a study on the sources, fates, and cycling of mercury in the Tongue River and Tongue River Reservoir. Unit has been active also in research related to the enhancement of fish habitat.

Results are published in primary journals and as technical reports and proceedings.

## ★ 1156 ★

## MORGANTOWN ENERGY TECHNOLOGY CENTER (METC)

P. O. Box 880  
Morgantown, WV 26505  
Augustine A. Pitrolo, Director

Phone: (304) 599-7764  
Established: 1946

METC is a federally owned and operated facility assigned to the Assistant Secretary for Fossil Energy, Department of Energy (DOE). Staff totals 250.

Center is a lead DOE technology laboratory in research and development related to: 1) enhanced oil and gas recovery; 2) atmospheric fluidized-bed combustion; 3) synthetic fuels processes; 4) environmental research related to gas stream cleanup/end use of coal/coal-derived fuels; 4) materials and component research/testing associated with coal conversion and utilization; 5) extraction utilization of energy from unmineable coalbeds; and 6) basic research in fossil-related disciplines.

Research results are published in primary journals and in METC publications. Center sponsors numerous seminars and conferences on energy- and environment-related subjects. A library is maintained; Dorothy Simon, Librarian.

Remarks: Center was originally established as a Bureau of Mines (Department of the Interior) coal research station at West Virginia University in Morgantown. In 1954 the station was moved to its present site, along with a Bureau of Mines Petroleum Research Laboratory. The two merged in 1969 to form the Morgantown Energy Research Center. Functions were subsequently transferred to the Department of Energy and the name became Morgantown Energy Technology Center. Activities at the Center are strongly supported by a contractor base which manages research and technology-based projects in partnership with DOE's Oak Ridge Operations Office.

## ★ 1157 ★

## MSU-DOE PLANT RESEARCH LABORATORY

Michigan State University  
East Lansing, MI 48824

(See Issue 1, entry #239, for description.)

UPDATE: This Laboratory is assigned to the Office of Energy Research, Department of Energy, rather than to the Assistant Secretary for Environment as listed in Issue 1.

## ★ 1158 ★

## NATIONAL AIR AND SPACE MUSEUM (NASM)

6th St. and Independence Ave., S. W.  
Washington, DC 20560  
Dr. Noel Hinners, Director

Phone: (202) 357-2491  
Established: 1946

Parent organization is Smithsonian Institution. Staff includes approximately 30 research professionals.

NASM has five organizational units that perform research: the Aeronautics, Astronautics, and Science and Technology Departments; the Center for Earth and Planetary Studies (see separate entry in this issue for description); and the Presentations and Education Division. The Division of Preservation, Restoration, and Storage conserves and provides access to the national collections of air and space artifacts, photographs, and records. The research program is considered to be a major part of Museum operations, providing research on history, science, and technology of air and space flight, as well as research related to earth and planetary studies. The NASM staff works closely with many professional, scientific, and historical societies and maintains close research associations with other aeronautical museums, both in this country and abroad.

Museum library contains an extensive collection of books, periodicals, microforms, and subject files in fields unique to air and space.

Remarks: NASM also offers opportunities for visiting scholars to conduct research. For information contact: Office of Fellowships and Grants, Smithsonian Institution, 955 L'Enfant Plaza, S. W., Washington, DC 20560.

## ★ 1159 ★

## NATIONAL ANTHROPOLOGICAL FILM CENTER (NAFC)

955 L'Enfant Plaza, S. W.  
Washington, DC 20560  
Dr. E. Richard Sorenson, Director

Phone: (202) 287-3428

Parent organization is the Center for the Study of Man, Smithsonian Institution. (Center for the Study of Man is administered by the National Museum of Natural History.)

NAFC was established to take fuller advantage of the potential of film as a tool of inquiry into the vanishing and changing ways of life of humankind. Purpose of the Center is to provide a program and facilities to study, document, and preserve visual information on human behavioral and cultural variation and on culturally unique expressions of human existence. Specific goals of the Center are to: 1) preserve unanalyzed records of unique, nonrecurring, and disappearing events, such as changing patterns of behavior and culture; 2) to solicit deposit of footage which meets established standards of research potential; and 3) to initiate, encourage, and support efforts to preserve visual records of vanishing ways of life. Realization of these goals includes providing a research-film library in which prints can serve the purpose of review, research, and production, leaving original or master prints undamaged; and to provide film study facilities for pure research and for applied studies.

Center publishes OCCASIONAL PAPER series.

Remarks: Center for the Study of Man is listed separately in this issue.

## ★ 1160 ★

## NATIONAL CANCER INSTITUTE (NCI)

National Institutes of Health, Bldg. 31  
9000 Rockville Pike  
Bethesda, MD 20205  
Dr. Vincent T. DeVita, Jr., Director

Phone: (301) 496-5615

NCI is a component of National Institutes of Health (NIH), Public Health Service, Department of Health and Human Services.

Institute has primary responsibility within the Federal Government for con-

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ducting and supporting cancer research. This major cancer research program is carried out in-house at NCI laboratories in Bethesda, MD and through NCI support for programs conducted throughout the nation. NCI-awarded grants and contracts support cancer research in most of the nation's university medical centers and many other non-Federal institutions. NCI also coordinates the cancer research programs of Federal and private institutions in accordance with a constantly updated National Cancer Plan, which encompasses the lines of research effort considered to be most important in solving the major problems of cancer. In addition, a network of 21 Comprehensive Cancer Centers around the country engage in a wide range of cancer-related research and demonstration encompassing basic research, diagnosis, treatment, rehabilitation, and public and patient education. These Centers also educate and train professionals in various clinical and research specialties. NCI also supports approximately 40 other clinical and non-clinical treatment and research programs.

Remarks: Major components of the National Cancer Institute include: 1) Division of Cancer Cause and Prevention; 2) Division of Cancer Biology and Diagnosis; 3) Division of Cancer Treatment; 4) Division of Extramural Activities; and 5) Division of Resources, Centers and Community Activities. See separate entries in this issue for descriptions of each.

★ 1161 ★  
NATIONAL CENTER FOR DRUG ANALYSIS (NCDA)  
1114 Market St.  
St. Louis, MO 63101

Center is a division of Pharmaceutical Research and Testing, Bureau of Drugs, Food and Drug Administration (FDA), Public Health Service, Department of Health and Human Services. Staff totals approximately 45.

Center: 1) assists in monitoring the quality of marketed drugs through surveillance and compliance actions; 2) conducts research to establish official laboratory techniques or methods to test drugs for compliance with standards of identity, strength, and purity; 3) develops analytical methods, particularly automated methods adapted to large volumes of samples; and 4) collects data to support bioavailability and bioequivalence reviews of drugs. Laboratory operations include long-range research activities related to analytical methods; and analyses related to the FDA's surveillance programs and other aspects of drug monitoring.

Remarks: See Agency Index for listings of other Bureau of Drugs components described in GRCD Issues 1-3.

★ 1162 ★  
NATIONAL CENTER FOR EDUCATION STATISTICS (NCES)  
Presidential Bldg.  
Hyattsville, MD  
(Mailing address: 400 Maryland Ave., S. W.  
Washington, DC 20202) Phone: (301) 436-7882  
Mrs. Marie D. Eldridge, Administrator Established: 1965

Center is a component of the Office of Educational Research and Improvement, Department of Education. Staff includes 89 research and 20 supporting professionals, 18 technicians, and 64 others.

NCES collects statistics on the condition of education in the United States, analyzes and reports the meaning and significance of these statistics, and assists States and local education agencies in improving their statistical systems. In recent years, NCES' responsibilities have been increased by mandated studies from the Congress. These studies include developing and implementing a national vocational education data system, conducting a continuing survey of the supply and demand for educational personnel, producing profiles on the degree to which States are achieving equalization of resources for elementary and secondary education, and coordinating education data acquisition activities of all Federal agencies. NCES supports a wide range of activities to: provide policy-relevant data on such issues as access of minorities to postsecondary education, impact of Federal programs on the disadvantaged, education and employment, and high school

dropouts; assist State and local education agencies in developing efficient information systems; provide comprehensive information services to the education community and the public; and reduce paperwork burden in education imposed by Federal agencies.

Center issues more than 200 publications, including annual *CONDITION OF EDUCATION*, *DIGEST OF EDUCATION STATISTICS*, and *PROJECTIONS OF EDUCATION STATISTICS*. A library is maintained; Helen Tashjian, Librarian.

★ 1163 ★  
NATIONAL CENTER FOR HIGHER EDUCATION MANAGEMENT SYSTEMS (NCHEMS)  
P. O. Drawer P  
Boulder, CO 80302  
Dr. Ben Lawrence, Executive Director Phone: (303) 447-1980

Center is an independent, non-profit organization supported primarily by Department of Education funds.

Mission of NCHEMS is to improve planning and management in postsecondary education. Center engages in research and development programs designed to help college administrators more effectively discharge their planning and management responsibilities. (NCHEMS is the nation's only organization pursuing comprehensive programs of research and development in this field.)

Center issues numerous publications, including NCHEMS NEWSLETTER.

Remarks: For further description of Center's relationship to the Department of Education, see separate entry in this issue on the National Institute of Education.

★ 1164 ★  
NATIONAL CENTER FOR THE PREVENTION AND CONTROL OF RAPE  
National Institute of Mental Health  
5600 Fishers Ln.  
Rockville, MD 20857  
Dr. Mary Lystod, Chief

Center is a component of the Division of Special Mental Health Programs; National Institute of Mental Health (NIMH); Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; Department of Health and Human Services.

Center is a focal point within NIMH for research, training, and information activities related to sexual assault. Center supports basic and applied research on relevant social policies and laws and their impact on rape; methodologies to generate improved data about the actual incidence of sexual assault; social, cultural, and economic factors that may be related to sexual assault and other acts of violence; studies of vulnerable populations such as the handicapped, children, or the elderly; and the immediate and long-term psychological effects of rape. Research and demonstration grants are supported to implement, test, and evaluate new programs, methods, and treatment techniques; assess needs in current programs; and improve systems of mental health and medical treatment and legal and social services to rape victims and their families. Research is also supported to plan, implement, and evaluate prevention, treatment, and rehabilitation methods for offenders. Center also encourages community mental health centers to develop, test, and evaluate models of consultation and education services with regard to the prevention of rape and treatment of victims and offenders.

Center has established a National Rape Information Clearinghouse (NRIC) to develop, compile, and disseminate information on the problem of rape to both the general public and the professional community. NRIC provides computer services, information, and referrals in addition to educational and training materials regarding sexual assault.

Remarks: Center is one of five in the Division of Special Mental Health Programs. See Agency Index for listings of the other Centers, the Division, and the NIMH.

## ★ 1165 ★

NATIONAL CENTER FOR RESEARCH IN VOCATIONAL EDUCATION  
Ohio State University  
1960 Kenny Rd.  
Columbus, OH 43210 Phone: (614) 486-3655  
Dr. Robert E. Taylor, Executive Director Established: 1965

Center is an independent, non-profit organization which operates as a university-based unit and is supported primarily by Department of Education funds. Staff includes 165 research and 85 supporting professionals, 54 technicians, and 54 others.

Mission of the National Center is to increase the ability of diverse agencies, institutions, and organizations to solve educational problems relating to individual career planning, preparation, and progression. Center fulfills its mission by: generating knowledge through research; developing educational programs and products; evaluating individual program needs and outcomes; operating information systems and services; and conducting leadership development and training programs.

Research results are published as research reports and journal articles. Center issues numerous publications and sponsors various seminars. Library holds 46,000 volumes on subjects related to Center's fields of interest; Meg Trauner, Librarian.

Remarks: For further description of Center's relationship to the Department of Education, see separate entry in this issue on the National Institute of Education.

## ★ 1166 ★

NATIONAL CLEARINGHOUSE FOR DRUG ABUSE INFORMATION  
5600 Fishers Ln.  
Rockville, MD 20857 Phone: (301) 443-6500

Clearinghouse is a component of the National Institute on Drug Abuse (NIDA); Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; Department of Health and Human Services.

Clearinghouse functions as the information center for the National Institute on Drug Abuse, answering questions from the general public and scientific community on drug abuse, its effects, how it occurs, how it is treated, and how it can be prevented. Clearinghouse publishes general information, research information, and training information, as well as other materials related to drug abuse, and provides research services. All Clearinghouse services and publications are free to the public.

Clearinghouse operates the NIDA Resource Center, which has over 7500 titles on topics from drug chromatography to decisionmaking, professional journals and magazines relevant to the drug abuse field, and an extensive collection of educational films. All materials are made available through interlibrary loan.

Remarks: Clearinghouse also operates the Drug Abuse Communications Network (DRACON), an outreach service that supports drug information centers nationwide.

## ★ 1167 ★

NATIONAL COTTON PATHOLOGY RESEARCH LABORATORY  
P. O. Drawer JF  
College Station, TX 77840  
Alois A. Bell, Director

Laboratory is a component of Agricultural Research - Southern Region, Science and Education Administration, Department of Agriculture. Staff includes 8 research professionals.

Laboratory's program involves: 1) development of new sources of disease resistance; 2) biochemical elucidation of disease and pest resistance in cotton; 3) elucidation of life cycles, genetics, and biochemistry of pathogens; and 4) development of improved methods for biological control of

disease. In addition, cooperative studies are conducted to determine the causative agent of byssinosis. These studies include the fractionation of cotton dust extracts; identification and synthesis of possible causatives; and development of breeding lines with lower levels of causatives.

## ★ 1168 ★

NATIONAL COUNCIL ON EDUCATIONAL RESEARCH (NCER)  
1200 19th St., N. W.  
Washington, DC 20208

Council is a component of the National Institute of Education (NIE), Office of Educational Research and Improvement, Department of Education.

NCER is made up of 15 members appointed by the President and confirmed by the Senate. Council's function is to establish policy for the National Institute of Education, which supports programs for educational research. See separate entry in this issue for a more detailed description of NIE.

## ★ 1169 ★

NATIONAL ENGINEERING LABORATORY (NEL)  
National Bureau of Standards  
Gaithersburg, MD  
(Mailing address: Washington, DC 20234)  
Dr. John W. Lyons, Director Phone: (301) 921-3434

Laboratory is a major component of the National Bureau of Standards, Department of Commerce.

NEL provides improved technology and technical services by developing engineering measurements and data; test methods and proposed engineering standards and code changes; and new engineering practices. Laboratory conducts research in engineering and applied sciences and builds and maintains competences in the scientific disciplines required to carry out this research.

Remarks: Laboratory is organized into nine major units: 1) Center for Applied Mathematics; 2) Center for Electronics and Electrical Engineering; 3) Center for Mechanical Engineering and Process Technology; 4) Center for Building Technology; 5) Center for Fire Research; 6) Center for Consumer Product Technology; 7) Continuous Process Technology Program; 8) Office of Engineering Standards; and 9) Office of Energy Programs. See Agency Index for reference to listings of these components and their sub-units in GRCD Issues 1-3.

## ★ 1170 ★

NATIONAL EYE INSTITUTE (NEI)  
National Institutes of Health, Bldg. 31  
9000 Rockville Pike  
Bethesda, MD 20205 Phone: (301) 496-2234  
Dr. Carl Kupfer, Director Established: 1968

Institute is a component of the National Institutes of Health, Public Health Service, Department of Health and Human Services. Staff includes 126 professionals and 74 support personnel.

NEI has primary responsibility within the Federal Government for supporting and conducting research aimed at improving prevention, diagnosis, and treatment of visual disorders. Specifically, Institute: 1) supports research and research training through grants, fellowships, and contracts to medical schools and research institutions; 2) conducts laboratory and clinical research in its own facilities, and fosters statistical and epidemiological studies of visual disorders in human populations; 3) fosters research on rehabilitation of the visually handicapped; 4) encourages the application of research findings to clinical practice; 5) heightens public awareness of

vision problems; and 6) cooperates with voluntary organizations which engage in related activities.

Research findings are submitted by individual investigators to scientific journals for publication. NEI publishes ANNUAL REPORT which summarizes research accomplishments; a PLANNING REPORT is published every five years (next due in 1983). NEI sponsors weekly Grand Rounds meeting and a monthly Neuro-Ophthalmology Seminar, both of which are open to all interested parties.

Remarks: For further information on the Institute, see separate entries in this issue for NEI's Extramural and Collaborative Programs and Intramural Research Program.

★ 1171 ★

NATIONAL FISH AND WILDLIFE LABORATORY  
National Museum of Natural History  
Washington, DC 20560

(See Issue 1, entry #250, for description.)

UPDATE: This Laboratory is now part of the Denver Wildlife Research Center (see Issue 1, entry #89 for description).

★ 1172 ★

NATIONAL INSTITUTE ON ALCOHOL ABUSE AND  
ALCOHOLISM (NIAA)  
5600 Fishers Ln.  
Rockville, MD 20857  
John R. DeLuca, Director

Institute is a component of the Alcohol, Drug Abuse, and Mental Health Administration, Public Health Service, Department of Health and Human Services. Research staff totals approximately 100.

NIAA provides leadership, policies, and goals for the Federal effort in the prevention, control, and treatment of alcohol abuse and alcoholism and the rehabilitation of affected individuals. As part of this mission, NIAA conducts and supports research to develop new knowledge to reduce the incidence and prevalence of alcohol abuse and alcoholism and to reduce the morbidity and mortality associated with alcohol use, alcohol abuse, and alcoholism. Research in support of these goals is carried out through: 1) extramural support of regular and center grants and contracts and 2) intramural research studies conducted directly by the Institute. (For further description of NIAA research activities, see separate entries in this issue on the Institute's Division of Extramural Research and Division of Intramural Research.)

Remarks: At the time of this writing, reorganization of NIAA had been proposed. It was not clear whether the possibility of subsequent structural changes would affect the research Divisions.

★ 1173 ★

NATIONAL INSTITUTE ON DRUG ABUSE (NIDA)  
5600 Fishers Ln.  
Rockville, MD 20857  
William Pollin, Director

Established: 1972

NIDA is a component of the Alcohol, Drug Abuse, and Mental Health Administration, Public Health Service, Department of Health and Human Services.

Institute has primary responsibility for the initiation, development, and

execution of a comprehensive research and development program aimed at reducing the prevalence of drug abuse and its cost to society and to the individual. Research is directed at inquiry into the basic biological, behavioral, clinical, chemical, and psychosocial factors involved in drug abuse and the practical application of the knowledge developed from such basic research. Goals of applied research focus on a better understanding of the hazards, etiology, treatment, prevention, and epidemiology of drug abuse. NIDA's research programs are accomplished in-house at the Addiction Research Center in Baltimore, MD (see separate entry in this issue) and through the award of grants. (For further information on NIDA's research grants program, see entry on Research Division in GRCD Issue 2, entry #809.)

Research results are disseminated, in part, through the National Clearinghouse for Drug Abuse Information (see separate entry in this issue). NIDA conducts technical reviews and conferences to assist in determining research priorities. Institute also uses the Research Analysis Utilization System (RAUS) to analyze research progress in specific subject areas, the Drug Abuse Research Projects Information System (DARPISS) to track research progress reports, the National Survey of Drug Use to collect drug use trend information, and other epidemiological surveys to assist in planning research programs.

Remarks: In addition to its research program, Institute has major programs in: 1) treatment and rehabilitation (see entry on NIDA's Services Research Branch elsewhere in this issue); 2) training clinicians, teachers, and researchers; 3) prevention and education; and 4) numerous support projects.

★ 1174 ★

NATIONAL INSTITUTE OF EDUCATION (NIE)  
1200 19th St., N. W.  
Washington, DC 20208  
Michael Timpane, Director

Phone: (202) 254-5750

Institute is a component of the Office of Educational Research and Improvement, Department of Education.

NIE's mission is to promote educational equity and to improve the quality of educational practice. In carrying out this mission, NIE supports research and dissemination activities that will help individuals (regardless of race, sex, age, economic status, ethnic origin, or handicapping condition) realize their full potential through education. Support for research is organized in three main program areas: 1) Teaching and Learning; 2) Educational Policy and Organization; and 3) Dissemination and Improvement of Practice. (See separate entries in this issue for individual descriptions of these three programs.) In addition, NIE provides support for, and monitors the activities of, a number of independent educational research laboratories and centers located throughout the U. S. Although these laboratories and centers are administered independently and are not, strictly speaking, Government research centers, many of them were created by Federal legislation in the 1960's, and all are affiliated, to some extent, with the Department of Education. Those which have been described individually elsewhere in this issue are: Appalachia Educational Laboratory, Charleston, WV; Northwest Regional Educational Laboratory, Portland, OR; Far West Laboratory for Educational Research and Development, San Francisco, CA; Southwest Educational Development Laboratory, Austin, TX; CEMREL, Inc., St. Louis, MO; Research for Better Schools, Inc., Philadelphia, PA; SWRL Educational Research and Development, Los Alamitos, CA; Center for the Study of Evaluation, Los Angeles, CA; Research and Development Center for Teacher Education, Austin, TX; Institute for Research on Educational Finance and Governance, Stanford, CA; Learning Research and Development Center, Pittsburgh, PA; Center for Educational Policy and Management, Eugene, OR; Center for Social Organization of Schools, Baltimore, MD; Wisconsin Research and Development Center for Individualized Schooling, Madison, WI; National Center for Research in Vocational Education, Columbus, OH; and National Center for Higher Education Management Systems, Boulder, CO.

Remarks: NIE publishes requests for proposals for research to be performed under contract in the Commerce Business Daily. Grants competitions are announced in the Federal Register.

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## ★ 1175 ★

## NATIONAL INSTITUTE OF HANDICAPPED RESEARCH (NIHR)

330 C St., S. W.

Washington, DC 20202

Dr. Margaret J. Giannini, Director

Phone: (202) 245-0565

Established: 1979

Institute is a component of the Office of Special Education and Rehabilitative Services, Department of Education. Staff includes 12 research professionals, 8 supporting professionals, and 12 others.

NIHR provides grants and contracts for the support of research and utilization to improve the lives of people of all ages with physical and mental handicaps, especially the severely disabled, through: 1) identifying and eliminating causes and consequences of disability; 2) maximizing the physical and emotional status of handicapped persons, their functional ability, self-sufficiency, self-development, and personal autonomy; 3) preventing or minimizing personal and family, physical, mental, social, educational, vocational, and economic effects of disability; and 4) reducing and eliminating physical, social, educational, vocational, and environmental barriers to permit access to service and assistance, and to use their abilities in daily life.

Institute sponsors THE INFORMER, which is published quarterly at the University of Arkansas. Annual meeting of Institute's Research and Training Centers is held the second week in May; Institute also sponsors Inter-agency Conference on Rehabilitation Engineering during the first week in August. Library is maintained by the National Rehabilitation Information Center, Catholic University, 8th and Varnum Sts., N. E., Washington, DC 20264.

Remarks: Institute's program for handicapped research was actually begun in 1954; the Institute itself was established in 1979 in conjunction with the establishment of the Department of Education.

## ★ 1176 ★

## NATIONAL INSTITUTE OF MENTAL HEALTH (NIMH)

5600 Fishers Ln.

Rockville, MD 20857

Dr. Herbert Pardes, Director

Established: 1948

Institute is a component of the Alcohol, Drug Abuse, and Mental Health Administration, Public Health Service, Department of Health and Human Services.

NIMH conducts and supports research into the etiology, treatment, and prevention of mental and emotional illnesses, and research on many public health problems related to mental health. In-house research is carried out through the Mental Health Intramural Research Program (see GRCD Issue 2, entry #655, for description). In addition, the broad spectrum of biological, genetic, psychological, social, and environmental factors which affect and shape mental health and mental illnesses are studied through NIMH-supported research in hospitals, universities, mental health centers, and community settings. Support is provided in the form of extramural research grants which are monitored by units in four NIMH Divisions: 1) Division of Extramural Research Programs; 2) Division of Special Mental Health Programs; 3) Division of Biometry and Epidemiology; and 4) Division of Mental Health Service Programs. (See separate entries in this issue for descriptions of the four Divisions.)

The Institute's Division of Scientific and Public Information plans and directs the acquisition and dissemination of scientific and technical information related to mental health. This includes preparation of reports and other scientific information materials, as well as development of public information materials. Division also maintains the National Clearinghouse for Mental Health Information, which collects, stores, and retrieves mental health and illness information for dissemination to the lay public, clinicians, and the scientific community.

## ★ 1177 ★

## NATIONAL INSTITUTES OF HEALTH (NIH)

9000 Rockville Pike

Bethesda, MD 20205

Dr. Donald S. Fredrickson, Director

Parent agency is Public Health Service, Department of Health and Human

Services. Staff (at Bethesda and at field sites) totals approximately 14,000.

NIH is the principal medical research arm of the Federal Government, with a mission to improve the health of the nation by increasing understanding of the processes underlying human health and by acquiring new knowledge to help prevent, detect, diagnose, and treat disease. NIH accomplishes this mission by: 1) supporting research in universities, medical schools, hospitals, and research institutions in this country and abroad; 2) conducting research in its own laboratories and clinics; 3) supporting training for promising young researchers; 4) helping to develop and maintain research resources; 5) identifying research findings which can be applied to the care of patients and helping to transfer such advances to the health care system; 6) promoting effective ways to communicate biomedical information to scientists, health practitioners, and the public; and 7) developing and recommending policies related to the conduct and support of biomedical research. To carry out these functions, NIH is organized into eleven research Institutes (National Cancer Institute; National Heart, Lung, and Blood Institute; National Institute of Arthritis, Metabolism, and Digestive Diseases; National Institute of Allergy and Infectious Diseases; National Institute of Child Health and Human Development; National Institute of Dental Research; National Institute of Environmental Health Sciences; National Institute of General Medical Sciences; National Institute of Neurological and Communicative Disorders and Stroke; National Eye Institute; and National Institute on Aging), four Divisions, the National Library of Medicine, the Clinical Center, and the Fogarty International Center. (Consult indexes for specific listings of NIH components in GRCD Issues 1-3.)

NIH sponsors International Symposia on Biomedical Research and co-sponsors the Symposium on Recent Developments in Research Methods and Instrumentation.

Remarks: Over the years, NIH has supported the work of 70 scientists who have been awarded the Nobel Prize. Four Nobelists are also at work at NIH.

## ★ 1178 ★

## NATIONAL MAPPING DIVISION

Geological Survey National Center

12201 Sunrise Valley Dr.

Reston, VA 22092

Rupert B. Southard, Chief

Phone: (703) 860-6231

Division is part of the Geological Survey, Department of the Interior.

Division conducts the National Mapping Program, which involves: 1) quadrangle mapping and revision; 2) digital mapping; 3) small-scale and special mapping; and 4) research, development, and modernization of mapping.

The National Cartographic Information Center (NCIC), a component of the National Mapping Program, acquires and disseminates information about the Nation's maps, charts, aerial and space photographs, geodetic control, digital cartographic information, and other related cartographic data. NCIC also provides research services to assist in providing cartographic information for customers.

Remarks: The National Mapping Division is headquartered at the Geological Survey's National Center in Reston, VA. Mapping activities are carried out by four mapping centers: Eastern Mapping Center, Reston, VA; Mid-Continent Mapping Center, Rolla, MO; Rocky Mountain Mapping Center, Denver, CO; and Western Mapping Center, Menlo Park, CA. NCIC maintains offices at these and other Geological Survey locations. For further description of the Survey, see separate entry in this issue.

## ★ 1179 ★

## NATIONAL MARITIME RESEARCH CENTER

Steamboat Rd.

Kings Point, NY 11024

Stanley D. Wheatley, Director

Phone: (516) 482-8200

Established: 1971

Center is part of the Maritime Administration, Department of Commerce. Staff includes 4 research professionals and 3 others.

Center activities involve research projects (conducted primarily through contracts) related to ship systems and their operations. Principal areas of research include human factors in ship operation; shipboard instrumentation; and ships' systems analysis. Projects are conducted both on and off site.

Results are published as research and technical reports. Computer Aided Operations Research Facility (CAORF) Symposium is held annually in September or October (open to Government and Industry). Library holds 10,000 volumes on ships, ports, and marine systems; Raymo Feldman, Librarian.

Remarks: Center activities are related to those of the Maritime Administration's Office of Commercial Development (see GRCD Issue 2, entry #753; also see separate entry in this issue for description of Center's Computer Aided Operations Research Facility).

★ 1180 ★

NATIONAL MUSEUM OF NATURAL HISTORY

10th St. and Constitution Ave., N. W.

Washington, DC 20560

Richard S. Fiske, Director

Phone: (202) 357-2644

Parent organization is the Smithsonian Institution. Research staff totals more than 100.

Museum's organization reflects its interest in all aspects of the natural sciences, with Departments of Anthropology, Botany, Entomology, Invertebrate Zoology, Mineral Sciences, Paleobiology, and Vertebrate Zoology. Most of the research conducted in the various Departments is collections based, but Museum programs also include field observation and refined laboratory techniques. In addition to describing natural history objects and phenomena, investigations are also concerned with the present and historical relationships of organisms, both phylogenetic and environmental. Research is conducted by Museum staff, research associates, students, and visitors.

Research results are published in the Smithsonian scientific series; as floras, faunas, monographs, checklists, and catalogs; and in treatises on population dynamics in relation to the systematics of selected groups.

Remarks: Museum's scientific staff provides identification of organisms, rocks, minerals, and extraterrestrial particles as time and interest permit. Staff also develops and maintains the national collections of natural history objects for use by scientists everywhere. For further information on Museum's research activities, see separate entries for each Department, described individually in this issue.

★ 1181 ★

NATIONAL VETERINARY SERVICES LABORATORY (NVSL)

P. O. Box 844

Ames, IA 50010

Dr. Kenneth R. Hook, Director

Phone: (515) 232-0250

Established: 1973

NVSL is a component of Veterinary Services, Animal and Plant Health Inspection Service (APHIS), Department of Agriculture. Staff includes 90 professionals, 125 technicians, and 40 others.

The six laboratory units which comprise NVSL engage in the evaluation of veterinary biologics and the diagnosis of animal diseases. Specifically: 1) the Biologics Bacteriology Laboratory tests selected samples of biologicals of bacteriological origin for efficacy, potency, safety, and purity and develops improved testing methods; 2) the Biologics Virology Laboratory monitors viral vaccines, conducts tests on new products prior to licensure, and develops new or improved test methods; 3) the Diagnostic Bacteriology Laboratory isolates and identifies bacterial forms pathogenic for animal species, conducts serologic examinations that will indicate exposure to diseases of bacterial etiology, provides support for the national tuberculosis and brucellosis eradication programs, serves as the reference center for serotyping *Salmonella* spp., *E. coli*, and *Pasteurella multocida* from animal sources, conducts import and export tests, assists State, Federal, and industry laboratories in diagnosis of bacterial diseases, and performs developmental studies to provide new or improved diagnostic tests; 4) the

Diagnostic Pathology, Toxicology, and Parasitology Laboratory provides services to support the official animal disease eradication programs and serves as the APHIS reference histopathologic laboratory and the APHIS reference center for taxonomic classification of ticks, scabies mites, and screwworms encountered in APHIS eradication programs; 5) the Diagnostic Virology Laboratory assists APHIS Veterinary Services by isolating and identifying viruses and by detecting serum antibodies produced by viral infection, conducts developmental studies in diagnostic veterinary medicine, and engages in problem solving related to viral disease control and eradication; and 6) the Scientific Services Laboratory provides scientific and technical support to animal health programs, the biologics industry, and the biologics and diagnostic programs of NVSL.

Results from developmental work and from evaluation and testing activities are published in primary journals and as proceedings. NVSL publishes DIAGNOSTIC REFERENCE MANUAL (irregular) and DIRECTORY OF ANIMAL DISEASE DIAGNOSTIC LABORATORIES (biannual).

★ 1182 ★

NAVAL AIR ENGINEERING CENTER

Lakehurst, NJ 08733

Capt. R. D. Fritchenicht, Commanding Officer

Phone: (201) 323-2620

Established: 1917

Center is a component of the Naval Air Systems Command, Naval Material Command, Chief of Naval Operations, Department of the Navy. Staff includes 340 research professionals, 350 supporting professionals, 505 technicians, and 500 others.

Center conducts research, development, test, and evaluation, including exploratory, advanced, and engineering development, on aircraft and shipboard interface systems. This includes aircraft/shipboard launch and recovery systems (flight deck systems); support equipment; and visual landing aids.

Results are published as research reports and as proceedings. Library holds 6000 books and 50,000 reports in all areas of engineering; Ms. D. J. Swan, Librarian.

★ 1183 ★

NAVAL AIR PROPULSION CENTER (NAVAIRPROPCEN)

Trenton, NJ 08628

Capt. Bruce T. Allgood, Commanding Officer

Phone: (609) 896-5613

Center is a component of the Naval Air Systems Command, Naval Material Command, Chief of Naval Operations, Department of the Navy. Staff includes 156 professionals, 40 technicians, and 387 others.

Center's mission is to provide complete technical and engineering support for Naval air-breathing propulsion systems, including their accessories, components, fuels, and lubricants. Activities primarily focus on test (field and laboratory) and evaluation, but Center also participates in the formulation and implementation of research, exploratory, and advanced development propulsion programs for the Navy.

Results are published as technical reports. Library holds 10,000 volumes on all subjects related to air-breathing propulsion systems.

Remarks: Center maintains an Outdoor Test Facility at the Naval Air Engineering Center in Lakehurst, NJ.

★ 1184 ★

NAVAIR SYSTEMS COMMAND (NAVAIRSYSCOM)

Washington, DC 20361

Vice Admiral Ernest R. Seymour, Commander

Phone: (202) 692-8373

Established: 1966

NAVAIRSYSCOM is a subordinate command of the Naval Material Command, which is organizationally assigned to the Chief of Naval Operations,

Department of the Navy. Technical staff includes 35,985 field personnel and 219 headquarters personnel, as well as 1920 support and management employees.

Command is responsible for material development and logistic support for the Navy's aircraft, helicopters, missiles, airborne electronics, air-launched ordnance, guns, engines, related ground support equipment, and photographic and meteorological equipment. Command functions include product design, research and development, and disposal of equipment after it has completed its useful life.

Remarks: See Agency Index for listings of Command components included in GRCD Issues 1-3.

★ 1185 ★

NAVAL AIR TEST CENTER (NAVAIRTESTCENT)

Naval Air Station

Patuxent, MD 20670

Phone: (301) 863-3000

Rear Admiral John G. Wissler, Commander Established: 1947

Center is a component of Naval Air Systems Command, Naval Material Command, Chief of Naval Operations, Department of the Navy. Staff (civilian and military) includes 50 research professionals, 550 supporting professionals, 2500 technicians, and 1825 others.

Center's mission is to: 1) conduct test and evaluation of aircraft, aircraft weapons systems, and their components for the Naval Air Systems Command; 2) to support a principal site for development of contractor aircraft; 3) to support research, development, and training in test techniques, instrumentation, and test facilities; and 4) to host tenant activities at the Center. Principal fields of research activity are data reduction, real-time telemetry, stimulation, simulation, distributed data processing, and communications, all as related to aircraft test and evaluation.

Results are published as technical bulletins (irregular). Center publishes quarterly TEST TALK and sponsors annual Advanced Aircrew Display Symposium (open) and monthly Society of Engineers and Scientists meeting.

★ 1186 ★

NAVAL COASTAL SYSTEMS CENTER (NCSC)

Panama City, FL 32407

Capt. Raymond D. Bennet, Commanding Officer

Phone: (904) 234-4420

Established: 1945

Center is a component of the Naval Material Command; the Chief of Naval Material reports to the Chief of Naval Operations, Department of the Navy.

NCSC is the principal Navy activity for conducting research, development, test, and evaluation in support of naval missions and operations that take place primarily in the coastal (continental shelf) regions. Center maintains in-house research and development capability in: 1) diving and salvage; 2) mine countermeasures; 3) acoustic warfare; and 4) coastal operations support (e.g., coastal and inshore defense, amphibious operations, and marine corps operations). In support of these programs, Center maintains special technical expertise in coastal technology, advance craft test and evaluation, and coastal systems test and evaluation. Center also hosts several tenant activities, including the Navy Experimental Diving Unit, the Amphibious Assault Landing Craft/Experimental Trials Unit, and the Naval Diving and Salvage Training Center.

Remarks: Center was originally established as the U. S. Navy Mine Countermeasures Station in 1945. Since that time it has undergone several changes: it was renamed the U. S. Navy Mine Defense Laboratory in 1955; the Naval Ship Research and Development Laboratory, Panama City, in 1968; and the Naval Coastal Systems Laboratory in 1972. In 1978 it became the Naval Coastal Systems Center.

★ 1187 ★

NAVAL ELECTRONIC SYSTEMS COMMAND (NAVELEX)

Washington, DC 20360

NAVELEX is a subordinate command of the Naval Material Command, which is organizationally assigned to the Chief of Naval Operations, Department of the Navy. Staff totals more than 3000.

Command's mission is to provide centralized management of electronics technology and to assure that the operating forces of the Navy obtain the electronics equipment needed for their complex jobs. This includes overseeing electronic equipment from conception through development, production, testing, installation, maintenance, and eventual replacement. The Command's organization includes: 1) the Research and Technology Directorate, which manages NAVELEX programs conducted in Naval laboratories and by industry and research institutions; and 2) the Material Acquisition Directorate, which has responsibility for engineering development, design, acquisition, test and evaluation, and certification of a wide range of electronic systems and hardware for Naval air and communications stations; intelligence, tactical support, command and control, and training centers; and Marine and shipboard facilities. Command also has Project Management Offices charged with developing equipment and systems to meet urgent needs in such areas as electronic warfare, communications, surveillance, navigation, sensors, and space technology.

Remarks: Command also has a Systems Test and Evaluation Detachment, a Security Engineering Center, and a Space Systems Activity.

★ 1188 ★

NAVAL HEALTH RESEARCH CENTER (NHRC)

P. O. Box 85122

San Diego, CA 92138

Capt. Richard H. Rahe, Commanding Officer

Established: 1959

Center is a component of the Naval Medical Research and Development Command, Bureau of Medicine and Surgery, Chief of Naval Operations, Department of the Navy. Staff totals approximately 100.

NHRC conducts research on the medical and psychological aspects of health and performance of Navy service personnel through four main Divisions: 1) Environmental and Social Medicine Division is concerned with the distribution, precipitating factors, and long-term course of major diseases (including psychiatric disorders) in the naval service, as well as with diagnosis, prognosis, and treatment methods; personality assessment and classification; effects of environmental hazards and organizational stresses on physical and mental health and performance effectiveness; and factors that affect the quality and cost of health care services. 2) Stress Medicine Division studies psychological, social, and physiological factors associated with stress to determine positive and negative associations between stress, performance, and health. Groups studied include Navy populations in high-stress occupations (pilots, divers) or in specific high stress situations (recruit training, captivity). Studies which relate stress in these populations to short-term health effects also search for physiological mechanisms which may connect these stress situations with the onset of illness. 3) Environmental Physiology Division conducts research on the effects of various stressors on the response of the human body and, subsequently, on man's performance effectiveness and his health. These stressors include (but are not limited to) factors such as sleep loss, temperature extremes, cold-water immersions, noise, hypo- and hyperbaric conditions, isolation, monotony, and fatigue. 4) Biological Sciences Division investigates the biological and physical aspects of Navy environments in relation to health of naval personnel; initiates and supports studies on the effects of stress on changes in biochemical, immunological, and microbiological parameters which influence health patterns; and develops new methods and techniques for microbial identification.

Research results are published in primary journals and as research reports and proceedings. Center publishes Annual Report.

## ★ 1189 ★

## NAVAL MATERIAL COMMAND

2211 Jefferson Davis Hwy.  
Arlington, VA  
(Mailing address: Washington, DC 20360)  
Admiral Wilfred Whittle, Jr., Chief of  
Naval Material

The Chief of Naval Material reports to the Chief of Naval Operations, Department of the Navy.

The Naval Material Command supports the operating forces of the Navy and Marine Corps through several major subordinate commands and through its research and development laboratories and centers. These centers and laboratories conduct programs in warfare analysis, research and development, test and evaluation, systems integration, and fleet engineering support for naval warfare systems and equipment, as well as investigating related science and technology. Principal fields of research include air, ships, ordnance, weapons, electronics, civil engineering, and underwater systems.

Remarks: See Agency Index for research components of the Naval Material Command included in GRCD Issues 1-3.

## ★ 1190 ★

## NAVAL RESEARCH LABORATORY (NRL)

Washington, DC 20375  
Capt. E. E. Henifin, Commanding Officer/  
Dr. Alan Berman, Director of Research Established: 1923

Parent agency is Office of Naval Research; the Chief of Naval Research reports to the Assistant Secretary (Research, Engineering, and Systems), Department of the Navy. Staff totals approximately 105 military and 3185 civilian personnel.

NRL is the "Corporate Laboratory of the Navy." Its mission is to conduct a broadly based multidisciplinary program of scientific research and advanced technological development directed toward new and improved materials, equipment, techniques, systems, and related operational procedures for the Navy. Current activities include research in communications, countermeasures, device technology, directed energy devices, energy conversion, environmental effects, hydrodynamics, materials, navigation, radiation technology, sensor systems, sonar standards, surveillance systems, undersea technology, and weapons guidance.

Research results are published as journal articles, research reports, and proceedings. NRL publishes REVIEW and FACT BOOK.

Remarks: Laboratory's internal structure consists of several staffs and five Directorates: 1) Technical Services Directorate, 2) General Science and Technology Directorate, 3) Systems Research and Technology Directorate, 4) Material Science and Component Technology Directorate, and 5) Space and Communications Technology Directorate. See separate entries in this issue for descriptions of each Directorate.

## ★ 1191 ★

## NAVAL SHIP WEAPON SYSTEMS ENGINEERING STATION (NSWSES)

Naval Construction Battalion Center  
Port Hueneme, CA 93043 Phone: (805) 982-5356  
Capt. T. R. Mathis, Commanding Officer Established: 1963

Station is a component of the Naval Sea Systems Command, a subordinate command of the Naval Material Command. The Chief of Naval Material reports to the Chief of Naval Operations, Department of the Navy. Staff includes 548 research and 316 supporting professionals, 349 technicians, and 506 others.

Primary mission is to provide in-service engineering support to the Fleet in order to ensure operational readiness of assigned weapon systems. Station

generates, tracks, and maintains data on weapons performance, weapon systems, and components. These functions, as well as the collection of related data, are carried out aboard Surface Missile System ships, at the Station's missile-radar-computer test site, and at the NSWSES plant itself. Research and development of systems and components are usually part of an ongoing product improvement concept.

Research results are usually classified. Station publishes a weekly newspaper (INTERFACE) and an annual report. A three-day Annual Management Planning Retreat is held in late spring for invited members of top management and certain special-interest personnel. Library of 800,000 titles and 2.5 million engineering drawings is maintained; Marilyn M. Essich, Supervisory EAM Project Planner.

Remarks: Units affiliated with the Station include an NSWSES Detachment at Norfolk, VA, and Naval Sea Support Centers for the Atlantic and the Pacific. (Station acronym is pronounced "Nemesis.")

## ★ 1192 ★

## NAVAL SUBMARINE MEDICAL RESEARCH LABORATORY (NSMRL)

Submarine Base  
Groton, CT 06340  
Capt. R. A. Morgulies, Commanding  
Officer Established: 1942

Laboratory is a component of the Naval Medical Research and Development Command, Bureau of Medicine and Surgery, Office of the Chief of Naval Operations, Department of the Navy. Staff includes approximately 44 professionals.

NSMRL is the Navy's principal in-house biomedical research center for studies in submarine medicine. Laboratory also has extensive programs in diving medicine (including projects specifically designed to provide data for submarine rescue operations) and in sonar, and is the Navy's lead laboratory for cold weather medical research in support of amphibious operations. Emphasis is on medical research of the submarine environment, both for existing and future classes of submarines. Specific areas of study include: 1) visual and auditory requirements and measures of performance for operators of sonar systems; 2) human information processing in submarine man-machine systems; 3) a computer-based medical information/diagnostic system to assist the corpsman aboard submarines; and 4) health and longevity in relation to length of occupational exposure to the Naval submarine environment, including studies on cardiorespiratory fitness, thermal stress limits, and shallow saturation air diving. Performance in the cold, particularly as it affects the Marine Corps mission, is also a major project area. Laboratory comprises research departments of Environmental Medicine (including divisions in diving research, submarine research, and epidemiology), Physiology, Biochemistry, Auditory, Vision, Human Factors, and Psychology.

Research results are published as research reports, as journal articles, and in NSMRL REPORTS. Laboratory has one of the most complete libraries of submarine and diving information in the world, including 8500 books and bound volumes of journals, 5700 documents, and 185 journal subscriptions.

Remarks: See Agency Index for listings of other Naval Medical Research and Development Command components included in GRCD Issues 1-3.

## ★ 1193 ★

## NAVAL SURFACE WEAPONS CENTER (NSWC)

Dahlgren Laboratory  
Dahlgren, MD 22448 Phone: (703) 663-8154  
Capt. Paul L. Anderson, Commander Established: 1974

Center is a component of the Naval Material Command; the Chief of Naval Material reports to the Chief of Naval Operations, Department of the Navy. Staff includes 2037 research professionals, 932 supporting professionals, 703 technicians, and 794 others.

NSWC is located at Dahlgren, VA and at White Oak, MD (see "Remarks")

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below). It is the Navy's principal research, development, test, and evaluation center for: 1) surface ship weapons systems, 2) ordnance, 3) mines, and 4) strategic systems support. To carry out its mission, NSWC performs warfare analysis, research, design, development, test and evaluation, systems integration, and fleet engineering services. The Center's programs in surface ship weapons systems involve development of weapons and combat systems which cover all aspects of offensive and defensive surface warfare. Programs in ordnance and ordnance technology involve warhead design and related development, as well as development of infrared and laser-guided projectiles and fuzing for gun-fired projectiles. Principal fields of ordnance research at NSWC include directed energy systems, electrochemical power sources, hydrodynamics, aerodynamics, metallic and nonmetallic materials, propellants, electro-optics, electro-magnetics, and nuclear weapons effects. Ordnance programs are supplemented by studies in explosion effects and explosion safety. Center's involvement in mines programs includes serving as lead laboratory for the Navy's Mine Development Program and exploring mine countermeasures and counter-countermeasures. Strategic systems support programs include efforts in geoballistics analysis and fire control software for ballistic missile systems; astronautics; geodesy; and the Strategic Missile Materials Technology program to develop improved thermal/structural materials for re-entry bodies.

Research results are published; Center publishes THIS WEEK and ON THE SURFACE (both weekly). Library is maintained; Dr. J. Marshall Hughes II, Head, Technical Library Division.

Remarks: NSWC was formed in 1974 with the merger of the Naval Weapons Laboratory (established 1918) at Dahlgren, VA and the Naval Ordnance Laboratory (established 1919) at White Oak, MD. (Mailing address for the White Oak Laboratory is Silver Spring, MD 20910.) Major facilities at the Center include the Hypervelocity Tunnel and the NSWC Acoustic Facility (see separate entries in this issue for description).

★ 1194 ★

NAVAL SURFACE WEAPONS CENTER ACOUSTIC FACILITY (NSWCAF)  
White Oak Laboratory  
Silver Spring, MD 20910 Phone: (301) 774-7874

The Acoustic Facility is a component of the Naval Surface Weapons Center (NSWC), Naval Material Command, Chief of Naval Operations, Department of the Navy.

Facility is located on the Triadelphia Lake. The NSWCAF barge (located about 200 feet from shore where the water is 45 to 60 feet deep) houses a test well, calibration instrumentation, bench space, and storage areas. Facility is instrumented for: 1) precision calibration of projectors/hydrophones, rigid and flexible arrays, and special acoustic devices; and 2) precision measurement of experimental acoustic materials.

Remarks: Arrangements for NSWCAF calibration services can be made by phoning the number given above or by writing to the NSWC Commander, Silver Spring, MD 20910. (See separate entry in this issue for description of NSWC.)

★ 1195 ★

NAVAL WEAPONS CENTER (NWC)  
China Lake, CA 93555  
Capt. W. B. Haff, Commander Phone: (714) 939-9011

Known as the Naval Ordnance Test Station until 1967, Center is a component of the Naval Material Command, Chief of Naval Operations, Department of the Navy. Staff includes 1422 research professionals, 275 supporting professionals, 790 technicians, and 1407 others.

NWC is the Navy's principal research, development, test, and evaluation center for: 1) air warfare systems (except anti-submarine warfare); 2) missile weapons systems; and 3) parachute test and evaluation. Subjects of research include tactical air warfare, missile systems, guidance and control, warheads and explosives, fuzing, propulsion, aircraft systems, and systems software.

Results are published in primary journals, as technical reports, and in NAVAL WEAPONS CENTER TECHNICAL PUBLICATION (TP). Center publishes CURRENT TECHNICAL EVENTS newsletter (irregularly) and annual TECHNICAL HISTORY (classified). Electro-Optical and Radio Frequency Symposia are sponsored in alternate years (October) for Center employees. Library holds approximately 90,000 volumes in electronics, guided missile engineering, chemistry, and physics; Earl LaFon, Head, Library Division.

★ 1196 ★

NAVY PERSONNEL RESEARCH AND DEVELOPMENT CENTER (NPRDC)  
San Diego, CA 92152  
Capt. James F. Kelly, Jr., Commanding  
Officer/James J. Regan, Technical Director Phone: (714) 225-7106  
Established: 1973

Center is organizationally responsible to the Chief of Naval Material; Chief of Naval Operations; Department of the Navy. Principal mission sponsor is the Deputy Chief of Naval Operations for Manpower, Personnel, and Training. Center is guided by a dual executive consisting of the Commanding Officer and the Technical Director, who is the Center's senior civilian and is responsible to the Commanding Officer for the planning and execution of the technical program. Staff includes 158 research professionals, 42 supporting professionals, 15 technicians, and 48 others.

NPRDC represents the principal Navy activity for people-related research and development in the areas of manpower, personnel, education, and training. Center's program is directed at finding ways to improve the selection, classification, training, performance, management, and retention of Navy personnel. Areas of current research interest are: 1) man-machine interface; 2) development and evaluation of training systems; 3) instructional technology; 4) fleet training; 5) managing manpower; 6) managing work; 7) obtaining and assigning people; and 8) retaining people. Specific projects include design of a computerized system that will integrate all personnel processing functions. This Navy Personnel Accessioning System (NPAS) will manage recruiting data nationwide and coordinate the assignment of personnel to school reservations. It will also provide individual recruit counseling and testing at recruiting centers via computer. In addition to these programs in people-related research, Center also conducts human factors and engineering research that contributes to the design of Navy weapons systems.

Research results are published as technical reports available through the Defense Technical Information Center. Library holds 10,000 volumes in psychology, training, and management.

Remarks: NPRDC has evolved from two units for personnel research which were originally established in the early 1950's. In 1968 and 1969 these two units were redesignated, and then in 1973 merged to form a single corporate laboratory with in-depth capability in the behavioral and management sciences.

★ 1197 ★

NEVADA WATER RESOURCES CENTER  
Desert Research Institute  
University of Nevada System  
P. O. Box 60220  
Reno, NV 89506  
Dr. Peter Krenkel, Executive Director Phone: (702) 673-4750

Center is part of a cooperative program between the Office of Water Research and Technology, Department of the Interior; the State of Nevada; and the Desert Research Institute of the University of Nevada System. Staff totals approximately 25.

Center is involved in research on theoretical and practical aspects of groundwater and surface-water hydrology and hydraulics; the legal, institutional, social, and technical parameters of water resources management; and problems of water quality in water supply and pollution control. Center's research activities are supported by two modern analytical water

chemistry laboratories.

Results are published as project completion reports.

Remarks: For a more specific description of the Federal role in the State university water resources institutes program, see entry for Office of Water Research and Technology in GRCD Issue 1 (entry #310).

★ 1198 ★

NEW ENGLAND DIVISION MATERIALS AND WATER QUALITY LABORATORY

U. S. Army Corps of Engineers  
424 Trapelo Rd.  
Waltham, MA 02154  
William F. Lawless, Director

Phone: (617) 894-2400

Parent agency is U. S. Army Corps of Engineers; the Chief of Engineers is administratively responsible to the Chief of Staff, Department of the Army. Staff includes 7 professionals, 8 technicians, and 2 others.

Laboratory is one of several Corps of Engineers quality control and testing laboratories located in selected geographic areas of the U. S. These laboratories perform foundation explorations of soil and rock; analysis of water, wastewater, soil, paint, joint sealant, asphalt, and oil; and physical testing of steel, concrete block, tile, and similar construction materials. They also furnish testing and materials evaluation services in support of the Corps' civil and military projects, and exercise technical supervision over testing done at commercial laboratories and those located in Corps District or project facilities.

★ 1199 ★

NOAA DATA BUOY OFFICE

NSTL Station, MS 39529

(See Issue 1, entry #283, for description.)

UPDATE: Because of reorganization involving the Office of the Assistant Administrator for Research and Development, National Oceanic and Atmospheric Administration (NOAA), the organizational affiliation of the NOAA Data Buoy Office is incorrect as described in the first paragraph of entry #283. Under the present structure, the Data Buoy Office is a component of Ocean Technology and Engineering Services, Office of the Assistant Administrator for Oceanic and Atmospheric Services, National Oceanic and Atmospheric Administration, Department of Commerce.

★ 1200 ★

NORTH APPALACHIAN EXPERIMENTAL WATERSHED

P. O. Box 478  
Coshocton, OH 43812

Established: 1935

Watershed is part of Agricultural Research - North Central Region, Science and Education Administration (SEA), Department of Agriculture, and operates in cooperation with the Ohio Agricultural Research and Development Center (OARDC), Wooster, OH. SEA-AR staff includes 3 research professionals.

Watershed is used to conduct land and water use research and to develop and test better ways of farming the sloping lands characteristic of the area. The site was selected for research because it represented land conditions prevalent in many states in that part of the U. S. and because it was an area of active interest in large-scale flood control, recreation, and water management. The Watershed was a "first of its kind" large-scale watershed hydrology research program in soil and water conservation. Today scientists from SEA-AR continue the research activities and maintain the physical plant, while OARDC personnel manage the field operations involving farming and livestock programs.

Research results are published as technical reports.

★ 1201 ★

NORTH CAROLINA A & T STATE UNIVERSITY COOPERATIVE RESEARCH PROGRAM

Research Administration

Carver Hall

Greensboro, NC 27411

Dr. Howard F. Robinson, Director

Phone: (919) 379-7995

Established: 1965

Supporting agency is Cooperative Research, Science and Education Administration, Department of Agriculture. Staff includes 1 research professional, 2 supporting professionals, 2 technicians, and 1 other.

Unit functions as a coordinating office for research projects in agricultural economics, plant science, agronomy, animal science, and related studies in chemistry and biology.

Results are published as journal articles and as research bulletins.

★ 1202 ★

NORTH CAROLINA AGRICULTURAL RESEARCH SERVICE

P. O. Box 5847

North Carolina State University

Raleigh, NC 27650

Dr. D. F. Bateman, Director

Phone: (919) 737-2718

Called the North Carolina Agricultural Experiment Station until 1979, Service operates in cooperation with Cooperative Research, Science and Education Administration, Department of Agriculture (USDA-SEA-CR); North Carolina State University; and the State of North Carolina. Staff includes 236 research and 408 supporting professionals, 370 technicians, and 243 others.

Service conducts a program of agricultural research which includes research in agricultural engineering; animal science, poultry science, soil science, crop science, food science, and veterinary science; botany, entomology, and zoology; biochemistry, genetics, microbiology, and plant pathology; economics, statistics, and sociology; horticulture; and forest resources.

Results are published in primary journals and as research reports. Service sponsors field days and other meetings, open to all interested parties.

Remarks: Service includes 15 research stations located throughout the State of North Carolina. (See separate entry in this issue for further description of USDA-SEA's Cooperative Research program.)

★ 1203 ★

NORTH DAKOTA WATER RESOURCES RESEARCH INSTITUTE

North Dakota State University

State University Station

Fargo, ND 58102

Dr. Robert Koob, Director

Phone: (701) 237-7765

Institute is part of a cooperative program between the Office of Water Research and Technology, Department of the Interior; the State of North Dakota; and North Dakota State University. Staff includes approximately 15 research and 5 supporting professionals.

Institute conducts research on water and on resources which affect water, including studies on water quality, pollution, evapotranspiration, irrigation, and economic impacts of water development.

Research results are published in primary journals and as bulletins and project reports. A library of water-related materials is maintained.

Remarks: See entry for Office of Water Research and Technology in GRCD Issue 1 (entry #310) for a more specific description of the Federal role in the State university water resources institutes program.

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## ★ 1204 ★

## NORTH PACIFIC DIVISION MATERIALS LABORATORY

U. S. Army Corps of Engineers  
Rt. 2, Box 12A  
Troutdale, OR 97060  
Mr. O. E. Borge, Director

Phone: (503) 665-4166  
Established: 1948

Laboratory is a component of the U. S. Army Corps of Engineers; the Chief of Engineers is administratively responsible to the Chief of Staff of the Army, Department of the Army. Staff includes 6 professionals, 4 technicians, and 1 other.

Primary mission is to provide materials testing services for design and construction of Corps of Engineers civil works projects in the Pacific Northwest and Alaska. This includes studies in soils and rock mechanics; asphaltic and PC concrete mix design; concrete aggregate investigations; mass concrete studies; chemical analysis and testing of construction materials; and oil and water quality analysis.

Results are published in primary journals.

## ★ 1205 ★

## NORTHERN FOREST FIRE LABORATORY

Drawer G  
Missoula, MT 59806

Laboratory is a component of the Intermountain Forest and Range Experiment Station, Forest Service, Department of Agriculture. Staff includes approximately 20 research professionals.

Research work units at the Laboratory are conducting projects on: 1) fire occurrence; 2) fire behavior; 3) fire technology; 4) fire effects and use in the interior west; and 5) synthesizing fire management techniques. In addition, the Fire Effects and Use Research and Development Program is being conducted at the Laboratory.

Research results are published in Intermountain Forest and Range Experiment Station publications.

Remarks: General questions about Laboratory activities should be addressed to: Intermountain Forest and Range Experiment Station, 507 25th St., Ogden, UT 84401. (See separate entry in this issue for description of Station.)

## ★ 1206 ★

## NORTHWEST REGIONAL EDUCATIONAL LABORATORY (NWREL)

710 S. W. Second Ave.  
Portland, OR 97204  
Dr. Robert R. Rauth, Executive Director

Phone: (503) 248-6800  
Established: 1966

Laboratory is an independent, non-profit organization supported largely by Department of Education funds. Staff includes 33 research and 78 supporting professionals, 22 technicians, and 54 others.

Mission of NWREL is to assist education, government, community agencies, business, and labor in improving quality and equality in educational programs and processes by: developing and disseminating effective educational products and procedures; conducting research on educational problems; providing technical assistance in educational problem solving; evaluating effectiveness of educational programs and projects; providing training in educational planning, management, and instruction; and serving as an information resource on effective educational programs and processes.

Research results are published in newsletters and as research reports. Laboratory publishes ANNUAL REPORT and PRODUCTS AND SERVICES CATALOG. Laboratory also sponsors individually scheduled workshops and conferences. Library holds 4000 volumes on education, research, educational change, and evaluation; Maggie Thome, Director, Information Center/Library.

Remarks: For further description of Laboratory's relationship to the Department of Education, see separate entry in this issue on the National Institute of Education.

## ★ 1207 ★

## NOTRE DAME RADIATION LABORATORY

University of Notre Dame  
Notre Dame, IN 46556  
Dr. Robert H. Schuler, Director

Phone: (219) 283-6163

Laboratory is a Department of Energy-owned facility on the campus of the University of Notre Dame, operated by the University for the Office of Energy Research, Department of Energy. Staff totals approximately 90.

Laboratory objectives are: 1) to obtain detailed descriptions of the mechanisms of chemical changes that follow absorption of high energy radiation and light; and 2) to construct predictive models that will be useful in experimental and technological applications where reactions are initiated by radiation chemical and photochemical methods. Experimental approaches include examination of chemical and physical properties of intermediates produced by electron and laser radiation using optical spectroscopic and electron spin resonance methods. Information from these experiments is integrated with studies of the overall chemical effects to provide a description of the details of radiation-produced reactions. Emphasis is on the structure and kinetic behavior of reaction intermediates. The experimental program is coupled with theoretical research.

Research results are published in primary journals and as research reports. A library is maintained; Dr. Alberta Ross, Librarian.

Remarks: Unique facilities of the Notre Dame Radiation Laboratory include a coupled Van de Graaff-ESR spectrometer for studying radiation-produced intermediates, laser apparatus for studies of intermediates produced by visible and ultraviolet light, and computer controlled apparatus for acquisition and processing of optical data.

## ★ 1208 ★

## NUCLEAR MEDICINE LABORATORY

Cincinnati General Hospital  
Cincinnati, OH 45267

Established: 1967

Laboratory is a component of the Division of Electronic Products, Bureau of Radiological Health, Food and Drug Administration, Public Health Service, Department of Health and Human Services.

Laboratory plans, conducts, and supports a program to assure that patients undergoing nuclear medicine procedures receive maximum benefits with a minimum of radiation dosage. As part of this program, Laboratory: 1) assesses radiation doses received from radiopharmaceuticals; 2) develops, evaluates, and promotes clinical procedures, instrumentation, techniques, and radiopharmaceuticals for improved diagnosis and dose reduction; 3) investigates the metabolic and distributional kinetics of radiopharmaceuticals in humans to establish radiation dose parameters; and 4) provides advisory review services for investigational new drugs and new drug applications which involve radiopharmaceuticals. Laboratory includes Sections of Radiopharmaceutical Development, Clinical Studies, Radiation Protection and Administration, and Quality Assurance.

Remarks: Laboratory is located at Cincinnati General Hospital (the major teaching hospital of the University of Cincinnati College of Medicine) and operates in cooperation with the hospital's Radioisotope Laboratory. (See Agency Index for listings of the Bureau of Radiological Health and its other major components included in GRCD Issues 1-3.)

## ★ 1209 ★

## NURSING RESEARCH BRANCH

Health Resources Administration  
3700 East-West Hwy.  
Hyattsville, MD 20782

(See Issue 1, entry #292, for description.)

UPDATE: The Bureau of Health Manpower referred to in the first paragraph of entry #292 is now the Bureau of Health Professions.

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★ 1210 ★  
**OAK RIDGE OPERATIONS OFFICE (OR)**  
 P. O. Box E  
 Oak Ridge, TN 37830

Parent agency is Department of Energy (DOE). Staff totals approximately 675 permanent employees.

OR is responsible for planning, directing, reviewing, and measuring the accomplishments of DOE contractor organizations in the Oak Ridge region. One of DOE's largest and most diversified field offices, OR has responsibility for a broad range of production, research, education, and training activities associated with energy development, demonstration, and application. This includes major programs and projects in uranium enrichment, national defense, energy research and development, education and environment research, and liquefaction demonstration plants. OR is also responsible for the design and construction of new and improved production and research facilities.

Remarks: The major contractor-operated research or research-related organizations for which OR has management responsibilities that are described individually in GRCD Issues 1-3 are: Oak Ridge National Laboratory (Issue 2, entry #746); Oak Ridge Gaseous Diffusion Plant and Y-12 Plant (both included in entry #746); Paducah Gaseous Diffusion Plant (Issue 3; see Index); Oak Ridge Associated Universities (Issue 1, entry #293); and Comparative Animal Research Laboratory (Issue 1, entry #69).

★ 1211 ★  
**OCEAN MARGIN DRILLING PROJECT (OMDP)**  
 National Science Foundation  
 1800 G St., N. W.  
 Washington, DC 20550

Project is one of the Ocean Drilling Programs sponsored by the Earth Sciences Division, Directorate for Astronomical, Atmospheric, Earth, and Ocean Sciences, National Science Foundation (NSF).

OMDP is an extension of the NSF's Deep Sea Drilling Project (see GRCD Issue 2, entry #536, for description). The Ocean Margin Drilling Project seeks answers to the most important unresolved, as well as newly encountered, problems in the plate tectonics hypothesis that have emerged during the 11 years of Deep Sea Drilling Project (DSDP) efforts. The essential difference between the two projects is that DSDP performs general reconnaissance and the OMDP approach is problem-focused. The major new initiative of OMDP will be extensive investigation of the ocean margins. Passive margins with thick sediment (such as those on the U. S. east coast) represent a major frontier for geologic exploration. Work on deeply submerged ocean margins also constitutes the first major effort to establish the geologic framework for determining the natural resource potential of these areas.

Remarks: The Ocean Sediment Coring Program mentioned in the entry in Issue 2 on Deep Sea Drilling Project and in the GRCD entry on the Earth Sciences Division (Issue 2, entry #554) is now called Ocean Drilling Programs. General inquiries about these projects may be addressed to the Ocean Drilling Program Team at the above address. Scientists interested in participating aboard the drilling ship should write to: Chief Scientist, Deep Sea Drilling Project, Scripps Institution of Oceanography, La Jolla, CA 92093.

★ 1212 ★  
**OCEANOGRAPHIC COMPUTER APPLICATIONS GROUP**  
 Naval Research Laboratory  
 Washington, DC 20375  
 Mr. D. Steiger, Head

Group is part of the Systems Research and Technology Directorate, Naval Research Laboratory (NRL). NRL is a component of the Office of Naval Research; the Chief of Naval Research reports to the Assistant Secretary (Research, Engineering, and Systems), Department of the Navy.

Oceanographic Computer Applications Group designs, develops, operates, and maintains oceanographic computer systems that assist researchers in the automatic acquisition, processing, display, and retention of data acquired in the field and at the Naval Research Laboratory. Group prepares mathematical models and performs oceanographic research in areas where computer expertise is required for solutions.

Remarks: See Agency Index for listings of other components of the Systems Research and Technology Directorate, and of the Naval Research Laboratory, all included in this issue.

★ 1213 ★  
**OFFICE OF ADVANCED MAIL SYSTEMS DEVELOPMENT**  
 U. S. Postal Service  
 Research and Development Center  
 11711 Parklawn Dr.  
 Rockville, MD 20352 Phone: (301) 443-6255

Parent organization is Research and Development Laboratories, Research and Technology Group, U. S. Postal Service.

Office provides functional direction for the execution of policies, programs, and procedures governing the development, design, and implementation of advanced technology systems. Office provides management and technical responsibility for the definition, design, and implementation of advanced systems in the Postal Service; assesses future technology impacts on universal message handling systems and recommends the application of new technologies; and develops equipment and systems specifications, including specifying plans for implementing these advanced systems. Office coordinates the design, development, and implementation of advanced systems at the headquarters, regional, and local levels and participates in planning for effective integration of advanced and conventional mail handling systems.

Remarks: See Agency Index for listings of other Research and Development Laboratories components in GRCD Issues 1-3.

★ 1214 ★  
**OFFICE OF ADVANCED SHIP DEVELOPMENT**  
 Main Commerce Bldg.  
 Washington, DC 20230 Phone: (202) 377-5425

Parent agency is Maritime Administration (MarAd), Department of Commerce.

Office coordinates research projects generated by, participated in, and conducted (generally through contracts) for the Maritime Administration. The two major areas of research interest are: 1) shipbuilding, and 2) ship machinery and outfitting.

Results are published as technical reports.

★ 1215 ★  
**OFFICE OF THE ASSOCIATE ADMINISTRATOR FOR RESEARCH AND DEVELOPMENT**  
 National Highway Traffic Safety Administration  
 400 Seventh St., S. W.  
 Washington, DC 20590

Parent organization is National Highway Traffic Safety Administration (NHTSA), Department of Transportation.

The Associate Administrator for Research and Development is responsible for NHTSA research programs, conducted primarily under contract by private industry and universities. (NHTSA policy favors competitive procurement rather than the use of grants.) In recent years a significant portion of NHTSA research has been allocated to priority programs, with increased emphasis on innovative programs that will: 1) develop high fidelity dum-

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mies for advanced crash testing; 2) develop crashworthy structures for small cars and electric cars; 3) develop new concepts in light weight vehicle design; 4) introduce low-cost, practical techniques for saving fuel; 5) develop improvements in crash survivability of heavy trucks; 6) identify impairing effects of drugs and alcohol on drivers; 7) develop enforcement and public information procedures to increase compliance with the 55 m.p.h. speed limit; 8) stress the importance of belt usage and of the design of comfortable, easy-to-use belt systems; and 9) stress the implementation of the National Accident Sampling System and the use of its data.

Remarks: See Agency Index in this issue for listings of other NHTSA research components included in GRCD Issues 1-3.

★ 1216 ★

OFFICE OF THE CHIEF SCIENTIST/ASSOCIATE DIRECTOR,  
TECHNOLOGY

Defense Communications Agency  
8th St. and S. Courthouse Rd.  
Arlington, VA 22204

Dr. Irwin L. Lebow, Chief Scientist/  
Associate Director, Technology      Phone: (202) 692-6929  
Established: 1972

Parent agency is Defense Communications Agency (DCA), Department of Defense. Staff includes 3 research professionals, 1 supporting professional, and 2 others.

Office serves as headquarters for the review and approval of DCA research, development, testing, and evaluation programs in communications, command, and control (including satellite communications and the use of ADP). Subsidiary units include a Defense Communications Engineering Center in Reston, VA, and a Command and Control Technical Center and the WWMCCS System Engineering Organization, both in Washington, DC 20305.

Results are published by performers of the research, development, testing, and evaluation and are maintained on file at the Defense Technical Information Center, Alexandria, VA. Office sponsors Scientific Advisory Group meetings (semi-annual, spring and fall); attendance is limited to members and others who may be specifically invited. Library holdings include 5000 volumes on communications, command, and control; Janet Brooks, Librarian.

★ 1217 ★

OFFICE OF COMMERCIAL DEVELOPMENT

Maritime Administration  
Main Commerce Bldg.  
Washington, DC 20230

(See Issue 2, entry #753, for description.)

UPDATE: Reorganization within the Maritime Administration has resulted in the elimination of the Office of Commercial Development. There is now an Assistant Administrator for Research and Development, whose office includes the Office of Advanced Ship Development (see separate entry in this issue for description); Office of Advanced Ship Operations (see GRCD Issue 1, entry #294); and Office of Maritime Technology (not included in GRCD Issues 1-3). (Consult Agency Index in this issue for listings of other Maritime Administration research activities.)

★ 1218 ★

OFFICE OF THE DIRECTOR FOR RESEARCH

Department of Defense  
The Pentagon  
Washington, DC 20301  
George Gamota, Director

Office is part of the Office of the Under Secretary of Defense for Research and Engineering (Research and Advanced Technology), Department of Defense (DOD).

The Research Director is responsible for overseeing all basic research, both internal and external, sponsored and/or conducted by the Department of Defense. (In fiscal year 1980 38 per cent of the DOD basic research program was conducted in academia, 33 per cent was performed within DOD, and the remainder was carried out in industry.) Major areas of research involved are: 1) the physical sciences, including physics, radiation science, astronomy and astrophysics, electronics, chemistry, and mathematics and computer sciences; 2) the engineering sciences, including mechanics and energy conversion, materials, and aeronautical sciences; 3) the environmental sciences; including oceanography, terrestrial sciences, and atmospheric sciences; and 4) life sciences, including biological and medical sciences, and behavioral and social sciences. Research is conducted primarily through the military Services, both intramurally (in Service laboratories and centers) and extramurally (through grants and contracts). (See Agency Index for detailed listing of Army, Navy, and Air Force research components.)

Bimonthly Research Topical Reviews on DOD research programs are held at the National Academy of Sciences. Attendance includes representatives from academia, industry, and the government.

Remarks: The Research Director oversees programs designated 6.1, which is basic research. Other DOD research programs involve projects designated 6.2 (exploratory development), 6.3 (advanced development), etc. Because 6.1 research is the foundation for this process, renewed emphasis has been placed on effective management of 6.1 programs. For this reason, the Defense Committee on Research (DCOR) has been reactivated. DCOR is a high-level coordination and policy-making group, chaired by the DOD Research Director, with members from the three Services and from the Defense Advanced Research Projects Agency (see separate entry in this issue).

★ 1219 ★

OFFICE OF EARTH SCIENCES APPLICATIONS (OESA)

Geological Survey National Center

12201 Sunrise Valley Dr.

Reston, VA 22092

Gene Thorley, Chief

Phone: (703) 860-7471

Established: 1975

Formerly known as Land Information and Analysis Office, OESA is a component of the Geological Survey, Department of the Interior.

Objectives of the Office are: 1) development and application of multidisciplinary earth sciences, other natural sciences, and geographic technology in support of land-resources decision-making and planning; 2) mapping current land use and land cover; 3) meeting Geological Survey environmental obligations; and 4) collecting, processing, and distributing remotely sensed data and applying other aspects of space technology in support of land-resources planning and management and environmental impact analysis. Activities related to achieving these objectives are carried out in five main multidisciplinary programs: Earth Resources Observation System (EROS) Program (see separate entry in this issue); Geography Program (see GRCD Issue 1, entry #154); Resource and Land Investigation (RALI) Program (see GRCD Issue 1, entry #354); Earth Sciences Assistance Office (see GRCD Issue 2, entry #553); and Environmental Impact Analysis Program (see GRCD Issue 1, entry #113).

Remarks: The entry on OESA's Geography Program in GRCD Issue 1 incorrectly places it within the Geological Survey's National Mapping Division.

★ 1220 ★

OFFICE OF ENERGY PROGRAMS

National Bureau of Standards

Gaithersburg, MD

(Mailing address: Washington, DC 20234)

Dr. Jack E. Snell, Director

Phone: (301) 921-3275

Office is a component of the National Engineering Laboratory (NEL), National Bureau of Standards, Department of Commerce.

Office provides overall planning, management, and coordination of the

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NEL energy-related programs, including the energy-related invention program. These programs address the development of performance criteria and measurement technology needed to meet national goals for energy conservation and conversion in buildings, consumer products, and industry, as well as for alternate energy supply technologies. Office also serves as a focal point between NEL technical units, the Department of Energy, and other energy organizations, and as a focal point for collaborative programs with other Federal agencies in this field.

Remarks: See GRCD Issue 1, entry #297, for description of the Office of Energy-Related Inventions, which is part of the Office of Energy Programs.

★ 1221 ★

OFFICE OF ENGINEERING STANDARDS

National Bureau of Standards  
Gaithersburg, MD  
(Mailing address: Washington, DC 20234)  
Dr. Stanley I. Warshaw, Director

Phone: (301) 921-3751

Office is a component of the National Engineering Laboratory, National Bureau of Standards, Department of Commerce.

Office provides domestic and international engineering standards services; assists in the development of needed voluntary product standards; assists laboratories in developing criteria and procedures for testing materials and products; and develops a system for accrediting testing laboratories in the U. S.

Remarks: The Office of Engineering Standards is made up of: 1) the Office of Testing Laboratory Evaluation, which manages development and operation of programs for evaluating testing laboratory performance and provides technical support to the Department of Commerce's National Voluntary Laboratory Accreditation Program; 2) the Office of International Engineering Standards, which provides international engineering standards coordination services and serves as the National Engineering Laboratory liaison with organizations that write and apply engineering standards; and 3) the Office of Standards Information, Analysis, and Development (see GRCD Issue 1, entry #309, for description).

★ 1222 ★

OFFICE OF ENVIRONMENTAL ENGINEERING AND TECHNOLOGY

Environmental Protection Agency  
401 M St., S. W.  
Washington, DC 20460  
Dr. Steven R. Reznak, Deputy Assistant  
Administrator

Phone: (202) 755-4857

Parent organization is Office of Research and Development (ORD), Environmental Protection Agency (EPA).

Objectives of this Office include: 1) development and demonstration of methods for control and management of operations with environmental impacts associated with the extraction, processing, conversion, and transportation of energy, minerals, and other resources, and with industrial processing and manufacturing facilities; 2) development and demonstration of methods for the prevention or management of pollutant discharge or waste disposal into the environment from public sector activities (including publicly-owned wastewater and solid waste facilities); 3) improvement of drinking water supply and system operations, including improved understanding of water supply technology and water supply criteria; and 4) analysis of the relative environmental and socioeconomic impacts of energy, minerals, and other resource extraction, transportation, processing, conversion, and utilization systems, and of other industrial operations. Office serves as the focal point within ORD for providing liaison with the rest of the Agency and with the Department of Energy on issues associated with energy development (excluding issues of research planning and implementation on the measurement, fate, and effects of energy pollutants). Office also provides a focal point within the ORD for liaison with the rest of the Agency on issues related to controlling pollution discharges.

Remarks: Office's research program is implemented primarily by the In-

dustrial Environmental Research Laboratories located in Research Triangle Park, NC, and Cincinnati, OH, and by the Municipal Environmental Research Laboratory, Cincinnati, OH, as well as through support from other ORD laboratories. (See Agency Index for specific listings of these and other EPA laboratories in GRCD Issues 1-3.)

★ 1223 ★

OFFICE OF ENVIRONMENTAL PROCESSES AND EFFECTS RESEARCH (OEPER)

Environmental Protection Agency  
401 M St., S. W.  
Washington, DC 20460  
Dr. Allan Hirsch, Deputy Assistant  
Administrator

Phone: (202) 426-0803

Parent organization is Office of Research and Development (ORD), Environmental Protection Agency (EPA).

Mission of OEPER is to develop the scientific and technological methods and data necessary to understand, predict, and manage the entry, movement, and fate of pollutants into the environment and the food chain and their effects upon nonhuman organisms and ecosystems. Activities of this comprehensive program are to: 1) develop ecological data for establishing standards and criteria or guidelines for environmental components in which specific pollutants or activities (including energy) may require control; 2) develop methods to determine and predict the fate, transport, and exposures resulting from the discharge of pollutants singly or in combination to the air, land, surface, marine, and groundwaters; 3) develop and demonstrate methods and practices for the prevention or management of pollutant discharges or waste disposal activities which might impair the quality of the Nation's groundwaters; 4) develop statistical and mathematical models to describe the role of physical, chemical, and biological processes in linking source emissions to exposure; 5) develop new methods, equipment, and procedures for detecting, identifying, and measuring pollutants; 6) develop laboratory and field scale screening tests to provide data to predict the behavior of pollutants in terms of movement and effects in the environment and the food chain; and 7) coordinate intra- and interagency research activities associated with the environmental aspects of energy extraction, processing, conversion, and utilization.

Remarks: The OEPER research program is implemented by laboratories located at Research Triangle Park, NC, Ada, OK, Athens, GA, Narragansett, RI, Gulf Breeze, FL, Duluth, MN, and Corvallis, OR. See Agency Index for listings of these and other EPA laboratories in GRCD Issues 1-3.

★ 1224 ★

OFFICE OF EXPLORATORY RESEARCH (OER)

Environmental Protection Agency  
401 M St., S. W.  
Washington, DC 20460  
Dennis A. Tirpak, Director

Phone: (202) 755-0455  
Established: 1979

Parent organization is Office of Research and Development (ORD), Environmental Protection Agency (EPA).

OER was established to improve ORD's overall capability to perform long-range research and analysis of emerging problems. Specifically, OER serves as an organizational focal point for long-range research, for the identification of emerging problems and environmental concerns, and for planning and program development of research in response to these concerns; and implements a peer panel review system for all ORD grant applications. OER includes: 1) the Office of Research Grants and Centers; 2) the Office of Strategic Analysis and Special Studies (see separate entries in this issue for description of these two Offices); 3) a Minority Institutions Support Program which provides for the award of grants and contracts to minority institutions for projects which support ORD research objectives; and 4) the National Workforce Development Program, which provides agency-wide coordination and management overview of the EPA's environmental workforce development policies, programs, and activities with other Federal agencies.

## ★ 1225 ★

OFFICE OF EXTRAMURAL RESEARCH AND TRAINING  
National Institutes of Health  
9000 Rockville Pike  
Bethesda, MD 20205  
Dr. William F. Raub, Associate Director

Office is a component of the Office of the Director, National Institutes of Health, Public Health Service, Department of Health and Human Services.

The Associate Director for Extramural Research and Training administers the development and coordination of NIH policies and procedures for awarding funds in support of medical research and provides policy guidance for the Division of Research Grants (see separate entry in this issue for description of this Division).

## ★ 1226 ★

## OFFICE OF FELLOWSHIPS AND GRANTS

Smithsonian Institution  
955 L'Enfant Plaza, S. W.  
Washington, DC 20560  
Gretchen Gayle Ellsworth, Director

Phone: (202) 287-3271

Parent organization is: Smithsonian Institution.

Office administers the Smithsonian predoctoral and postdoctoral fellowship programs, which make grants to visiting scholars, scientists, and students. The Smithsonian encourages access to its collections, staff specialties, and reference resources through these programs, which offer opportunities for research and study, in residence, using Smithsonian facilities and receiving the advice and guidance of its staff members. These appointments enable qualified persons to make use of Smithsonian resources in pursuing studies closely related to existing research interests of Smithsonian staff members, who act as advisors to visitors. Appointments vary in duration, and many carry financial support. Office also administers a Special Foreign Currency Program, a nationally competitive grants program for research carried out by U. S. institutions in countries where the U. S. owns local currencies deemed by the Treasury Department to be in excess of normal U. S. needs. Grants are offered in disciplines in which the Smithsonian has traditional competence and interest, including archeology, anthropology, and related studies; systematic and environmental biology; astrophysics and earth sciences; and museum programs.

Remarks: For more specific information on the research opportunities offered by the Smithsonian, contact the Office of Fellowships and Grants. Consult Agency Index in this issue for listing of all Smithsonian components described in GRCD Issues 1-3.

## ★ 1227 ★

## OFFICE OF HEALTH RESEARCH (OHR)

Environmental Protection Agency  
401 M St., S. W.  
Washington, DC 20460  
Dr. Vilma R. Hunt, Deputy Assistant  
Administrator

Phone: (202) 426-2382

Parent organization is Office of Research and Development (ORD), Environmental Protection Agency (EPA).

Office provides planning, implementation and evaluation of a comprehensive, integrated human health research program to determine human exposure to and effects of combinations of pollutants derived from various environmental pathways. Primary objective of the program is to predict, measure, and determine the significance of human exposures to pollutants in order to prevent or reduce adverse effects. In accordance with this objective, Office: 1) develops information on acute and chronic adverse effects to humans from environmental exposure to pollutants; 2) determines those environmental exposures which have a potentially adverse effect on humans; 3) coordinates the development of test systems and associated

methods and protocols; 4) develops methodology for, and conduct of, laboratory research and field population effects research studies; 5) coordinates ORD human carcinogen, mutagen, and teratogen research; and 6) develops interagency programs which effectively use existing capabilities to address the public health impact of environmental pollutants. The OHR research program is implemented by the Health Effects Research Laboratories located in Research Triangle Park, NC, and Cincinnati, OH. (See Agency Index for listings of these and other EPA Laboratories in GRCD Issues 1-3.) Research focuses on the potential adverse health effects arising from: pollutants emitted into the atmosphere; pollutants discharged into water which affect water quality in general and drinking water specifically; from pesticides and other toxic substances; from non-ionizing electromagnetic (microwave) radiation; from energy-related operations; and from emerging interdisciplinary problems.

Remarks: In 1980 the health-related air, drinking water, toxic substances and radiation programs were expanded to include a public health initiative. The overall theme of the initiative is the systematic, integrated approach to bridge the several media through which human beings are exposed to pollutants. The approach employs the full range of environmental disciplines to predict, measure, and assay exposure; to determine the impact and significance of true exposures on human health; and to develop strategies which prevent, interdict, or reduce the detrimental effects.

## ★ 1228 ★

## OFFICE OF HEALTH RESEARCH, STATISTICS, AND TECHNOLOGY

5600 Fishers Ln.  
Rockville, MD 20857

Office is a component of the Office of the Assistant Secretary for Health, Public Health Service, Department of Health and Human Services.

The Office of Health Research, Statistics, and Technology: 1) advises the Assistant Secretary for Health on matters concerning health services and health technology research, evaluations, demonstrations, and health statistical activities; 2) conducts a national program of health services research, development, demonstration, and health services research training; 3) collects, analyzes, and disseminates data on vital and health statistics, health status, health resources assessment and utilization, organization and management of health services, health expenditures, environmental health, and related matters; and 4) conducts a national program of health care technology assessment, research, demonstration, evaluation, and health care technology training. These functions are supported by Office's National Center for Health Services Research (see GRCD Issue 2, entry #702), National Center for Health Statistics (see GRCD Issue 1, entry #248), and National Center for Health Care Technology (see Issue 1, entry #247).

## ★ 1229 ★

## OFFICE OF HEAVY DUTY VEHICLE RESEARCH

400 Seventh St., S. W.  
Washington, DC 20590  
William A. Leasure, Jr., Acting Director

Phone: (202) 426-9370

Established: 1978

Parent organization is Associate Administrator for Research and Development, National Highway Traffic Safety Administration (NHTSA), Department of Transportation. Staff includes 8 research professionals, 1 supporting professional, and 2 others.

Office is responsible for NHTSA programs of research, development, and demonstration related to heavy duty vehicles. Principal areas of research interest are safety, fuel economy, and environmental controls for heavy duty vehicles (trucks and buses over 10,000 pounds gross vehicle weight rating). Projects are generally conducted through contracts to private industry and universities. Data developed through these research projects are used to support near-term and future standards.

Results are published as technical reports and as contractor/government reports.

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★ 1230 ★

OFFICE OF LETTER MAIL SYSTEMS DEVELOPMENT

U. S. Postal Service  
 Research and Development Center  
 11711 Parklawn Dr.  
 Rockville, MD 20852  
 Rex S. Hayes, Director

Phone: (301) 443-6020

Parent organization is Research and Development Laboratories, Research and Technology Group, U. S. Postal Service.

Office applies operations research and systems engineering to determine effective solutions for improving or eliminating a function or process. Office analyzes new technology and state-of-the-art within the product line areas; conceptualizes new techniques; and manipulates statistical data to represent alternative system groupings which indicate potential service benefit through research and development. Office activities also include: 1) planning and conducting research and development of standardized systems and equipment for handling and processing letter mail; 2) developing improvements in letter mail systems; 3) establishing technical requirements and specifications for new systems; 4) determining economic and technical feasibility of equipment and systems; 5) developing letter mail hardware and software; 6) evaluating prototype systems; 7) providing technical data packages and documentation for fabrication, training, maintenance, and operation of letter mail systems; and 8) redesigning equipment as necessary.

Remarks: See Agency Index for listings of other Research and Development Laboratories components in GRCD Issues 1-3.

★ 1231 ★

OFFICE OF LONG-RANGE ASSESSMENTS AND RESEARCH (LAR)

Department of State  
 2201 C St., N. W.  
 Washington, DC 20520  
 E. Raymond Platig, Director

Office is under the general direction of the Deputy Assistant Secretary for Assessments and Research, Bureau of Intelligence and Research (INR), Department of State.

LAR prepares long-range assessments on selected topics, contributes on occasion to assessments prepared elsewhere in the Bureau, and commissions contractors and consultants for those which cannot be done in INR. Office also manages a program for contract research studies and conferences on issues identified by other State Department bureaus and units and is the staff through which the Department discharges the Secretary of State's responsibilities concerning the coordination of all U. S. Government-supported research on foreign affairs.

LAR publishes quarterly GOVERNMENT-SPONSORED RESEARCH ON FOREIGN AFFAIRS. Other materials published by this Office are usually classified.

Remarks: See separate entry in this issue for further description of the Bureau of Intelligence and Research.

★ 1232 ★

OFFICE OF NAVAL RESEARCH (ONR)

800 N. Quincy St.  
 Arlington, VA 22217  
 Rear Admiral Albert Baciocco, Jr., Chief of Naval Operations

The Chief of Naval Research reports to the Assistant Secretary of the Navy (Research, Engineering, and Systems), Department of the Navy.

ONR promotes, plans, initiates, and coordinates and conducts naval research in conjunction with the research and development conducted by other Department of the Navy units. ONR carries out its research through Navy laboratories and through the awarding of grants and contracts. Contracts may be awarded to both nonprofit and commercial organizations; however, grants are made only to nonprofit institutions of higher education

or to nonprofit organizations whose primary purpose is the conduct of scientific research. Grants are not made to individuals.

★ 1233 ★

OFFICE OF PLANNING AND RESEARCH (OPR)

International Trade Administration  
 Main Commerce Bldg.  
 Washington, DC 20230

(See Issue 1, entry #302, for description.)

UPDATE: Reorganization of the International Trade Administration has resulted in elimination of the Bureau of International Economic Policy and Research. OPR is now part of the Office of the Deputy Assistant Secretary for Planning and Analysis, which is under the Assistant Secretary for International Economic Policy.

★ 1234 ★

OFFICE OF POSTAL TECHNOLOGY RESEARCH

11711 Parklawn Dr.  
 Rockville, MD 20852  
 Franklin J. Thurston, Director

Phone: (301) 443-6266  
 Established: 1952

Office is part of Research and Development Laboratories, Research and Technology Group, U. S. Postal Service (USPS). Staff includes 38 research professionals, 38 technicians, and 7 others.

Office conducts research and development, testing and evaluation, and data collection to: 1) improve Postal Service reliability, consistency, and cost effectiveness as it relates to the development of postal mechanization and facilities modernization; 2) develop basic and applied scientific and engineering technology required to support the development and operation of improved postal equipment and systems; and 3) identify new areas of hardware, systems, and service opportunity. Research (supported by academic, industrial, and governmental research organizations as required) is conducted in the areas of materials, electronic sciences, mechanics, optics, information sciences, human factors, cybernetics, and communications pertinent to the Postal Service. Program includes development of test instrumentation and methodology for data acquisition and reduction techniques required for diagnostic and performance testing of postal materials, equipment, and systems when requested; testing in support of postal systems development, operational, and procurement activities; and testing of equipment considered ready for deployment by the development activity. Unit also acquires, collates, analyzes, and disseminates scientific and engineering data requested by the postal equipment and systems development offices; and acts as a technical and scientific consultant in the area of postal technology to all other elements of the USPS and their contractors.

★ 1235 ★

OFFICE OF PRODUCTIVITY PROGRAMS (OPP)

Office of Personnel Management  
 1900 E St., N. W.  
 Washington, DC 20415  
 Blair G. Swing, Assistant Director

Phone: (202) 632-5685

Office is a component of the Work Force Effectiveness and Development Group (WED), Office of Personnel Management (OPM).

OPP carries out several coordinate research and development programs in support of OPM's responsibility to promote productivity within the Federal Government. OPP divisions conduct research on productivity and its correlates; test and evaluate approaches and techniques for productivity growth; develop programs based on knowledge gained through research; improve the capability of agencies in measuring their performance; and disseminate this knowledge and information.

Remarks: For more specific information on OPP research activities, see entry on Productivity Research Division, listed separately in this issue. Consult Agency Index for listings of other OPM components included in GRCD Issues 1-3.

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## ★ 1236 ★

## OFFICE OF QUANTITATIVE STUDIES

Department of the Treasury  
1435 G St., N. W.  
Washington, DC 20220  
Dr. Jacob S. Dreyer, Director

Phone: (202) 376-0333  
Established: 1980

Office is a component of International Economic Analysis, Assistant Secretary for International Affairs, Department of the Treasury.

Unit conducts econometric and statistical analysis in the general area of international economics.

Remarks: In 1980, Office of Trade Research and Office of Monetary Research merged to form Office of Quantitative Studies.

## ★ 1237 ★

## OFFICE OF RESEARCH AND DEVELOPMENT (ORD)

Environmental Protection Agency  
401 M St., S. W.  
Washington, DC 20460  
Richard Dowd, Acting Assistant  
Administrator

Phone: (202) 755-2600  
Established: 1970

Parent agency is the Environmental Protection Agency (EPA). Staff (for Office and component units) includes 900 research professionals, 500 supporting professionals, 300 technicians, and 500 others.

ORD is headed by an Assistant Administrator for Research and Development, whose function is to direct and coordinate all of the research activities of the Office. Because the ORD program is designed primarily to support the EPA regulatory functions, ORD planning and management is influenced primarily by the planning and management of the rest of the Agency. However, ORD also plays a major role in conducting long-range research to look beyond the immediate concerns of the regulatory programs and to anticipate important future information needs. In addition to the various offices and field facilities which support and implement ORD's activities, ten Regional Offices carry out EPA policies on a local level. By monitoring the environments in their areas, these offices help identify new research needs. They are also the principal users of ORD technical support, and they work closely with the States in defining research needs. Although ORD is organized functionally in order to promote internal operating efficiencies, the research needs of clients are frequently multidisciplinary, so that different parts of ORD may all be working on separate aspects of a research program for a particular program office. To help assure a coordinated effort, and to create a stable environment for the conduct of research, the research committee system was developed. In 1980, the EPA Research Committees were active in programs in: oxidants, hazardous air pollutants, mobile sources, and gases and particles; water quality, municipal wastewater and spill prevention, industrial wastewater, drinking water, and solid waste; radiation; testing and assessment; and energy.

Results of EPA research are published in primary journals and as research reports.

Remarks: The ORD organization includes several research laboratories located throughout the U. S. Consult Agency Index in this issue for listings of these laboratories and of other ORD components involved in research-related activities.

## ★ 1238 ★

## OFFICE OF RESEARCH AND EVALUATION

Federal Law Enforcement Training Center  
Glynco, GA 31520  
Peter W. Phillips, Deputy  
Assistant Director

Phone: (912) 267-2282  
Established: 1978

Office of Research and Evaluation is part of the Office of Program Management, Federal Law Enforcement Training Center, Department of the Treasury.

The Federal Law Enforcement Training Center, a bureau of the Department

of the Treasury, serves as an interagency training facility for Federal law enforcement personnel. Part of its mission is to conduct research in law enforcement training methods and curriculum content in order to improve Center training programs. In recent years the staff of Center's Office of Research and Evaluation has conducted studies on: 1) the effectiveness of a four-week program to train Capitol police; 2) driver training and firearms training issues; 3) the use of television in Center training; and 4) electronic surveillance training. During 1980 this Office also conducted an inter-agency, multi-occupational job and task analysis to enumerate all basic and common tasks performed by law enforcement personnel of each of the Center's participating organizations.

Remarks: Member agencies which have components that participate in Center programs include the Departments of Agriculture, Commerce, Health and Human Services, Housing and Urban Development, Interior, Justice, State, Transportation, and Treasury; the General Services Administration; the Smithsonian Institution; Tennessee Valley Authority; the U. S. Supreme Court; and the Congress.

## ★ 1239 ★

## OFFICE OF RESEARCH GRANTS AND CENTERS

Environmental Protection Agency  
401 M St., S. W.

Washington, DC 20460

Dr. Richard Marland, Deputy Director

Phone: (202) 426-2355  
Established: 1980

Parent organization is Office of Exploratory Research (OER), Office of Research and Development (ORD), Environmental Protection Agency (EPA).

Office administers: 1) the Exploratory Research Centers Program, which utilizes the expertise and resources of institutions and organizations (generally universities) to conduct long-term research; and 2) a centralized exploratory grants program, characterized by nationwide solicitation for grant proposals and a subsequent peer review panel process.

Remarks: Peer Review Panels are made up primarily of non-EPA scientists acknowledged as experts in their fields.

## ★ 1240 ★

## OFFICE OF RESEARCH AND INFORMATION

Minority Business Development Agency  
Main Commerce Bldg.

Washington, DC 20230

Domingo Ramos, Assistant Director for  
Research and Information

Phone: (202) 377-3163  
Established: 1980

Parent agency is Minority Business Development Agency, Department of Commerce. Staff includes 5 research professionals, 1 supporting professional, and 2 others.

Office conducts business and economic research, including data collection and analysis and research studies, as related to the characteristics, growth trends, and problems of minority-owned businesses.

Research results are published in government documents.

## ★ 1241 ★

## OFFICE OF STRATEGIC ANALYSIS AND SPECIAL STUDIES

Environmental Protection Agency

401 M St., S. W.

Washington, DC 20460

Parent organization is Office of Exploratory Research (OER), Office of Research and Development (ORD), Environmental Protection Agency (EPA).

The strategic analysis and special studies program has six major components: 1) the environmental forecasting and assessment component is designed to identify potentially significant future environmental trends and contingencies and assess their public health, public welfare, and environmental

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policy implications; 2) the environmental benefits research component develops and tests improved methods for determining the benefits of national and regional programs and representative regulations; 3) research on environmental indicators is directed toward development of biomonitoring and other indicators for identifying and assessing trends, including trends in particular pollutants; 4) the innovative research component is a competitive awards program which provides support for new ideas in environmental research and analysis; 5) acid rain research focuses on monitoring, atmospheric processes, and effects (including aquatic, terrestrial, drinking water, and materials effects); and 6) the cancer research component is directed toward identifying and characterizing the ways in which human beings are exposed to carcinogens in the environment.

Remarks: See separate entry in this issue for description of Office of Exploratory Research.

★ 1242 ★

OFFICE OF SYSTEMS ENGINEERING  
Research and Special Programs Administration  
400 Seventh St., S. W.  
Washington, DC 20590

Office is part of the Transportation Programs Bureau, Research and Special Programs Administration (RSPA), Department of Transportation.

Office acts as the technical planning and management arm of RSPA, dealing with advanced transportation concepts, transportation energy, safety, efficiency, telecommunication, and other systems engineering problems. Major objectives range from evaluating advanced technology and establishing research and development programs to providing the Department of Transportation with a data base to help assess results of applied research projects.

Remarks: See entry on RSPA, listed elsewhere in this issue, for further information.

★ 1243 ★

OFFICE OF TECHNICAL SUPPORT  
Mine Safety and Health Administration  
4015 Wilson Blvd.  
Arlington, VA 22203  
Roy L. Bernard, Director

Office is part of the Mine Safety and Health Administration (MSHA), Department of Labor.

Mission is to provide engineering and technical assistance within MSHA and to other mining industry and related groups in support of MSHA's enforcement activities. Technical Support engineers conduct investigations and surveys on various aspects of mine safety and health. Other personnel compile and analyze accident, employment, and production reports; process coal mine dust samples; analyze air quality samples; and provide technical training for mining industry representatives. Technical Support functions are carried out through four major centers and two additional supporting activities: 1) Denver Technical Support Center, Denver, CO, focuses principally on metal and nonmetal mining; 2) Pittsburgh Technical Support Center, Pittsburgh, PA, is oriented toward coal mining and maintains special mine rescue equipment; 3) Approval and Certification Center, Dallas Pike, WV, must approve equipment or materials taken into the working section of a mine; 4) Health and Safety Analysis Center, Denver, CO, operates principally as a statistical reporting and analysis unit; 5) Mining Equipment Safety Laboratory, Dallas Pike, WV, studies possible health and safety hazards in the design and use of mining equipment; and 6) Electrical Testing Center and Illumination Laboratory, Beckley, WV, is a special project of Technical Support.

Remarks: Office also provides liaison with the Bureau of Mines and the National Institute of Occupational Safety and Health, recommending applied research and providing assistance as necessary.

★ 1244 ★

OFFICE OF UNIVERSITY RESEARCH  
Research and Special Programs Administration  
400 Seventh St., S. W.  
Washington, DC 20590  
Dr. Sherwood C. Chu, Chief  
Phone: (202) 426-0190  
Established: 1972

Office is part of the Transportation Programs Bureau, Research and Special Programs Administration (RSPA), Department of Transportation (DOT). Staff includes 2 research professionals, 4 supporting professionals, and 3 others.

The Office of University Research sponsors academic research on high priority problems of long-term interest to the Department of Transportation. Sponsorship is provided through contracts awarded to colleges and universities and through a Faculty Fellow program. Primary areas selected for study under these contracts include: 1) energy conservation and transportation; 2) improving goods movement; 3) transportation and economic development; 4) efficiency and productivity in transportation systems; and 5) transportation safety. The Faculty Fellow program allows professors to spend up to one year in the Department's research offices and to conduct major research and development policy conferences for the Department.

Research results are published as DOT technical reports. Office issues several publications which provide information on the mechanisms of receiving support for research, all revised annually. Office also sponsors various workshops for professionals who are interested in transportation and related problems.

Remarks: Those interested in applying for support for transportation research should be aware that this is a contract program, with definitive requirements for measurable outputs. It is not a grant program for educational or institutional support. (See separate entry in this issue for further information on the Research and Special Programs Administration.)

★ 1245 ★

OFFICE OF WEATHER RESEARCH AND MODIFICATION (OWRM)  
325 S. Broadway  
Boulder, CO 80303  
Dr. Charles F. Chappell, Acting Director  
Phone: (303) 497-6382

Known as the Atmospheric Physics and Chemistry Laboratory until July, 1980, OWRM is one of several Environmental Research Laboratories, Office of the Assistant Administrator for Research and Development, National Oceanic and Atmospheric Administration (NOAA), Department of Commerce. Staff includes 15 research and 14 supporting professionals, 8 technicians, and 10 others.

Office conducts research and development, including data collection and analysis and field studies, on subjects relating to the atmosphere. Research includes studies of cloud and precipitation physics; chemical and particulate composition of the atmosphere; atmospheric electricity; and atmospheric heat transfer. Efforts focus on developing methods of beneficial weather modification.

Results are published as technical reports and as conference proceedings.

Remarks: See Agency Index for other NOAA Environmental Research Laboratories included in GRCD Issues 1-3.

★ 1246 ★

OHIO AGRICULTURAL RESEARCH AND DEVELOPMENT CENTER  
Administrative Office  
Gerlaugh Hall  
Wooster, OH 44691  
Dr. William T. Yamazaki, Location  
Leader  
Phone: (216) 264-1021

Center operates in cooperation with Agricultural Research - North Central Region, Science and Education Administration, Department of Agriculture

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and the State of Ohio. Staff includes 15 research and 5 supporting professionals, 19 technicians, and 5 others.

Center conducts research on wheat and pome fruit, including research on pear breeding and on Japanese beetles. Activities also involve research on corn and soybeans, agricultural engineering, and development of pesticides equipment. Center's Soft Wheat Quality Laboratory is concerned with research and testing in the field of cereal chemistry.

Results are published in primary journals. Soft Wheat Quality Research Review Conference (annually, April) is attended by breeders, cereal chemists, millers, and other interested parties.

★ 1247 ★

OPERATIONS RESEARCH DIVISION

National Bureau of Standards

Gaithersburg, MD

(Mailing address: Washington, DC 20234)

Dr. Christopher J. Witzgall, Acting Chief Phone: (301) 921-3855

Division is part of the Center for Applied Mathematics, National Engineering Laboratory, National Bureau of Standards, Department of Commerce.

Division: 1) provides consultation and collaborative services in the application of mathematical operations-research methods to the analysis and improvement of complex systems of equipment or activities in NBS programs and (when appropriate) in the work of other Government agencies; 2) develops and disseminates methods for construction and evaluation of the large-scale discrete mathematical models, simulations, and algorithms required in such studies; and 3) performs research in supporting areas of mathematics such as numerical and combinatorial optimization, network analysis, and mathematical economics.

Research results are published in NBS publications series.

Remarks: Sample outputs of Division's efforts include methods for evaluating building evacuation and method for relating lead content in air to blood lead level in children. (See separate entry in this issue for description of Center for Applied Mathematics.)

★ 1248 ★

OPTICAL SCIENCES DIVISION

Naval Research Laboratory

Washington, DC 20375

Dr. T. G. Giallorenzi, Superintendent

Division is part of the Material Science and Component Technology Directorate, Naval Research Laboratory (NRL). NRL is a component of the Office of Naval Research; the Chief of Naval Research reports to the Assistant Secretary (Research, Engineering, and Systems), Department of the Navy.

Division carries out a variety of research, development, and application-oriented activities in the generation, propagation, detection, and use of radiation in the wavelength region between near-ultraviolet and far-infrared wavelengths. Research, both theoretical and experimental, is concerned with discovering and understanding the basic physical principles and mechanisms involved in optical devices, optical materials, and optical phenomena. Development effort is aimed at extending this understanding in the direction of device engineering and advanced operational techniques. Applications activities include systems analysis and prototype system development and exploitation of research and development for the solution of optically related military problems. In addition to its internal program activities, the Division serves the Naval Research Laboratory specifically and the Navy generally as a consulting body of experts in optical sciences. Work in the Division includes studies in quantum optics, laser physics, optical waveguide technologies, laser-matter interactions, atmospheric propagation, optical technology, holography, optical warfare, optical data processing, optical systems, optical materials, radiation damage studies, optical materials fabrication, optical recording materials,

and optical diagnostic techniques. A significant portion of the effort is devoted to developing, analyzing, and using special optical materials. Various field measurement programs on optical problems of specific interest are also conducted.

Remarks: See Agency Index for listings of other components of the Material Science and Component Technology Directorate, and of the Naval Research Laboratory, all included in this issue.

★ 1249 ★

OREGON COOPERATIVE WILDLIFE RESEARCH UNIT

Nash Hall

Oregon State University

Corvallis, OR 97331

E. Charles Meslow, Leader

Phone: (503) 754-4531

Unit is part of a cooperative program between the U. S. Fish and Wildlife Service, Department of the Interior; the Department of Fisheries and Wildlife, Oregon State University; the Oregon Department of Fish and Wildlife; and other government and private organizations. Staff includes 2 research professionals.

Unit's research program emphasizes forest wildlife management, particularly as related to old-growth associated wildlife and their habitat relationships. Current studies include: 1) a comparison of bird populations in old-growth ponderosa pine stands to those in managed stands in eastern Oregon; 2) development of inter-agency management plans for the spotted owl; and 3) studies on bald eagle productivity and nest site characteristics, the ecology of bald eagles using winter roosts in the Klamath Basin, and the influence of bald eagle movements and feeding strategies on the uptake of environmental contaminants. Other studies involve assessment of the habitat, status, and management opportunities of the snowy plover.

Results are published as research reports and proceedings. Unit sponsors workshops as needed.

★ 1250 ★

OREGON WATER RESOURCES RESEARCH INSTITUTE

Oregon State University

Covell Hall

Corvallis, OR 97331

Phone: (503) 754-4022

Institute is part of a cooperative program between the Office of Water Research and Technology, Department of the Interior; the State of Oregon; and Oregon State University.

Institute conducts research on the biological, economic, legal, and physical aspects of water resources, including studies in water economics, watershed management, water and soil relations, irrigation and drainage, water pollution, stream ecology, water bacteriology, water supply, waste treatment, hydrology, and hydraulics. Facilities include a laboratory and field installations for water resources research.

Research results are published in primary journals and in Institute series.

Remarks: See entry for Office of Water Research and Technology in GRCD Issue 1 (entry #310) for a more specific description of the Federal role in the State university water resources institutes program.

★ 1251 ★

ORGANIC ANALYTICAL RESEARCH DIVISION

National Bureau of Standards

Gaithersburg, MD

(Mailing address: Washington, DC 20234)

Harry S. Hertz, Chief

Division is part of the Center for Analytical Chemistry, National Measurement Laboratory, National Bureau of Standards, Department of Commerce.

Division efforts are concentrated in six main areas: 1) organic spectroscopy, which includes research on determination of the fundamental molecular and system parameters that affect measurement accuracy, qualitative and quantitative analyses of compounds and mixtures, and characterization and certification of standard reference materials using nuclear magnetic resonance, polarimetry, and fluorescence techniques; 2) bioanalytical techniques involving research on organic definitive methods; 3) electrochemistry, which focuses on efforts in spectroelectrochemistry, automation, and chemical modification of electrodes; 4) liquid chromatology, which involves research on the analysis of polynuclear aromatic hydrocarbons, phenols, and nitrogen heterocyclic compounds important in the energy and environmental areas, and anticonvulsant drugs and peptides important in the clinical and biomedical areas; 5) mass spectrometry, with emphasis on development of methods for accurate quantitation of individual compounds in complex mixtures, development of high-resolution techniques for analysis of high molecular weight compounds, and development of a liquid chromatography-mass spectrometry interface for analysis of non-volatile analytes; and 6) gas chromatography aimed at multi-dimensional chromatographic techniques for use in quantitation of individual compounds in complex organic mixtures.

Results are published in NBS publications series.

Remarks: See separate entry in this issue for description of Center for Analytical Chemistry.

★ 1252 ★

PADUCAH GASEOUS DIFFUSION PLANT

P. O. Box 1410

Paducah, KY 42001

Phone: (502) 444-6311

Plant is assigned to the Assistant Secretary for Resource Applications, Department of Energy (DOE). It is operated for the DOE by the Nuclear Division, Union Carbide Corporation. Staff totals approximately 1850.

The Paducah Gaseous Diffusion Plant serves as a base for the initial enrichment of uranium which is used as fuel in nuclear power reactors. Plant also has the capability to perform metals reduction, fluorine manufacturing, uranium hexafluoride manufacturing, chemical processing, analytical and development efforts, and fabrication activities.

Remarks: Plant is one of four major facilities operated for the DOE by Union Carbide Corporation's Nuclear Division. The other three are Oak Ridge National Laboratory, Oak Ridge Gaseous Diffusion Plant, and the Y-12 Plant, all located at Oak Ridge, TN. See GRCD Issue 2, entry #746, for description of all three facilities.

★ 1253 ★

PHARMACEUTICAL RESEARCH AND TESTING (PRT)

200 C St., S. W.

Washington, DC 20204

Dr. Carl Lomanna, Associate Director

Unit is a component of the Bureau of Drugs, Food and Drug Administration (FDA), Public Health Service, Department of Health and Human Services.

The mission of Pharmaceutical Research and Testing includes: 1) conducting laboratory research relating to the composition, quality, and safety of drugs; 2) devising new chemical, physical, biological, and microbiological methods for the analysis of drugs and drug substances in pharmaceutical preparations, tissues, and body fluids; 3) investigating the mechanisms of underlying chemical reactions and biological properties; and 4) exploring the utilization of scientific instruments and equipment. Projects include research on problems that arise in the field or in other units of the FDA and are referred to PRT for answers; research on analytical and assay methods; research in drug microbiology; and research on scientific questions and technologies of special interest to the FDA (such as studies on the biological nature of the placebo effect, finding substitutes for the dog as a laboratory animal, replacing whole animal models with tissue and organ culture models, and translating research experience with experimental animals to

man). In addition to its program of in-house research, PRT participates in visiting foreign scientist programs, offers post-doctorate Public Health Service staff fellowships, and provides opportunity for university scientists to spend sabbaticals in the Bureau of Drugs laboratories. PRT staff also participate in the Bureau's program of grant and contract awards for extramural research and development.

Remarks: PRT is composed of four divisions: the Division of Drug Biology, Division of Drug Chemistry, National Center for Drug Analysis (see separate entries in this issue for description of each), and the National Center for Antibiotics Analysis (see GRCD Issue 1, entry #246).

★ 1254 ★

PHYSIOLOGY, CELLULAR, AND MOLECULAR BIOLOGY DIVISION

National Science Foundation

1800 G St., N. W.

Washington, DC 20550

James W. Campbell, Director

Phone: (202) 357-9400

Division is part of the Directorate for Biological, Behavioral, and Social Sciences, National Science Foundation.

Division's programs provide support for research in: 1) biochemistry; 2) biophysics; 3) cell biology; 4) cellular physiology; 5) developmental biology (emphasizing experimental analysis of development in animals, plants, and microorganisms); 6) genetic biology; 7) metabolic biology; 8) regulatory biology; and 9) biological instrumentation. Support for biological instrumentation includes the purchase of major biological research instruments for use by groups of investigators, as well as support for the development of instruments not presently available commercially that will increase the accuracy and sensitivity of research observations.

Remarks: Proposals dealing with research involving recombinant DNA generated *in vitro* should take into account the guidelines of the Department of Health and Human Services published in the January 29, 1980 Federal Register. Applicants should be aware also that support is not provided for clinical research (i.e., diagnosis or treatment of disease, abnormality, or malfunction in people or animals, or testing of drugs or procedures for their treatment). Requests for additional information on Division's programs may be addressed to the Division Director at the above address. For descriptions of the Directorate for Biological, Behavioral, and Social Sciences and its other Divisions, consult specific listings in Agency Index in this issue. See GRCD Issue 1, entry #262, for further information on support mechanisms of the National Science Foundation.

★ 1255 ★

PIEDRAS BLANCAS FIELD STATION

U. S. Fish and Wildlife Service

P. O. Box 67

San Simeon, CA 93452

Ronald Jameson, Wildlife Biologist

Phone: (805) 927-3893

Established: 1977

Station is a field unit of Denver Wildlife Research Center, Division of Wildlife Ecology Research, U. S. Fish and Wildlife Service, Department of the Interior. Staff includes 2 research professionals, 1 technician, and 1 other.

Unit conducts a program of field research, primarily involving studies of sea otter ecology. Research is also conducted on other marine birds and mammals.

Research results are published in primary journals and as research reports and proceedings.

Remarks: See Agency Index for listings of the Denver Wildlife Research Center and other Center components included in GRCD Issues 1-3.

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## ★ 1256 ★

PLASMA PHYSICS DIVISION  
Naval Research Laboratory  
Washington, DC 20375  
Dr. Timothy Coffey, Acting Superintendent

Division is part of the General Science and Technology Directorate, Naval Research Laboratory (NRL). NRL is a component of the Office of Naval Research; the Chief of Naval Research reports to the Assistant Secretary (Research, Engineering, and Systems), Department of the Navy.

Division conducts both basic and applied experimental and theoretical research. Examples of efforts underway include: fusion physics and the generation and containment of high-temperature plasmas; laser-produced plasmas; the behavior of the ionosphere as a partial plasma; electron and ion beam experiments; simulation of high-altitude nuclear weapons effects by pulsed radiation devices; and numerical simulation techniques through the use of the NRL Advanced Scientific Computer.

Remarks: See Agency Index for listings of other components of the General Science and Technology Directorate, and of the Naval Research Laboratory, all included in this issue.

## ★ 1257 ★

POLICY RESEARCH AND ANALYSIS DIVISION  
National Science Foundation  
1800 G St., N. W.  
Washington, DC 20550  
Alden S. Bean, Director

Division is part of the Directorate for Scientific, Technological, and International Affairs, National Science Foundation.

Division conducts and supports research and analysis, as well as methodology development, testing, and application, in science and technology and international economic policy to: 1) develop an improved knowledge base in these areas; 2) summarize and assess available knowledge and data relevant to these issues; and 3) assess options for policy decisions. These objectives are accomplished through extramural research and internal studies in several programs; consult Agency Index for listing of current Division programs, each described separately in this issue.

Remarks: Programs of the Policy Research and Analysis Division are carried out under a cooperative effort involving Division analysts and a limited number of extramural awards to universities and other appropriate organizations. Contact the Directorate for Scientific, Technological, and International Affairs at the above address for further information.

## ★ 1258 ★

POLICY RESEARCH DIRECTOR  
Department of Defense  
The Pentagon  
Washington, DC 20301  
John P. Merrill, Director  
Phone: (202) 697-2248  
Established: 1960

Director operates within the Office of the Under Secretary of Defense for Policy, Department of Defense.

The Policy Research Director's office manages research projects operated under contract for the Defense Department and performs in-house research on certain topics. Principal area of research is national security policy and strategy, including politico/military strategy, Soviet studies, arms control, and regional studies.

Results, if unclassified, are published in primary journals and as research reports. Unit cosponsors annual National Security Affairs Conference and other special conferences as required. Conferences are attended by university scholars, federal officials, private analysts, and corporation representatives, all by invitation only. Library is maintained, but with official access only.

## ★ 1259 ★

PROBLEM ANALYSIS PROGRAM  
National Science Foundation  
1800 G St., N. W.  
Washington, DC 20550

Parent organization is Problem-Focused Research Division, Directorate for Engineering and Applied Science, National Science Foundation (NSF).

Objectives of the Program are to identify and analyze major national problems with significant scientific content to provide a preliminary assessment of the appropriate role of science and technology and of the Federal Government, including the NSF, in their solution. Program provides analyses of a wide range of potential research topics and problem areas for use in selecting research directions and allocating research resources among existing or emerging new programs. Examples of areas now being examined include (but are not limited to): production research and technology; biocatalysis; bioactivity; mineral processing and deep mining; and industrial innovation.

Program relies on input from various sources for its analyses, including that from researchers, scientific and professional societies, user groups, advisory committees to the NSF, and interagency panels and working groups. This input is obtained through special studies, analyses, seminars, and workshops.

Remarks: For further discussion of programs sponsored by the Problem-Focused Research Division, see GRCD Issue 1, entry #100. See Agency Index in this issue for specific listings of individual programs.

## ★ 1260 ★

PRODUCT PERFORMANCE ENGINEERING DIVISION  
National Bureau of Standards  
Gaithersburg, MD  
(Mailing address: Washington, DC 20234)  
Dr. Andrew J. Fowell, Chief  
Phone: (301) 921-3748

Division is part of the Center for Consumer Product Technology (CCPT), National Engineering Laboratory, National Bureau of Standards, Department of Commerce.

Division: 1) conducts engineering analysis and develops product test methods for addressing energy efficiency and other performance attributes of consumer products; 2) evaluates new or improved product designs for energy efficiency; and 3) develops accelerated test methods for measuring and predicting product performance changes with time.

Remarks: See GRCD Issue 1, entry #43, for description of CCPT. See Agency Index for listings of other Center components, described individually in this issue.

## ★ 1261 ★

PRODUCT SAFETY TECHNOLOGY DIVISION  
National Bureau of Standards  
Gaithersburg, MD  
(Mailing address: Washington, DC 20234)  
Walter G. Leight, Chief  
Phone: (301) 921-3750

Division is part of the Center for Consumer Product Technology (CCPT), National Engineering Laboratory, National Bureau of Standards, Department of Commerce.

Division: 1) provides hazard analysis and engineering capability for test development and evaluation of safety relating to commercial and household products, including toys and industrial components; 2) develops instrumentation for measuring hazardous attributes of products; 3) evaluates safety hazards associated with the design of products; and 4) develops and implements new activities in support of other Government-sponsored programs.

Remarks: See GRCD Issue 1, entry #43, for description of CCPT. See Agency Index for listings of other Center components, described individually in this issue.

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★ 1262 ★

PRODUCTIVITY RESEARCH DIVISION (PRD)

Office of Personnel Management  
1900 E St., N. W.  
Washington, DC 20415  
Dr. Carolyn Burstein, Director

Phone: (202) 632-5580  
Established: 1980

Division is part of the Office of Productivity Programs, Work Force Effectiveness and Development Group, Office of Personnel Management (OPM). Staff includes 17 research professionals and 3 others.

Division conducts a program of in-house testing, survey data collection and analysis, and field research for the purpose of developing a knowledge base on productivity in the Federal sector. Efforts are intended to: 1) organize existing knowledge and develop new knowledge about ways to increase the efficiency and effectiveness of Federal programs and operations; 2) improve management; 3) increase employee job satisfaction and motivation; and 4) improve the quality of worklife in the Federal agencies. Program operates in support of OPM's responsibility to promote productivity throughout the Federal Government.

Results are published in primary journals and in Government publications. Division publishes WORKING PAPER SERIES (irregular).

Remarks: For further description of OPM research activities, see entries on Office of Productivity Programs and on Work Force Effectiveness and Development Group, listed separately in this issue. Consult Agency Index for other OPM components included in GRCD Issues 1-3.

★ 1263 ★

PROPULSION LABORATORY (PL/RTL)

U. S. Army Research and Technology Laboratories  
Lewis Research Center  
Cleveland, OH 44135  
John Acurio, Director

Established: 1970

Laboratory is one of four which make up the U. S. Army Research and Technology Laboratories (RTL) of the Aviation Research and Development Command, a major subordinate command of the Materiel Development and Readiness Command, Chief of Staff of the Army, Department of the Army.

Laboratory conducts research, exploratory development, and advanced development in airborne systems, particularly helicopters. Emphasis is on those aspects representing the capabilities and facilities available at the NASA Lewis Research Center.

Research results are published in primary journals, as technical reports, and as proceedings.

Remarks: The other three Research and Technology Laboratories are Aeromechanics Laboratory, Applied Technology Laboratory, and Structures Laboratory (see separate entries in this issue for description of laboratories and of RTL; see GRCD Issue 2, entry #675, for description of Lewis Research Center).

★ 1264 ★

PUERTO RICO AGRICULTURAL EXPERIMENT STATION

University of Puerto Rico  
Box H  
Rio Piedras, PR 00928

Established: 1910

Station operates in cooperation with Cooperative Research, Science and Education Administration, Department of Agriculture (USDA-SEA-CR); the University of Puerto Rico; and the Commonwealth of Puerto Rico.

Mission of the Station is to establish the scientific and technological base for developing and implementing an agricultural program in Puerto Rico which responds to the needs of the Island and to public agrarian policy. As part of this function, Station also does research on food processing, on the quality of rum, on solving pollution problems, and on rural development. The research program is organized according to commodities, involving interdisciplinary laboratory and field research on products such as avocado, coffee, sugarcane, citrus fruits, dracaena, starchy root crops,

pigeon peas, mango, papaya, pineapple, plantain, and banana. Research is also conducted on cattle, hogs, and poultry.

Research results are published in primary journals and as technical reports. Station publishes AGRICULTURAL ECONOMICS AND RURAL SOCIOLOGY series.

Remarks: Station was originally established by the Sugar Producers Association of Puerto Rico. In 1914 the Association deeded the Station to the Government of Puerto Rico which, in 1930, transferred the Station to the College of Agriculture and Mechanical Arts of the University of Puerto Rico. In 1966 the Experiment Station was integrated with the University's Mayaguez Campus. Today its programs are implemented through centers at both Mayaguez and Rio Piedras, and through academic departments, laboratories, substations located throughout Puerto Rico, and an Agricultural Research Service in Rio Piedras. (See separate entry in this issue for description of USDA-SEA's Cooperative Research program.)

★ 1265 ★

PURDUE UNIVERSITY AGRICULTURAL EXPERIMENT STATION (AES)

Agricultural Administration Bldg.  
W. Lafayette, IN 47907  
Dr. B. R. Baumgardt, Director

Phone: (317) 749-6005  
Established: 1875

AES operates in cooperation with Cooperative Research, Science and Education Administration, Department of Agriculture (USDA-SEA-CR); Purdue University; and the State of Indiana. Staff includes 190 research and 75 supporting professionals, 185 technicians, and 305 others.

Station provides a research coordinating office and allocates Federal and State funds for appropriately approved research projects within various departments of the University. These research projects include studies in the biological, social, and physical sciences as related to agriculture, consumer and family sciences, and veterinary medicine.

Research results are published in primary journals. AES publishes STATION BULLETINS and RESEARCH BULLETINS. Departments within the Station sponsor various special programs.

Remarks: In addition to the offices and laboratories located on the campus of Purdue University and the research farms located nearby, AES operates nine regional agricultural research centers throughout Indiana. (See separate entry in this issue for further description of the USDA-SEA's Cooperative Research program.)

★ 1266 ★

QUANTUM METROLOGY GROUP

National Bureau of Standards  
Physics Bldg.  
Gaithersburg, MD  
(Mailing address: Washington, DC 20234)  
Dr. Richard D. Deslattes, Senior Research Fellow

Phone: (301) 921-2061  
Established: 1978

Group is part of the Center for Absolute Physical Quantities, National Measurement Laboratory, National Bureau of Standards, Department of Commerce. Staff includes 12 research professionals, 1 supporting professional, and 1 other.

Unit conducts research in quantum metrology as part of Center's program to develop primary standards of physical measurement. Group maintains continuing efforts in several discipline areas, including X-ray spectroscopy, spectra of laboratory and astrophysical plasmas, laser physics, and application of precision laser spectroscopy to the study of calculable spectra of basic scientific interest.

Results are published in primary journals, as research reports, and as proceedings.

Remarks: See separate entry in this issue for description of Center for Absolute Physical Quantities.

76

## ★ 1267 ★

## RADAR DIVISION

Naval Research Laboratory  
Washington, DC 20375  
Dr. M. I. Skolnick, Superintendent

Division is part of the Systems Research and Technology Directorate, Naval Research Laboratory (NRL). NRL is a component of the Office of Naval Research; the Chief of Naval Research reports to the Assistant Secretary (Research, Engineering, and Systems), Department of the Navy.

Division conducts research on basic physical phenomena of importance to radar and related sensors; investigates new engineering techniques applicable to radar; demonstrates the feasibility of new radar concepts and systems; performs related systems analysis and evaluation of radar; and provides special consultative services. Emphasis is on new and advanced concepts and technology in radar and related sensors which are applicable to enhancing the Navy's ability to fulfill its mission.

Remarks: See Agency Index for listings of other components of the Systems Research and Technology Directorate, and of the Naval Research Laboratory, all included in this issue.

## ★ 1268 ★

## RADIATION BIOLOGY LABORATORY

12441 Parklawn Dr.  
Rockville, MD 20852 Phone: (301) 443-2329  
Dr. William H. Klein, Director Established: 1929

Parent organization is Smithsonian Institution. Research staff totals approximately 10.

Laboratory was originally established to determine the effects of solar radiation upon the biosphere and, particularly, to describe in biophysical terms the regulatory responses of plants to radiant energy. (The Laboratory is credited with making a number of pioneering investigations in photobiology, which include the first detailed action spectra of photosynthesis, photocontrol of seed germination, induction and reversal of photomorphogenesis in monocots and dicots, and phototropism.) Since its inception, Laboratory has directed its research efforts toward understanding the mechanisms by which radiant energy is absorbed, converted to potential chemical energy, and then utilized by cells for growth and differentiation. A large portion of the research has been in determining the mechanisms by which cells rely upon relatively low intensity and low total energy stimuli to regulate and channel the flow of this potential chemical energy in metabolism, thus directing differentiation and morphogenesis. In 1965 the Laboratory was established as an independent bureau of the Smithsonian to continue three major areas of research emphasis: 1) regulatory biology, which involves studies of the mechanisms of photoregulatory responses to nonionizing and ionizing radiation; 2) environmental biology, which involves the measurement of environmental variables which regulate plant growth and development, particularly solar radiation incident upon the earth's surface; and 3) radiocarbon dating measurements. Laboratory's specialized equipment and techniques provide a unique capability for fundamental, interdisciplinary studies in photobiology.

Remarks: For information on research opportunities offered by the Radiation Biology Laboratory, contact the Office of Fellowships and Grants, Smithsonian Institution, 955 L'Enfant Plaza, S. W., Washington, DC 20560.

## ★ 1269 ★

## RADIOBIOLOGY DIVISION

Bldg. 351  
University of Utah  
Salt Lake City, UT 84112  
Dr. McDonald E. Wrenn, Director Phone: (801) 581-6500

Division is assigned to the Assistant Secretary for Environment, Department of Energy (DOE). It is operated for the DOE by the University of Utah. Staff totals approximately 70. (Senior staff members hold academic appointments in various departments of the University.)

Division functions as a research laboratory for studies on the deposition, translocation, excretion, retention, and acute and late toxic effects of radionuclides (particularly the alpha-emitting isotopes) entering the body. This includes studies of the comparative metabolic effects of these isotopes using total body and partial body counting *in vivo* and radiochemical analysis of tissues. Specialized facilities include housing for more than 800 dogs (primarily beagles and St. Bernards) and 3000 mice, as well as specialized equipment for the quantitative measurement of low levels of plutonium and other alpha-emitting radionuclides, particularly with respect to bone microdosimetry.

Research results are published in primary journals. Division publishes annual PROGRESS REPORT.

## ★ 1270 ★

## RED RIVER VALLEY POTATO RESEARCH LABORATORY

311 5th Ave., N. E.  
E. Grand Forks, MN 56721 Phone: (218) 773-2473  
Paul H. Orr, Director Established: 1964

Parent agency is Agricultural Research - North Central Region, Science and Education Administration, Department of Agriculture. Staff includes 5 research professionals, 6 technicians, and 3 others.

Laboratory conducts basic and applied research to improve raw and processed potatoes.

Research results are published in primary journals.

Remarks: Laboratory operates in cooperation with the agricultural experiment stations at North Dakota State University and at the University of Minnesota and with the Red River Valley Potato Growers Association.

## ★ 1271 ★

## RESEARCH FOR BETTER SCHOOLS, INC (RBS)

444 N. Third St.  
Philadelphia, PA 19123 Phone: (215) 574-9300  
Dr. John E. Hopkins, Executive Director Established: 1966

RBS is an independent, non-profit organization supported partially by Department of Education funds. Staff includes 70 research professionals and 30 others.

Research for Better Schools helps schools, school districts, and state education agencies in Delaware, New Jersey, and Pennsylvania use the results of educational research, development, and evaluation to improve their educational programs. The laboratory helps educators build new research and development-based instructional programs; disseminates research and development outcomes; evaluates educational programs; and provides direct technical assistance in planning, implementing, and supporting school improvement. Current areas of research interest are basic skills instruction, career preparation, and school improvement.

Research results are published as research reports and journal articles.

Remarks: For further description of laboratory's relationship to the Department of Education, see separate entry in this issue on the National Institute of Education.

## ★ 1272 ★

## RESEARCH, DEMONSTRATION, AND EVALUATION DIVISION

Office of Human Development Services  
200 Independence Ave., S. W.  
Washington, DC 20201

(See Issue 1, entry #351, for description.)

UPDATE: Division is now called Division of Research and Demonstrations. It is part of the Office of Policy Development, Office of Human Development Services, Department of Health and Human Services, and is located at the address given above.

## ★ 1273 ★

RESEARCH AND DEVELOPMENT CENTER FOR TEACHER  
EDUCATION (R&DCTE)

University of Texas at Austin  
Education Annex 3.203  
Austin, TX 78712  
Dr. Oliver H. Bown, Director

Phone: (512) 471-1343  
Established: 1965

Center is an independent, non-profit organization supported primarily by Department of Education funds. Staff includes 20 research professionals, 33 supporting professionals, and 23 others.

Center conducts a program of long-term research (basic and field-oriented) in teacher education; teaching and learning; the process of educational change; and improvement of practice in schools and colleges.

Results are published as journal articles and proceedings. Center publishes annual CATALOG OF PUBLICATIONS. Center sponsors periodic national conferences, instructional workshops for teachers and administrators, and informational presentations for interested participants. Library holds 1000 volumes on education and psychology; Carol Walton, Coordinator, Communication Services.

Remarks: For further description of Center's relationship to the Department of Education, see separate entry in this issue on the National Institute of Education.

## ★ 1274 ★

## RESEARCH AND DEVELOPMENT LABORATORIES

U. S. Postal Service  
Research and Development Center  
11711 Parklawn Dr.  
Rockville, MD 20852  
Walter T. Marable, Executive Director

Parent organization is Research and Technology Group, U. S. Postal Service.

Laboratories unit is responsible for all research and development activities within the U. S. Postal Service, including: 1) development of new technology, as well as application of current and future technology; 2) conduct of applied research directed toward development of new concepts and approaches; 3) design and development of new systems and equipment, as well as equipment modification; 4) monitoring of new developments over a broad spectrum of technology and assessing such developments for possible application to Postal Service functions; and 5) providing technical support for configuration control and management for all postal mechanization.

Remarks: Laboratories unit is organized into four main offices. See Agency Index in this issue for specific listings of these offices, all of which are included in GRCD Issues 1-3.

## ★ 1275 ★

## RESEARCH AND DEVELOPMENT OFFICE

U. S. Customs Service  
1301 Constitution Ave., N. W.  
Washington, DC 20229  
Raymond D. Mintz, Director

Phone: (202) 566-5371  
Established: 1974

Office is a component of the Office of the Comptroller, U. S. Customs Service, Department of the Treasury. Staff includes 15 research professionals, 3 supporting professionals, 5 technicians, and 4 others.

Activities involve research, development, testing, and evaluation conducted under contract, in-house, and in the field. Principal fields of research and development are: 1) electronics, including RF devices, radars, and avionics; 2) electro-optics, including infrared, image intensification, and CCTV and long-range surveillance; and 3) physical sciences, including radiation, X-ray, and dielectric analysis. Office also provides engineering support for field activities.

Results are published as research reports (generally for internal use and limited distribution).

Remarks: Office was known as the Technical Support Division, Office of Enforcement Support until 1979.

## ★ 1276 ★

## RESEARCH DIRECTORATE

National Defense University  
Ft. Lesley J. McNair  
Washington, DC 20319  
Col. Franklin D. Margiotta, USAF,  
Director

Phone: (202) 693-1383  
Established: 1976

Directorate is part of the National Defense University (NDU), Department of Defense. (University was established in 1976 with the merger of the Industrial College of the Armed Forces and the National War College.) Staff includes 27 research professionals, 6 supporting professionals (writers/editors), 3 technicians, and 2 others.

The Research Directorate develops and conducts studies relating to national security policy formulation, national and military strategy, the allocation and management of resources for national security, and civil-military affairs. Studies are structured for consideration by decisionmakers at high levels of Government and are conducted by NDU Research Fellows. Senior Fellows are selected senior military and government scholars who engage in full-time sponsored research. Associate Fellows are NDU students who pursue research as parts of their curricula. Visiting, Adjunct, and Faculty Fellows also conduct special categories of research under University auspices.

Results, if unclassified, are published in primary journals and as research reports and proceedings. Directorate publishes the NATIONAL SECURITY AFFAIRS MONOGRAPH SERIES.

Remarks: A collateral function of the Research Directorate is the National Security Affairs Institute, which provides a forum for scholars, business leaders, Government representatives, and others to articulate their views of security-related issues. Institute conducts periodic seminars, panels, and discussions, and co-sponsors annual National Security Affairs Conference (attendance by invitation only).

## ★ 1277 ★

## RESEARCH DIVISION

Agency for International Development  
320 21st St., N. W.  
Washington, DC 20523  
Dr. James Nielson, Chief

Phone: (202) 632-7935  
Established: 1977

Division is a component of the Board for International Food and Agricultural Development (BIFAD); Office of the Administrator, Agency for International Development; U. S. International Development Cooperation Agency. Staff includes 3 research and 2 supporting professionals.

Division assists in planning, coordinating, and evaluating research conducted primarily by universities in support of development of less developed countries. Research activities focus primarily on agriculture and food, with secondary interest in rural development, natural resources, human nutrition, and farming systems.

Research results are published by individual investigators in primary journals and as research reports. Results may also be published in BIFAD's STAFF PAPERS series (irregular).

## ★ 1278 ★

## RESEARCH DIVISION

Cable Television Bureau  
1919 M St., N. W.  
Washington, DC 20554  
William H. Johnson, Acting Chief

Phone: (202) 632-9797  
Established: 1973

Division is a component of the Cable Television Bureau, Federal Communications Commission. Staff includes 2 research professionals, 1 technician,

and 1 other.

Unit conducts economic research relating to cable television and the impact of cable television on other communications sectors.

★ 1279 ★

RESEARCH AND ECONOMIC PROGRAMS (REP)

Comptroller of the Currency  
490 L'Enfant Plaza, S. W.  
Washington, DC 20219 Phone: (202) 447-1920  
William A. Longbrake, Deputy Comptroller Established: 1978

REP is a component of the Office of the Senior Deputy Comptroller for Policy, Comptroller of the Currency, Department of the Treasury. Staff includes 16 research professionals, 9 supporting professionals, 4 technicians, and 11 others.

Primary functions of REP are: 1) processing corporate applications; 2) monitoring the regulatory decisionmaking process; 3) analyzing the impact of reporting and compliance requirements imposed on national banks; 4) collecting, analyzing, and distributing financial and supervisory data reported by national banks; 5) conducting research projects pertaining to financial institutions, markets, and the macro-economic environment; 6) monitoring developments in the financial services industry; and 7) preparing publications of interest to the financial community. Principal subjects of research are bank capital; subordinated debt; foreign banking; liquidity; transborder data flows; money market funds; mortgage markets; fair housing; financial innovations; and thrift viability.

Results are published in primary journals, in the monthly REP DIGEST, as part of a Comptroller of the Currency research paper series (intermittently), and in various Reports to Congress. REP sponsors a Visiting Scholars Program; a Ph. D. in finance or economics is required for eligibility.

★ 1280 ★

RESEARCH AND EVALUATION STAFF

Pension Benefit Guaranty Corporation  
2020 K St., N. W.  
Washington, DC 20006  
Dr. Emerson H. Beler, Assistant Executive Phone: (202) 254-4847  
Director Established: 1974

Parent agency is the Office of the Executive Director, Pension Benefit Guaranty Corporation. Staff includes 5 research professionals and 2 others.

Unit conducts research to support the development, operation, control, and evaluation of the policies and programs of the corporation. Principal area of study is defined benefit pension plans.

Results are published as research reports. Unit publishes ANALYSIS OF SINGLE EMPLOYER DEFINED BENEFIT PLAN TERMINATIONS and BENEFIT PAYMENT EXPERIENCE STUDY (both annually).

★ 1281 ★

RESEARCH FACILITIES CENTER (RFC)

National Oceanic and Atmospheric Administration  
3401 N. W. 59th Ave.  
P. O. Box 520197  
Miami, FL 33152  
C. B. Emmanuel, Director Phone: (305) 526-2936

Parent organization is Environmental Research Laboratories, National Oceanic and Atmospheric Administration, Department of Commerce.

RFC provides instrumented aircraft containing sophisticated research systems capable of measuring a wide range of atmospheric and oceanic parameters in support of a variety of environmental research programs. Center also: 1) operates and maintains the aircraft and helicopters and oversees all matters relating to flight safety; 2) provides, installs, calibrates, and operates the research instruments in the aircraft; and 3) provides liai-

son with users, determines feasibility of new mission requirements, prepares software for the aircraft data systems, and processes collected data to meet user requirements.

Remarks: See Agency Index for listings of other Environmental Research Laboratories components included in GRCD Issues 1-3.

★ 1282 ★

RESEARCH MANAGEMENT DIVISION

Office of Personnel Management  
1900 E St., N. W.  
Washington, DC 20415 Phone: (202) 632-5496  
Dr. David Moers, Chief Established: 1980

Division is part of the Office of Planning and Evaluation, Office of Personnel Management (OPM). Staff includes 11 research professionals and 2 others.

Unit was established to provide government-wide leadership in public management research. Division serves as a research coordinating office, conducts a research grant program, and supports a program for pre- and post-doctoral researchers. Activities include all areas of public management, with a special focus on personnel management.

Research results are published as journal articles, research reports, and proceedings. Division sponsors annual Public Management Research Conference (November) on topics selected on the basis of relevance or importance to Federal central management agencies. Attendance is by invitation only.

Remarks: For further information on OPM research, see entry #785 in GRCD Issue 2 on the Personnel Research and Development Center.

★ 1283 ★

RESEARCH AND METHODOLOGY

Field Division  
Bureau of the Census  
Suitland, MD  
(Mailing address: Washington, DC 20233)  
Lawrence T. Love, Jr., Assistant Chief Phone: (301) 763-2670

Unit is part of the Field Division, Office of the Associate Director for Field Operations, Bureau of the Census, Department of Commerce.

The Field Division is responsible for recruiting and directing the interviewers and others involved in collecting data for Bureau surveys and censuses. The Research and Methodology unit supports Division activities by developing statistical measures to evaluate employee performance, by developing quality control procedures for census and survey activities, and by proposing and evaluating new data collection activities. Current research focuses on: 1) revising and improving unit's interviewer productivity index; 2) evaluating certain aspects of the 1980 Census of Population and Housing to develop proposals for researching new census methods; and 3) investigating the feasibility of collecting and transmitting data using a portable micro-processor.

★ 1284 ★

RESEARCH AND METHODOLOGY

Industry Division  
Bureau of the Census  
Suitland, MD  
(Mailing address: Washington, DC 20233)  
Donald F. Clark, Assistant Chief Phone: (301) 763-7354

Unit is part of the Industry Division, Office of the Associate Director for Economic Fields, Bureau of the Census, Department of Commerce.

Unit is responsible for the development and coordination of methodology and techniques, based upon the principles of mathematical statistics and

related disciplines, used for censuses and surveys in the field of industrial statistics. A central aim is to help assure the production of statistical data of maximum utility within the restraints of program budgets and data disclosure principles. Activities engaged in include research on methods for using data from other agencies in conjunction with census data in order to reduce the cost and errors of industrial statistics; the development of algorithms for computer or manual data processing; the design and maintenance of sample surveys; the development of methods for the measurement and control of errors in industrial statistics; and participation in the setting of standards for the quality of published data.

★ 1285 ★

RESEARCH AND OPERATIONS ANALYSIS DIVISION

Internal Revenue Service  
1111 Constitution Ave., N. W.  
Washington, DC 20224  
Frank Malanga, Acting Director

Phone: (202) 566-6536

Division is part of the Office of the Assistant Commissioner (Planning and Research), Internal Revenue Service (IRS), Department of the Treasury.

Division performs research, operational analysis, and comprehensive planning on an integrated, Servicewide basis. Research functions include conducting research to improve IRS programs; assisting other functional areas in conducting research; and conducting or continuing operational research and development program, which includes operations research projects and prototype development and testing of non-ADP equipment. Examples of recent projects include: 1) a study to identify, document, and measure income not being reported for Federal tax purposes; 2) a study which resulted in improved formulae used to select tax returns for examination; 3) basic research into the levels of taxpayer compliance with tax laws; and 4) periodic studies to obtain taxpayer perceptions of the tax administration system. Operations research and analysis also assists in solving problems of resource allocation (i.e., how much service to the public, how much enforcement, how much effort for individuals, corporations, estates, etc.).

★ 1286 ★

RESEARCH PROJECTS BRANCH

Division of Innovation and Development  
Office of Special Education  
400 Maryland Ave., S. W.  
Washington, DC 20202  
Dr. Max Mueller, Chief

Phone: (202) 245-2275  
Established: 1968

Branch is part of the Division of Innovation and Development, Office of Special Education, Office of Special Education and Rehabilitative Services, Department of Education. Staff includes 7 research professionals, 1 supporting professional, and 2 others.

Program provides grants and contracts for the support of research to improve educational opportunities for the handicapped. This includes the support of applied research, as well as research-related activities designed to assure the effective use of information developed through applied research. Such activities primarily involve the development of resources and materials for handicapped children, their parents, and their teachers. Activities which have been supported in the past include: research institutes, programmatic research, research training, research projects, curriculum and media development activities, surveys, and research dissemination.

Results are published individually by those receiving research support.

★ 1287 ★

RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION (RSPA)

400 Seventh St., S. W.  
Washington, DC 20590

Established: 1977

Parent agency is Department of Transportation (DOT). Staff totals approximately 850.

Administration is responsible for DOT programs which concern more than one mode of transportation and for programs which involve issues affecting all modes of transportation, such as energy, safety, and pollution control. In support of its basic mission to improve the safety and efficiency of the nation's transportation system, RSPA: 1) collects and analyzes information on transportation systems; 2) performs research and development to provide sound regulations and technology options for safe and efficient transportation systems; 3) disseminates information on transportation; 4) provides training in transportation security and safety; and 5) develops rules, and methods of enforcing these rules, for safe handling of hazardous materials.

RSPA maintains the Transportation Research Information Service Network (TRISNET) for transportation literature and research data, which provides services for DOT and for the transportation community at large; and the Transportation Information Locator System, a reference tool to approximately 1000 transportation data bases and sources, with public access provided through TRISNET services. RSPA publishes ANNUAL REPORT.

Remarks: RSPA is presently organized in three major divisions: 1) Materials Transportation Bureau, which issues and coordinates the safety regulations of all modes which carry hazardous materials, including pipelines; 2) Transportation Systems Center, which serves as the research and analysis arm of the Administration, providing technological support to RSPA and to other administrations of DOT; and 3) Transportation Programs Bureau, which administers programs in transportation security, transportation facilitation, emergency transportation, environmental and advanced technology, navigation and communications, university research, and transportation safety and security training. See separate entries in this issue for descriptions of the Transportation Systems Center and the Transportation Programs Bureau's Office of Systems Engineering and Office of University Research. (NOTE: At the time of this writing, a reorganization was pending approval. If approved, the Transportation Programs Bureau's component offices will be Multimodal Research, Emergency Transportation, and Multimodal Programs.)

★ 1288 ★

RESEARCH STAFF

Veterans Administration  
811 Vermont Ave., N. W.  
Washington, DC 20420  
Blake J. Ratliff, Director

Phone: (202) 389-2911  
Established: 1966

Parent agency is division of Construction, Veterans Administration. Staff includes 3 research professionals, 1 supporting professional, and 2 others.

Unit plans, coordinates, implements, and controls a research and development program on building technology related to health care facilities. Program is accomplished by in-house studies and through contracts with outside consultants, architects, engineers, and testing companies.

Results are published as research reports.

★ 1289 ★

RESEARCH AND STATISTICAL MEASURES BRANCH

Foreign Trade Division  
Bureau of the Census  
Suitland, MD  
(Mailing address: Washington, DC 20233)  
Poula N. Muraff, Chief

Phone: (301) 763-5868

Branch is part of the Foreign Trade Division, Office of the Associate Director for Economic Fields, Bureau of the Census, Department of Commerce.

Branch undertakes broad research involving the collection and compilation of foreign trade statistics of the U. S., including research involving coverage of U. S. data and compatibility with other government agencies and with major trading partners. Research may include development of sampling procedures for major statistical surveys designed to obtain additional statistical information and to assess the degree of compliance with reporting requirements, or the design of programs to identify and reconcile conceptual and methodological differences in comparable trade statistics available elsewhere (e.g., with other U. S. government agencies or with foreign

governments). Branch is also responsible for methodology and development of seasonal and other adjustment factors of foreign trade statistics and for planning and implementing programs to produce export and import unit-value and quantity indexes.

## ★ 1290 ★

## RESEARCH UNIT

Commodity Futures Trading Commission  
2033 K St., N. W.  
Washington, DC 20581  
Paula Tosini, Chief

Phone: (202) 254-6990

Unit is part of the Research and Education Section, Division of Economics and Education, Commodity Futures Trading Commission. Staff includes 9 research professionals, 2 supporting professionals, and 1 other.

Unit conducts policy and longer-term economic research, principally in the area of futures market trading and institutions.

Results are published in primary journals and as research reports. Commission library holds 12,000 volumes in law and economics, with specialization in commodity futures markets.

## ★ 1291 ★

## RESEARCH UNIT

U. S. Parole Commission  
320 First St., N. W.  
Washington, DC 20537  
Dr. Peter B. Hoffman, Director

Phone: (202) 724-3095  
Established: 1972

Unit is part of the U. S. Parole Commission, Department of Justice. Staff includes 4 research professionals and 2 others.

Unit conducts a program of research and development on parole/sentencing and correctional research.

Research results are published as research reports and journal articles.

## ★ 1292 ★

RICHLAND OPERATIONS OFFICE (RL)  
Richland, WA 99352

Parent agency is Department of Energy. Staff totals approximately 250.

Office is located at the Hanford Site (see "Remarks" section of entry on Rockwell Hanford Operations in this issue for description of the Site and its history) near Richland, WA. RL is responsible for management of all contractor-operated activities at this site except those associated with the Fast Flux Test Facility (FFTF) and the Liquid Metal Fast Breeder Reactor. (See entry on Hanford Engineering Development Laboratory, Issue 2, entry #624, for description of FFTF.) RL's mission includes management of research, development, and demonstration in solar, conservation, geothermal, fossil, and nuclear programs. Facilities managed include: Pacific Northwest Laboratory (see Issue 1, entry #320); a dual-purpose nuclear reactor; major chemical separations and radioactive waste-handling facilities; a plutonium processing plant; extensive multiprogram laboratories; a nuclear fuel production plant; and the Arid Lands Ecology Reserve for environmental and ecological studies. RL also provides site management and support for the DOE Regional Representative's Office in the Pacific Northwest Region.

## ★ 1293 ★

ROCKWELL HANFORD OPERATIONS  
P. O. Box 800  
Richland, WA 99352

Phone: (509) 373-1029

Department of Energy (DOE) has government responsibility for energy-

related activities conducted at the Hanford Site near Richland, WA. The various activities are carried out by operating contractors, including Rockwell Hanford Operations, which is a function of Rockwell International's Energy Systems Group. Rockwell Hanford Operations employs about 3600 people at the Hanford Site.

In 1977 Rockwell Hanford Operations took over the operating contract at the Hanford Site for: 1) chemical processing to recover plutonium, uranium, neptunium, and fission products and to assist in the management of radioactive wastes; 2) management of the nuclear wastes generated during the past 30 years at the Hanford Site, including research into interim and long-term storage of radioactive wastes (which involves a comprehensive investigation of the huge basalt formations under the Site for possible use as a repository for terminal storage of radioactive waste); and 3) support services, including a transportation system, electrical utility maintenance, warehousing, purchasing, security patrol, fire protection, and other plant services.

Remarks: In 1943 the Manhattan Project began at the Hanford Site, resulting in the development of the world's first three plutonium-production reactors. By 1964 nine such reactors were in operation at Hanford, and the complex housed facilities for the entire nuclear cycle. In 1965, Hanford began to diversify as the older reactors were phased out, and peaceful uses of nuclear power were emphasized. Since the 1970's energy research has been the major theme at Hanford.

## ★ 1294 ★

## ROCKY FLATS PLANT

P. O. Box 464  
Golden, CO 80401  
Robert O. Williams, Jr., General Manager Phone: (303) 497-7000

The Rocky Flats Plant is assigned to the Assistant Secretary for Defense Programs, Department of Energy (DOE). It is operated by the Energy Systems Group of Rockwell International, under contract with the DOE. Staff totals approximately 3700.

Primary mission of the Plant is development and production of certain components for nuclear weapons. These include components fabricated from plutonium as well as uranium, beryllium, and stainless steel. (These components are shipped outside Colorado for assembly into nuclear triggers. There are no bombs or reactors at Rocky Flats.) Related activities at the Plant include: 1) development of basic information pertaining to nuclear safety standards in all phases of the nuclear power industry; 2) development of chemical processing technology; and 3) development of alternative energy sources (since 1976, Rockwell at Rocky Flats has had management responsibility for the national program to develop small wind energy conversion systems for farm and rural use).

Remarks: Rocky Flats Plant is the principal U. S. source of Americium, a byproduct of the chemical recovery operation which is used in a variety of applications, including home and industrial smoke detectors.

## ★ 1295 ★

ROCKY MOUNTAIN LABORATORIES (RML)  
Hamilton, MT 59840

Phone: (406) 363-3211

RML is a component of the Intramural Research Program of the National Institute of Allergy and Infectious Diseases (NIAID), National Institutes of Health, Public Health Service, Department of Health and Human Services.

Principal components of the Rocky Mountain Laboratories are: 1) the Laboratory of Persistent Viral Diseases (Dr. Bruce Chesebro, Chief); 2) the Laboratory of Microbial Structure and Function (Dr. John L. Swanson, Chief); and 3) Epidemiology Branch (Dr. Robert N. Philip, Chief). Major topics of study in the Laboratory of Microbial Structure and Function are bacteria pathogenic for man, with emphasis on surface components of selected bacteria, rickettsiae, mycoplasmas, and chlamydiae that relate to the virulence and/or pathogenicity of these organisms. The Epidemiology Branch conducts research on rickettsiae and rickettsial diseases, as well as

investigations on Legionnaires' Disease, systematics of ticks, arthropod-borne viruses, pathogenesis of slow viral diseases, and immunobiology of relapsing fever. Branch also serves as the World Health Organization Collaborating Center for Rickettsial Reference and Research.

Research results are published as research reports and journal articles.

Remarks: Laboratories became a part of NIAID in 1948. See Agency Index in this issue for listings of NIAID and its other major components in GRCD Issues 1-3.

★ 1296 ★

ROME AIR DEVELOPMENT CENTER (RADC)  
Griffis AFB, NY 13441

Center is part of the Electronic Systems Division, Air Force Systems Command, Department of the Air Force. Staff totals approximately 1300.

RADC supports the Electronic Systems Division by providing a technology base for projects that pertain to command, control, communications, and intelligence. Center's technical mission areas are: 1) communications; 2) electromagnetic guidance and control; 3) surveillance of ground and aerospace objects; 4) intelligence data collection and handling; 5) information science technology; 6) propagation; 7) solid state sciences; 8) device radiation hardening; 9) electromagnetic materials and device exploitation; 10) electromagnetic radiation and radio frequency components; and 11) electronic reliability, maintainability, and compatibility. Center is involved also in demonstrating and acquiring selected systems and subsystems for intelligence gathering as well as mapping and charting. Accomplishments include much of the research and development on COBRA DANE, Tactical Air Control System, and the SPACETRACK System.

Remarks: See GRCD Issue 2, entry #561, for description of Electronic Systems Division.

★ 1297 ★

SALT LAKE CITY LABORATORY  
Occupational Safety and Health Administration  
390 Wakara Way  
P. O. Box 8137  
Salt Lake City, UT 84108  
Floyd A. Madsen, Director

Phone: (801) 524-5287  
Established: 1971

Laboratory is a component of the Directorate of Technical Support, Occupational Safety and Health Administration (OSHA), Department of Labor. Staff includes 53 research and 19 supporting professionals, 8 technicians, and 12 others.

Laboratory conducts analysis of toxic materials, with interest principally in the field of industrial hygiene chemistry.

Results are published in primary journals and as research reports. Library of 1500 volumes in industrial hygiene chemistry and toxicology is maintained; Martin D. Childress, Technical Information Specialist.

Remarks: In addition to the Salt Lake City Laboratory, OSHA maintains another laboratory in Cincinnati, OH.

★ 1298 ★

SAN FRANCISCO OPERATIONS OFFICE  
1333 Broadway  
Oakland, CA 94612

Parent agency is Department of Energy (DOE).

Office is responsible for the management, coordination, and support of DOE programs and projects conducted under contract at Lawrence Livermore National Laboratory, Lawrence Berkeley Laboratory, Stanford Linear Accelerator Center, and the Energy Technology Engineering Center at Canoga Park, CA. These programs involve all energy technologies, na-

tional defense, and basic research.

Remarks: The four contractor-operated facilities named above are described individually in GRCD Issues 1-3. See Indexes for specific references.

★ 1299 ★

SANTA CRUZ FIELD STATION  
U. S. Fish and Wildlife Service  
Applied Sciences Bldg.  
University of California  
Santa Cruz, CA 95064  
James A. Estes, Wildlife Biologist

Phone: (408) 429-2820

Station is a field unit of Denver Wildlife Research Center, Division of Wildlife Ecology Research, U. S. Fish and Wildlife Service, Department of the Interior. Staff includes 2 research professionals.

Station is engaged in a program of field research on sea otter ecology.

Research results are published in primary journals and as research reports and proceedings.

Remarks: See Agency Index in this issue for listings of the Denver Wildlife Research Center and other Center components included in GRCD Issues 1-3.

★ 1300 ★

SATELLITE EXPERIMENT LABORATORY (SEL)  
Federal Office Bldg. 4  
Silver Hill and Suitland Rd.  
Suitland, MD 20233  
Warren A. Hovis, Director

Phone: (301) 763-1847

Parent organization is Office of Research, National Environmental Satellite Service (NESS), National Oceanic and Atmospheric Administration (NOAA), Department of Commerce.

Laboratory carries out experiments intended to improve the products NESS derives from operational satellite data or to demonstrate initiatives for new operational products. Laboratory investigations are concerned with the measurement of physical constants relevant to operational data reduction and with the design, construction, and calibration of specialized equipment for laboratory and field use. Analysis of satellite data and other instrument data is accomplished with general-purpose minicomputer systems. Field experiments are conducted to demonstrate the utility of new measurement techniques, new results, or new technology. A variety of platforms (aircraft, balloons, ships, fixed ground-based sites, etc.) are used for these field experiments, and data from them may be reduced with SEL minicomputers. Areas of experimentation include atmospheric, oceanographic, hydrologic, and earth resources investigations. Principal components of the Laboratory are the Physics Branch, Experimental Applications Branch, and Technical Services Group.

Remarks: SEL is one of four major components of the NESS Office of Research. Others are the Applications Laboratory, Earth Sciences Laboratory, and Development Laboratory. Consult Indexes in this issue for specific references to those described separately in GRCD.

★ 1301 ★

SAVANNAH RIVER OPERATIONS OFFICE  
Aiken, SC 29801

Parent agency is Department of Energy (DOE).

Office administers DOE programs at the government-owned Savannah River complex, which is operated for DOE by E. I. duPont de Nemours and Company. See GRCD Issue 1, entry #363, for further description of specific facilities and activities at this complex.

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## ★ 1302 ★

## SCIENCE RESOURCES STUDIES DIVISION

National Science Foundation  
1800 G St., N. W.  
Washington, DC 20550

Parent organization is Directorate for Scientific, Technological, and International Affairs, National Science Foundation.

Division activities include: 1) periodic reviews of past and current national research and development funding and the supply and utilization of scientific and technical personnel; 2) short- and long-term projections of research and development funding and of the supply and utilization of scientific and technical personnel; 3) identification and analysis of factors responsible for changes in the science and technology resource system and assessment of their effects; 4) collection, analysis, and dissemination of information on the economic, social, professional, and demographic characteristics of scientific and technical personnel; and 5) compilation of information on U. S. and international science and technology resources and their characteristics and dynamics, and development of means to measure science and technology output.

Publications prepared by this Division include the National Science Board's biennial SCIENCE INDICATORS.

Remarks: Most of Division's work is performed internally or through contractual agreements with other Federal agencies and other appropriate non-Federal organizations. Extramural studies and analyses of the Division's extensive data base are supported through awards under the Program for the Analysis of Science Resources: Personnel, Funding, Impacts, and Outputs, for which a program announcement is issued annually. Special studies are frequently supported through external awards. The three topic areas in which awards are made are: Scientific and Technical Personnel; Funding of Science and Technology; and Special Science and Technology Indicators. See separate entries in this issue for descriptions of these three programs.

## ★ 1303 ★

## SCIENCE AND TECHNOLOGY TO AID THE HANDICAPPED PROGRAM

National Science Foundation  
1800 G St., N. W.  
Washington, DC 20550

Parent organization is Problem-Focused Research Division, Directorate for Engineering and Applied Science, National Science Foundation (NSF).

Program objectives are to: 1) improve sensory systems (speech, visual, hearing, and tactile) and locomotion and manipulatory capabilities through support of research projects that encourage the use of the best scientific and engineering developments; 2) involve the handicapped community in the development of the program to help ensure that the research meets the social and economic needs, as well as the physical needs, of the handicapped; 3) focus the research capabilities of universities, industries, small business, and nonprofit institutions on new low-cost approaches to bring scientific and technological developments to the aid of the handicapped; 4) foster an understanding of the social, economic, and institutional barriers that may inhibit the fuller participation of the handicapped in society; 5) ensure that promising developments are tested through the feasibility and proof-of-concept phases; and 6) determine incentives and other means required for the development and use of low-cost technological aids that meet the physical, social, and economic needs of the handicapped.

Remarks: For further discussion of programs sponsored by the Problem-Focused Research Division, see GRCD Issue 1, entry #100. See Agency Index in this issue for specific listings of individual programs.

## ★ 1304 ★

## SCIENTIFIC ANALYSIS SECTION

FBI Laboratory  
9th St. and Pennsylvania Ave., N. W.  
Washington, DC 20535

Section is part of the FBI Laboratory, a Division of Law Enforcement Ser-

vices, Federal Bureau of Investigation (FBI), Department of Justice.

The Scientific Analysis Section is composed of nine units, each with its own specialized area of study. 1) Research Unit's primary mission is directed in the field of forensic sciences, including the development of methods to identify various genetic markers present in bloodstains, thus enabling the forensic scientist to more precisely determine the source of the stain in question; and use of the scanning electron microscope and X-ray analyzer to analyze residues washed from the hands of persons suspected of having discharged a firearm. 2) Firearms-Toolmarks Unit is concerned with firearms identification, operational and functional test of firearms, determination of types of weapons used in crimes, and identification of the types of tools used by criminals. 3) Explosives Unit reconstructs explosive devices to identify bomb components. Unit also conducts on-the-scene examinations of bombings throughout the U. S. 4) Elemental Analysis Unit conducts examinations of metals, biologicals, ores, and gunshot residue to determine the elemental composition of these materials. 5) Instrumental Analysis Unit conducts microscopic, microchemical, and instrumental analyses of a wide variety of physical evidence such as paints, plasters, metal, glass, rubber, and explosive residues. Of major importance in paint examinations is the National Automotive Paint File. This reference collection consists of original paint finishes used on motor vehicles and is considered to be the most complete collection of its type. 6) Serology Unit conducts examinations on blood and other body fluids. Through such examinations, new analytical techniques are becoming available. For example, if a suspect and victim of a particular crime are both bleeding and of the same blood type in the familiar ABO system, several other blood types may be determined, so that while two persons may have the same blood type in one system of grouping, they may be different in another, thereby enabling serologists to distinguish between the two. 7) Chemistry-Toxicology Unit's major functions are the isolation and identification of poisons. Also studied are unknown pharmaceuticals and controlled drugs, accelerants used by an arsonist, explosives used by safecracker or saboteur, miscellaneous stains, and various liquid and solid materials. 8) Mineralogy Unit conducts examinations and comparisons of various particles of physical evidence found on clothing, tools, automobiles, and other possessions of a suspect with soils, safe insulation, concrete, plaster, mortar, ceramics, glass, ores, abrasives, industrial oxides, and other mineral substances. 9) Microscopic Analysis Unit conducts examinations on hair (whether human or animal), laundry markings, tape, fabric patterns, wood, and other plant materials and related matters.

Remarks: See separate entry in this issue for description of the FBI Laboratory and its other major components.

## ★ 1305 ★

## SCIENTIFIC COMPUTING DIVISION

National Bureau of Standards  
Gaithersburg, MD  
(Mailing address: Washington, DC 20234)  
Dr. Glenn R. Ingram, Chief Phone: (301) 921-3395

Division is part of the Center for Applied Mathematics, National Engineering Laboratory, National Bureau of Standards, Department of Commerce.

Division: 1) provides consulting services, performs research, and collaborates in the application of computer science and technology to computation problems in physical science and engineering at NBS; 2) plans and designs new computer facilities and systems appropriate to the range of problems from laboratory automation to large calculations and provides support for appropriate network communication; 3) develops, installs, and uses specialized software systems, processors, and languages for numerical computation and non-numerical information processing; and 4) evaluates and validates algorithms, both for numerical calculations and for mini- and micro-processor based scientific instrumentation.

Results are published in NBS publications series.

Remarks: Some Division staff members are located at the NBS laboratories in Boulder, CO 80303; phone (303) 497-5433. (See separate entry in this issue for description of Center for Applied Mathematics.)

## ★ 1306 ★

## SCIENTIFIC AND TECHNICAL PERSONNEL STUDIES PROGRAM

National Science Foundation  
1800 G St., N. W.  
Washington, DC 20550

Parent organization is Science Resources Studies Division, Directorate for Scientific, Technological, and International Affairs, National Science Foundation.

Program offers support for studies which provide the factual information needed to track the training and distribution of the Nation's scientists and engineers. Specific areas of interest are: the capability of the Nation's institutions of higher education to produce scientific and technical personnel; the current and future utilization of these personnel; and the changing characteristics of scientists and engineers.

Remarks: See separate entry in this issue for description of the Science Resources Studies Division. Persons interested in further information on the program described above should contact the Division.

## ★ 1307 ★

## SERVICES RESEARCH BRANCH

National Institute on Drug Abuse  
5600 Fishers Ln.  
Rockville, MD 20857  
Dr. Barry S. Brown, Chief

Phone: (301) 443-4100  
Established: 1974

Branch is part of the Resource Development Division; National Institute on Drug Abuse; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; Department of Health and Human Services. Staff includes 7 research and 4 supporting professionals.

Branch administers a demonstration grants program to improve drug abuse treatment and rehabilitation services. Grant support is available for projects which demonstrate, test, and/or evaluate a particular theory and/or approach relating to drug abuse treatment and rehabilitation. A major goal of the program is to develop models and methods to improve these services and to disseminate this information to the treatment field. The program is not intended to support drug abuse treatment and rehabilitation services to meet community needs, and support for these services is provided only where it is essential to the demonstration objectives. Grants are awarded only to public and private nonprofit agencies, organizations, and institutions. Applications must include a detailed research and/or evaluation plan relating to treatment and/or rehabilitation demonstration objectives.

Research results are published in National Institute on Drug Abuse REPORTS and MONOGRAPHS series. Branch publishes SERVICES RESEARCH BRANCH NOTES 2-3 times a year.

Remarks: See separate entry in this issue for description of National Institute on Drug Abuse.

## ★ 1308 ★

## SHIP FACILITY GROUP

Naval Research Laboratory  
Washington, DC 20375  
L. G. Galli, Head

Group is part of the Systems Research and Technology Directorate, Naval Research Laboratory (NRL). NRL is a component of the Office of Naval Research; the Chief of Naval Research reports to the Assistant Secretary (Research, Engineering, and Systems), Department of the Navy.

Ship Facility Group is responsible for coordinating, maintaining, and providing ship services, sea-going facilities, and specialized expertise in the area of navigation, communication, explosives, and deck handling common to and required by the at-sea experiments of research divisions and detachments under the Associate Director of Research for Systems Research and Technology.

Remarks: See Agency Index for listings of other components of the Systems Research and Technology Directorate, and of the Naval Research Laboratory, all included in this issue.

## ★ 1309 ★

## SLIDELL COMPUTER COMPLEX

1010 Gause Blvd.  
Slidell, LA 70458

Parent organization is George C. Marshall Space Flight Center, National Aeronautics and Space Administration (NASA).

The Slidell Computer Complex provides the Marshall Space Flight Center, its Michoud Assembly Facility in New Orleans, LA, and other NASA activities with critical automatic data processing services. Complex uses a general purpose computation concept that eliminates the need to duplicate facilities and computer equipment at these other locations.

Remarks: See separate entry in this issue for description of the Marshall Center. The Michoud Assembly Facility is listed in GRCD Issue 2, entry #690.

## ★ 1310 ★

## SMALL BUSINESS INNOVATION RESEARCH PROGRAM

National Science Foundation

1800 G St., N. W.

Washington, DC 20550

Phone: (202) 357-7527

Program is administratively assigned to the Intergovernmental Science and Public Technology Division, Directorate for Engineering and Applied Science, National Science Foundation (NSF).

Program provides an opportunity for small, creative science and technology oriented firms to perform innovative high-risk research on important problems that could have significant public benefit if the research is successful. Research topics may range from engineering and the physical sciences to the life sciences, with emphasis on advanced research concepts that could serve as a basis for technological innovation. One objective of the Program is to attempt to increase the return on investment to the public from federally funded research, and for this reason the Program is organized in three phases. In Phase I awards are made for a maximum of \$25,000 to determine the research capability of the small firm and the feasibility of the idea. Projects showing the most promise may then be awarded funds for Phase II, which is the principal research effort. (Previous awards for Phase II have averaged \$200,000.) If Phases I and II are successful, Phase III, the development phase, is to be funded with private venture capital to pursue commercial objectives. Federal funds are spent solely on NSF program objectives; commercial applications must be supported by private funding. Through this process Government research is coupled to market need and possible new technology-based products, processes, or services. Coupling small firms to university scientists and engineers is encouraged.

The brochure SMALL BUSINESS INNOVATION RESEARCH is available from the Innovation and Small Business Program Manager.

Remarks: This program provides support for small business firms only. Small businesses are those which are organized for profit, individually owned or operated, not dominant in the field in which they are bidding, and have an average of not more than 500 employees in all affiliated firms. Primary employment of the principal investigator must be with the small business firm at the time of the award.

## ★ 1311 ★

## SOCIAL AND ECONOMIC SCIENCE DIVISION

National Science Foundation

1800 G St., N. W.

Washington, DC 20550

Otto N. Larsen, Director

Phone: (202) 357-7966

Division is part of the Directorate for Biological, Behavioral, and Social Sciences, National Science Foundation.

Division's programs provide support for research in: 1) economics; 2) geography and regional science; 3) political science; 4) sociology; 5) law and social sciences; 6) history and philosophy of science (history of medicine

is not supported); and 7) measurement methods and data resources.

Remarks: Requests for additional information on Division's programs may be addressed to the Division Director at the above address. For descriptions of the Directorate for Biological, Behavioral, and Social Sciences and its other Divisions, consult specific listings in Agency Index in this issue. See GRCD Issue 1, entry #262, for further information on support mechanisms of the National Science Foundation.

★ 1312 ★

**SOCIOECONOMIC EFFECTS OF SCIENCE AND TECHNOLOGY PROGRAM**

National Science Foundation  
1800 G St., N. W.  
Washington, DC 20550

Parent organization is Policy Research and Analysis Division, Directorate for Scientific, Technological, and International Affairs, National Science Foundation (NSF).

Program supports studies that will provide Federal decision-makers with improved empirical information on the relationships between science and technology and economic performance and the quality of life; on the effects of government actions on such relationships; and improved methods for generating such information. Research is concerned with: 1) the impact on economic performance of private and public investment in science and technology; 2) effects of government policy instruments on the level and outcome of scientific and technological activities; 3) the role of science and technology in U. S. private sector international transactions; and 4) the effects of technological change on individuals and social institutions.

Remarks: Consult Agency Index for listings of the Policy Research and Analysis Division and its other programs, each described individually in this issue.

★ 1313 ★

**SOLAR AND ENERGY CONSERVATION TEST FACILITY**

1607 Hamill Rd.  
Chattanooga, TN 37343  
Dr. Jerome P. Harper, Supervisor Phone: (615) 755-3877

Parent organization is Division of Energy Conservation and Rates, Office of Power, Tennessee Valley Authority (TVA). Staff includes 7 research professionals (engineers), 3 supporting professionals, 7 technicians, and 1 other.

Facility tests and evaluates the performance and reliability of market-ready solar energy systems and energy conservation technologies. Primary fields of interest are: solar hot water heating; active and passive solar space heating; biomass space and process heating systems; and applied photovoltaics. Facility also conducts heat pump water heater and solar cooling tests.

Results are published as TVA reports, journal articles, and symposia proceedings. Tours for small groups are available (subject to Facility's testing schedule).

★ 1314 ★

**SOUTH CENTRAL POULTRY RESEARCH LABORATORY**

P. O. Box 5367  
Mississippi State, MS 39762 Phone: (601) 323-1964  
Dr. James W. Deaton, Director Established: 1965

Parent agency is Agricultural Research - Southern Region, Science and Education Administration, Department of Agriculture. Staff totals approximately 20.

Laboratory conducts research in poultry husbandry, physiology, chemistry, pathology, bacteriology, blood analysis, and agricultural engineering,

with emphasis on the relationship of management and environment to disease. Program includes basic and applied studies on the effects of management and environment on growth, quality, feed utilization, and mortality, as well as development and evaluation of methods of growth feed conversion and livability.

Research results are published in primary journals and in USDA bulletins.

Remarks: Laboratory operates in cooperation with Mississippi State University.

★ 1315 ★

**SOUTH DAKOTA COOPERATIVE WILDLIFE RESEARCH UNIT**

South Dakota State University  
Department of Wildlife and Fishery Sciences  
Brookings, SD 57006  
Dr. Raymond L. Linder, Unit Leader Established: 1963

Unit is part of a cooperative program between U. S. Fish and Wildlife Service, Department of the Interior; South Dakota State University; South Dakota Game, Fish, and Parks Department; and Wildlife Management Institute. Staff includes 2 research professionals.

Unit conducts research on the ecology and management of vertebrate and invertebrate wildlife. Program includes energy studies on short-grass prairies; research on the value of wetlands in the prairie pathole region; and wildlife habitat improvement.

Results are published in primary journals. Unit publishes ANNUAL REPORT and holds periodic seminars and field trips on the techniques, management problems, and work of conservation officers. A small reference library is maintained.

★ 1316 ★

**SOUTH DAKOTA WATER RESOURCES INSTITUTE**

South Dakota State University  
Brookings, SD 57007  
Dr. John L. Wiersma, Director Phone: (605) 688-4910

Institute is part of a cooperative program between the Office of Water Research and Technology, Department of the Interior; the State of South Dakota; and South Dakota State University. Staff includes approximately 3 research and 2 supporting professionals, 2 technicians, and 8 others.

Institute conducts and coordinates a program of research on water and resources which affect water. Program includes studies on water supply, use, and quality; pollution abatement; and economic aspects of water problems.

Remarks: See entry on Office of Water Research and Technology in GRCD Issue 1 (entry #310) for a more specific description of the Federal role in the State university water resources institutes program.

★ 1317 ★

**SOUTHEAST ARCHEOLOGICAL CENTER**

P. O. Box 2416  
Tallahassee, FL 32304 Phone: (904) 222-1167  
Richard D. Faust, Chief Established: 1966

Center is a component of National Park Service - Southeast Region, Department of the Interior. Staff includes 5 research professionals and 10 technicians.

Center conducts mission-oriented archeological research in support of cultural resource management programs in the Southeast Region of the National Park Service. Research includes studies in prehistoric and historic archeology.

Results are infrequently published. Library holds 1500 volumes on prehistoric and historic archeology in the southeastern U. S.; Gregory K. Toole, Librarian.

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## ★ 1318 ★

## SOUTHERN FOREST EXPERIMENT STATION

701 Loyola Ave.  
New Orleans, LA 70113  
Laurence E. Lassen, Director

Phone: (504) 589-6787

Parent agency is Forest Service, Department of Agriculture.

The Southern Station and its field components serve a seven-state region containing one-fifth of the nation's commercial forest land and one-tenth of its timber. It is also responsible for tropical forestry research in Puerto Rico (see GRCD Issue 1, entry #185). Station's mission is to increase the usefulness of the region's forests by increasing timber growth, wildlife habitat, forage for livestock, and recreation opportunities, as well as to improve water quality.

Research results are published as proceedings, in primary journals, and in Station publications series.

Remarks: See Agency Index for listing of all Southern Forest Experiment Station field components included in GRCD Issues 1-3.

## ★ 1319 ★

## SOUTHERN HARDWOODS LABORATORY

U. S. Forest Service  
P. O. Box 227  
Stoneville, MS 38776  
T. H. Filer, Jr., Project Leader

Laboratory is a field component of the Southern Forest Experiment Station, Forest Service, Department of Agriculture. Facilities are maintained in cooperation with the Mississippi Agricultural and Forestry Experiment Station and the Southern Hardwood Forest Research Group.

Principal field of research at the Stoneville Laboratory is southern bottomland hardwoods. Scientists there have pioneered the techniques of establishing and managing hardwood plantations and on managing natural hardwood stands. Other accomplishments include development of the superior cottonwood tree. Research efforts include the study of insect and disease problems.

Research results are published in Southern Forest Experiment Station publications, in primary journals, and as proceedings.

Remarks: Requests for general information about the Laboratory should be addressed to Southern Forest Experiment Station, 701 Loyola Ave., New Orleans, LA 70113. (See separate entry in this issue for description of Station.)

## ★ 1320 ★

## SOUTHERN REGIONAL OFFICE

Department of Agriculture  
701 Loyola Ave.  
P. O. Box 53326  
New Orleans, LA 70153

Parent agency is Agricultural Research (AR), Science and Education Administration (SEA), Department of Agriculture (USDA).

Office administers research and development programs conducted by USDA-SEA-AR units in the southern part of the U. S. Major research installations in this region include the Southern Regional Research Center, New Orleans, LA 70179. In addition, Area Directors share administrative responsibility for the laboratories and field units located within specific areas of the southern region. (See Agency Index for USDA-SEA-AR-Southern Region units included in GRCD Issues 1-3.)

## ★ 1321 ★

## SOUTHWEST EDUCATIONAL DEVELOPMENT LABORATORY (SEDL)

221 E. 7th St.  
Austin, TX 78701  
Dr. James H. Perry, Executive Director

Phone: (512) 476-6861  
Established: 1966

Laboratory is an independent, non-profit organization, supported primarily by funds from the Department of Education and other Government agencies. Staff includes 75 research professionals and 25 others.

SEDL promotes quality learning within its region by conducting behavioral and social research; by engaging in educational development; and by providing assistance to institutions with regionally-identified problems and needs. Principal areas of interest are: 1) learning and media research; 2) parenting; 3) desegregation; 4) bilingual, multicultural, and international education; 5) special education; 6) evaluation; 7) early childhood and early elementary education, and 8) competency-based education.

Results are published in Laboratory's monograph series, as occasional papers and special publications, in WORKING PAPERS IN SOCIOLINGUISTICS series, and in SEDL RESEARCH series. Library holds 5000 volumes on educational research and development.

Remarks: For further description of Laboratory's relationship to the Department of Education, see separate entry in this issue on the National Institute of Education.

## ★ 1322 ★

## SOUTHWESTERN DIVISION LABORATORY

U. S. Army Corps of Engineers  
4815 Cass St.  
Dallas, TX 75235  
Arthur H. Feese, Director

Phone: (214) 767-2411  
Established: 1949

Parent agency is U. S. Army Corps of Engineers; the Chief of Engineers is administratively responsible to the Chief of Staff, Department of the Army. Staff includes 7 professionals, 18 technicians, and 5 others.

Laboratory is one of several Corps of Engineers quality control and testing laboratories located in selected geographic areas of the U. S. These laboratories perform foundation explorations of soil and rock; analysis of water, wastewater, soil, paint, joint sealant, asphalt, and oil; and physical testing of steel, concrete block, tile, and similar construction materials. They also furnish testing and materials evaluation services in support of the Corps' civil and military projects and exercise technical supervision over testing done at commercial laboratories and those located in Corps District or project facilities.

Laboratory sponsors Field Lab Personnel Training on field testing procedures for Corps of Engineers and contractor personnel (held in January or February).

Remarks: Southwestern Division Laboratory is also the sole purchasing and warehousing agent for all diamond tools used by the Corps of Engineers worldwide. The diamonds are examined to determine the grade and number used in the specific tool, and when the tools are worn out the laboratory removes and grades the diamonds to assess the used value of the tools.

## ★ 1323 ★

## SPACE AND COMMUNICATIONS TECHNOLOGY DIRECTORATE

Naval Research Laboratory  
Washington, DC 20375  
Dr. B. Wald, Associate Director

Directorate is part of the Naval Research Laboratory (NRL), which is a component of the Office of Naval Research; the Chief of Naval Research reports to the Assistant Secretary (Research, Engineering, and Systems), Department of the Navy.

Directorate conducts basic and applied research to improve naval capabilities in communications, navigation, detection, surveillance, and environmental sensing. It also is responsible for research and development in the systems, sensors, techniques, instrumentation, and phenomenology of communications, command, and control; signal exploitation; and information processing. Work in these fields is supported by theoretical studies and analyses, as well as by experimental development and flight of payloads. Special facilities for building and testing complete spacecraft are available for on-orbit evaluation of space concepts and techniques. Major

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components of the Directorate include: the Concept Development Staff; Advanced Projects Office; Spacecraft Technology Center; Communications Sciences Division; and Space Sciences Division. (See separate entries in this issue for descriptions of each.)

Remarks: See separate entry in this issue for further description of NRL; consult Agency Index for listings of its other major components, all included in this issue.

★ 1324 ★  
SPACE DIVISION (SD)  
Los Angeles AFS, CA 90009

Division is a component of Air Force Systems Command, Department of the Air Force.

The Space Division serves as the focal point for Department of Defense research, development, acquisition, launch, and on-orbit command and control of military space systems. Major space programs include communications, navigation, meteorology, and technology development satellites. Major SD units include: 1) Air Force Satellite Control Facility, Sunnyvale AFS, CA, which controls Department of Defense satellites in orbit; and 2) the Space and Missile Test Organization, Vandenberg AFB, CA, which manages and directs the Eastern Space and Missile Center, which operates from Patrick AFB and Cape Canaveral AFS, FL, and the Western Space and Missile Center at Vandenberg AFB. The Eastern Space and Missile Center manages ballistic missile test launches and space launches of satellites operating in equatorial orbits. The Western Space and Missile Center performs launch operations for spacecraft requiring polar orbits and research and development tests on ballistic missiles and reentry vehicles.

★ 1325 ★  
SPACE SCIENCE DIVISION  
Naval Research Laboratory  
Washington, DC 20375  
Dr. Phillip Mange, Acting Superintendent

Division is part of the General Science and Technology Directorate, Naval Research Laboratory (NRL). NRL is a component of the Office of Naval Research; the Chief of Naval Research reports to the Assistant Secretary (Research, Engineering, and Systems), Department of the Navy.

Division conducts research, development, and tests in the fields of upper air physics, astronomy, astrophysics, and radio propagation studies. Satellites and rockets are used to obtain information on radiation from the sun and celestial sources, to investigate solar-terrestrial effects, to study the composition and behavior of the ionosphere, and to sense remotely the terrestrial environment. Radio telescopes are used for astronomical observations.

Remarks: See Agency Index for listings of other components of the General Science and Technology Directorate, and of the Naval Research Laboratory, all included in this issue.

★ 1326 ★  
SPACE SYSTEMS DIVISION  
Naval Research Laboratory  
Washington, DC 20375

Division is part of the Space and Communications Technology Directorate, Naval Research Laboratory (NRL). NRL is a component of the Office of Naval Research; the Chief of Naval Research reports to the Assistant Secretary (Research, Engineering, and Systems), Department of the Navy.

Division is responsible for research and development leading to the design, fabrication, launch, operation, and support of space systems for the Navy. The applications of space technology to the naval mission extends through all of the research and development spectrum from concept formulation to launch techniques of the completed spacecraft and interface with boosters. Both active and passive sensor technology are developed for space use. Division is also responsible for research and development in environmental

problem areas which affect the operation and performance of these space vehicles and for sharing the results with other related activities.

Remarks: See Agency Index for listings of other components of the Space and Communications Technology Directorate, and of the Naval Research Laboratory, all included in this issue.

★ 1327 ★  
SPACECRAFT TECHNOLOGY CENTER  
Naval Research Laboratory  
Washington, DC 20375  
Mr. P. G. Wilhelm, Head

Center is part of the Space and Communications Technology Directorate, Naval Research Laboratory (NRL). NRL is a component of the Office of Naval Research; the Chief of Naval Research reports to the Assistant Secretary (Research, Engineering, and Systems), Department of the Navy.

Center is responsible for providing complete spacecraft systems for purposes of conducting research and development in the space environment. This involves a broad and complete spectrum of activities ranging from system concept formulation, preliminary and detailed design, and prototype development to complete flight systems. The Center maintains all of the necessary special facilities for aerospace-type fabrication and environmental testing and supplies the expertise which is generally required in the development and design of the spacecraft system. The Center also maintains dedicated ground stations for the purpose of transmitting command/control signals to, and receiving and analyzing telemetered data from, those of its spacecraft which have been placed into orbit.

Remarks: See Agency Index for listings of other components of the Space and Communications Technology Directorate, and of the Naval Research Laboratory, all included in this issue.

★ 1328 ★  
SPECIAL SCIENCE AND TECHNOLOGY INDICATORS PROGRAM  
National Science Foundation  
1800 G St., N. W.  
Washington, DC 20550

Parent organization is Science Resources Studies Division, Directorate for Scientific, Technological, and International Affairs, National Science Foundation.

Program supports studies of the dynamics of the science and technology resources complex. A major component of this undertaking involves the development of special indicators, primarily of an output nature. This work, along with that of the other Science Resources Studies Division programs that deal primarily with inputs, provides the basis for the National Science Board's biennial Science Indicators publications, which are prepared by the Division. Also included are modeling and simulation activities designed to lead to a better understanding of the factors that are responsible for the changes in the distribution of human and financial resources for science and technology.

Remarks: See separate entry in this issue for description of the Science Resources Studies Division. Persons interested in further information on the program described above should contact the Division.

★ 1329 ★  
STANDARDIZATION DIVISION  
Federal Grain Inspection Service  
Richards-Gebour AFB  
Bldg. 221  
Grandview, MO 64030  
Dr. James L. Driscoll, Director Phone: (816) 348-2861

Division is a component of the Federal Grain Inspection Service, Department of Agriculture.

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Division develops and reviews official grade standards for grain and other commodities; develops new and improved inspection techniques; and conducts demonstration and educational programs designed to promote the understanding of grade standards and encourage their use. Five main units make up the Division: 1) Director's Office; 2) Training Branch; 3) Board of Appeals and Review; 4) Marketing Standards Branch; and 5) Inspection Methods and Research Branch. Activities of the Marketing Standards Branch focus on the evaluation, revision, and development of grain and commodity standards. This involves the collection and analysis of data relating to production and marketing. The Inspection Methods and Research Branch (IMRB) provides primary reference standards, conducts applied research, and develops methods and instruments for determining quality factors of grains, oilseeds, and other commodities. Principal areas of research are analytical chemistry, cereal chemistry, milling technology, seed physiology, plant pathology, electronic engineering, and mechanical engineering. Research is conducted in five laboratories (Kjeldahl protein, moisture, applied science, electronic engineering, and mechanical engineering).

Remarks: Standardization Division is one of four headquarters divisions which support the inspection and weighing activities of the Federal Grain Inspection Service's field personnel. The other three major divisions are: 1) Inspection Division; 2) Weighing Division; and 3) Compliance Division.

## ★ 1330 ★

STATISTICAL OFFICE  
National Park Service  
Denver Service Center  
P. O. Box 25287  
Denver, CO 80225  
Dr. Kenneth E. Homback, Chief

Phone: (303) 234-4529  
Established: 1968

Parent organization is National Park Service, Department of the Interior. Staff includes 3 research and 6 supporting professionals, 3 technicians, and 1 other.

Office collects and analyzes statistical data, primarily as related to outdoor recreation travel measurement and forecasting. Office has secondary interest in forecasting in related areas such as business conditions, population trends, and technological changes.

Office publishes ANNUAL NATIONAL PARK STATISTICAL ABSTRACT.

## ★ 1331 ★

STATISTICAL RESEARCH DIVISION  
Economics and Statistics Service  
S. Agriculture Bldg.  
Independence Ave. bet. 12th and 14th Sts., S. W.  
Washington, DC 20250  
Charles E. Caudill, Director

Phone: (202) 447-3638

Division is part of the Economics and Statistics Service, Department of Agriculture.

Primary function is the development of new and improved data collection, estimation, and forecasting methods for agricultural statistics. This is accomplished through Division's three main branches: 1) Sampling Frames and Survey Research Branch develops and maintains area frames for each State, conducts sampling and nonsampling research, and provides consultation services; 2) Yield Research Branch conducts and supports research and evaluation in improving the capability to forecast and estimate crop yields, and conducts research in methods for detecting and evaluating large area conditions that may affect crop production; and 3) Remote Sensing Branch estimates crop acreage and land use by combining satellite collected data with probability collected ground data.

Results are published as technical reports issued by the Department of Agriculture and as part of the USDA's Technical Bulletin Series.

## ★ 1332 ★

STORED PRODUCT INSECTS RESEARCH UNIT  
5578 Air Terminal Dr.  
Fresno, CA 93727  
Phone: (209) 487-5338

Unit is a component of Agricultural Research - Western Region, Science and Education Administration, Department of Agriculture.

Research conducted by this Unit focuses on developing methods to control insects that attack agricultural commodities from the time of harvest until they are consumed. Activities include: 1) biological studies of insect diseases, including studies of pathogens of vegetable and fruit insects (with emphasis on pathogenic viruses) and biological and ecological studies of the effects of temperature, humidity, and food on insect to gain basic information on insect behavior; 2) nonchemical studies, through which scientists have developed a procedure using low-oxygen atmosphere to kill all insect species that attack stored tree fruits and nuts; and 3) chemical studies on fumigants, including those derived from plants. Unit's research program is supported by an analytical laboratory and an insect rearing laboratory. Unit efforts also include development of sanitation practices for insect control.

Remarks: Much of Unit's current research program is conducted in cooperation with the dried fruit and tree nut industries, the fresh fruit and vegetable industries, and the military.

## ★ 1333 ★

STRATEGIC SYSTEMS PROJECT OFFICE  
1321 Jefferson Davis Hwy.  
Arlington, VA  
(Mailing address: Washington, DC 20362)

Office is part of the Naval Material Command; the Chief of Naval Material reports to the Chief of Naval Operations, Department of the Navy. Project Director is assisted by a team of Navy missile experts, scientific leaders, universities, and thousands of industrial contractors and government agency personnel.

Activities of the Strategic Systems Project Office focus on development and acquisition for the Fleet Ballistic Missile Weapon System (FBM), including submarine-launched POLARIS and POSEIDON missiles, as well as the new TRIDENT missile system. Support facilities for these missile systems include testing sites, assembly facilities, material expediting and requisition control offices, submarine tenders, missile transport ships, and test instrumentation and navigational test ships.

Remarks: See separate entry in this issue for description of the Trident System Project Office.

## ★ 1334 ★

STRUCTURES LABORATORY (SL/RTL)  
U. S. Army Research and Technology Laboratories  
Langley Research Center  
Hampton, VA 23665  
Thomas L. Coleman, Director  
Established: 1971

Laboratory is one of four which make up the U. S. Army Research and Technology Laboratories (RTL) of the Aviation Research and Development Command, a major subordinate command of the Materiel Development and Readiness Command, Chief of Staff of the Army, Department of the Army.

Laboratory conducts aeronautical research, as well as exploratory and advanced development, in airmobile systems, particularly helicopters. Emphasis is on those aspects represented by the capabilities and facilities of the NASA Langley Research Center.

Research results are published in primary journals and as technical reports and proceedings.

Remarks: The other three Research and Technology Laboratories are the Aeromechanics Laboratory, Applied Technology Laboratory, and Propulsion Laboratory (see separate entries in this issue for description of laboratories and of RTL; see GRCD Issue 1, entry #198, for description of Langley).

## ★ 1335 ★

## SWRL EDUCATIONAL RESEARCH AND DEVELOPMENT (SWRL)

4665 Lampson Ave.

Los Alamitos, CA 90720

Dr. Richard Schutz, Executive Director

Phone: (213) 598-7661

Established: 1966

SWRL is an independent, non-profit organization supported primarily by Department of Education funds. Staff includes 70 research and 30 supporting professionals, 20 technicians, and 25 others.

SWRL's mission is to develop fundamental, significant improvements in education and to conduct educational research in order to solve the problems and to serve the needs of the public and private schools, colleges, and universities in Arizona, southern California, and southern Nevada. Major programs are concerned with schooling and learning, language, mathematics, and bilingual education.

Research results are published in SWRL TECHNICAL NOTES and REPORTS. A library of 8000 volumes is maintained; Louise Riedel, Librarian.

Remarks: For further description of Laboratory's relationship to the Department of Education, see separate entry in this issue on the National Institute of Education.

## ★ 1336 ★

## SYSTEMS RESEARCH AND TECHNOLOGY DIRECTORATE

Naval Research Laboratory

Washington, DC 20375

Richard R. Rojas, Associate Director

Directorate is part of the Naval Research Laboratory (NRL), which is a component of the Office of Naval Research; the Chief of Naval Research reports to the Assistant Secretary (Research, Engineering, and Systems), Department of the Navy.

Directorate performs basic research and development in support of major generic Navy systems, with emphasis on radar systems, electronic warfare systems, and undersea warfare systems. Directorate also conducts an extensive experimental program in the field using both ship and aircraft platforms. Other activities which support the research and development for Navy systems include programs in ocean engineering, environmental factors, and calibration and standards for underwater acoustic devices. Major components of the Directorate are: 1) Oceanographic Computer Applications Group; 2) Ship Facility Group; 3) Acoustics Division; 4) Radar Division; 5) Tactical Electronic Warfare Division; 6) Marine Technology Division; and 7) Underwater Sound Reference Detachment. (See separate entries in this issue for descriptions of each.)

Remarks: See separate entry in this issue for further description of NRL; consult Agency Index for listings of its other major components, all included in this issue.

## ★ 1337 ★

## TACTICAL ELECTRONIC WARFARE DIVISION

Naval Research Laboratory

Washington, DC 20375

Mr. L. A. Cosby, Superintendent

Division is part of the Systems Research and Technology Directorate, Naval Research Laboratory (NRL). NRL is a component of the Office of Naval Research; the Chief of Naval Research reports to the Assistant Secretary (Research, Engineering, and Systems), Department of the Navy.

Division is responsible for research and development in support of the Navy's tactical electronic warfare requirements and missions. These include electronic warfare support measures, electronic countermeasures, and supporting counter-countermeasures, as well as studies, analyses, and simulations for the determination and improvements of the effectiveness of these systems.

Remarks: See Agency Index for listings of other components of the Systems Research and Technology Directorate, and of the Naval Research Laboratory, all included in this issue.

## ★ 1338 ★

## TAYLOR (DAVID W.) NAVAL SHIP RESEARCH AND DEVELOPMENT CENTER (DTNSRDC)

Carderock, MD

(Mailing address: Bethesda, MD 20084)

Established: 1967

Center is a component of the Naval Material Command; the Chief of Naval Material reports to the Chief of Naval Operations, Department of the Navy. Staff at Carderock totals approximately 1000.

DTNSRDC is the Navy's principal research, development, test, and evaluation Center for naval vehicles. Principal areas of interest are new vehicle concepts, ship and aircraft compatibility, ship trials, and the development of vehicle technology, including research on hull-form structures, propulsion, silencing, maneuvering and control, auxiliary machinery, environmental effects, pollution abatement, logistics research, computer techniques, and software for analysis and design. Center comprises two Laboratories, one at the Carderock location and another at Annapolis, MD (see following entry). The Carderock Laboratory is made up of seven major technical departments: 1) Systems Development Department provides a technological link between exploratory development, advanced development, and procurement of prototypes; 2) Aviation and Surface Effects Department develops advanced concepts for aircraft and ships, with current emphasis on circulation control applications and small air cushion and surface effect craft for the Marine Corps, and on large surface effects ships; 3) Ship Performance Department conducts basic and applied research on hull forms and propulsors as a basis for new ship designs for the Navy and provides hydromechanics support to the Fleet for surface ships and submarines; 4) Structures Department develops structural methods for evaluating and designing high-strength hulls, investigates effects of explosions on ships and equipment to develop ways to make ships less vulnerable in combat, and appraises the effects of anti-ship warheads; 5) Ship Acoustics Department conducts research and development in underwater acoustics and ship vibrations; 6) Computation, Mathematics, and Logistics Department develops computer software for various Navy applications and plans, develops, and operates high-speed computer systems for the Navy and other Department of Defense activities; and 7) Central Instrumentation Department provides engineering development and design of specialized research and testing equipment for the technical Departments (for use in the laboratory and aboard ship) and provides measurement services.

Remarks: Major detachments of the Center include: Acoustic Research Detachment, Bayview, ID; the Acoustic Trials Detachment, Cape Canaveral, FL; the Underwater Explosions Research Division, Norfolk Naval Shipyard, Portsmouth, VA; the Hydrofoil Special Trials Unit, Bremerton, WA; and the Amphibious Assault Landing Craft Experimental Trials Unit, Panama City, FL.

## ★ 1339 ★

## TAYLOR (DAVID W.) NAVAL SHIP RESEARCH AND DEVELOPMENT CENTER - ANNAPOLIS LABORATORY

Annapolis, MD 21402

Established: 1967

Center is a component of the Naval Material Command; the Chief of Naval Material reports to the Chief of Naval Operations, Department of the Navy. Staff at the Annapolis Laboratory totals approximately 500.

Principal fields of research at the Annapolis Laboratory are materials, propulsion and auxiliary machinery, pollution abatement, and energy. Laboratory houses two technical Departments: 1) Propulsion and Auxiliary Systems Department develops and evaluates a variety of naval machinery, focusing on areas such as power systems, ships automation and control, machinery dynamics, mechanical systems and components, electrical systems integration, and shipboard energy conservation; and 2) Ship Materials Engineering Department is concerned with developments relating to metals and alloys, corrosion, welding and fabrication, fuels and lubricants, paints, elastomers and coatings, encapsulants, shipboard fire engineering, shipboard pollution abatement, and advanced composites.

Remarks: The Annapolis Laboratory is one of two which make up the Center; the other (Carderock Laboratory) is located in Carderock, MD, along with the Center headquarters (see above entry).

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## ★ 1340 ★

## TEACHING AND LEARNING PROGRAM

National Institute of Education

1200 19th St., N. W.

Washington, DC 20208

Lois-ellin Data, Associate Director Phone: (202) 254-6000

Program is a component of the National Institute of Education (NIE), Office of Educational Research and Improvement, Department of Education.

Program provides support for research to enlarge scientific understanding of human learning and to increase knowledge of effective teaching and assessment practices. Research supported includes fundamental studies with long-range potential as well as research of more immediate significance for educational practice. Program is organized in five main divisions: 1) Program on Reading and Language Studies; 2) Program on Education in the Home, Community, and Work; 3) Program on Testing, Assessment, and Evaluation; 4) Program on Learning and Development; and 5) Program on Teaching and Instruction. Staff in these divisions are responsible for development of research plans and for the management of the research projects resulting from this grants competition. Areas of investigation currently eligible for support are: Language and Literacy; Mathematics Learning; Basic Cognitive Skills; Teaching in School Settings; Teaching and Learning in Out of School Settings; Social Processes; and Testing and Evaluation.

Remarks: The Teaching and Learning Program is one of three main programs in the NIE which support research. Others are the Educational Policy and Organization Program and the Dissemination and Improvement of Practice Program. See separate entries in this issue for descriptions of each.

## ★ 1341 ★

## TECHNICAL SERVICES DIRECTORATE

Naval Research Laboratory

Washington, DC 20375

Dr. Harper Q. North, Associate Director

Directorate is part of the Naval Research Laboratory (NRL), which is a component of the Office of Naval Research; the Chief of Naval Research reports to the Assistant Secretary (Research, Engineering, and Systems), Department of the Navy.

Technical Services Directorate provides administrative and technical services to support the work of NRL's four Research Directorates (see "Remarks" below). The Directorate includes: 1) Office of the Patent Counsel, which has as one of its functions the provision of state-of-the-art searches in the patent literature pertinent to particular research problems; 2) Safety Office; 3) Administrative Services Office; 4) Engineering Services Division, which provides the engineering, design, fabrication, assembly, and test of experimental research equipment for NRL; 5) Supply Division; 6) Public Works Division; 7) Technical Information Division; and 8) the Chesapeake Bay Detachment, which maintains shops, facilities, and equipment for research and development projects which can best be carried out there, including a fire test facility and research watercraft.

Remarks: NRL's four Research Directorates are the General Science and Technology Directorate, Systems Research and Technology Directorate, Material Science and Component Technology Directorate, and Space and Communications Technology Directorate. See separate entries in this issue for descriptions of each; see separate entry also for general description of NRL.

## ★ 1342 ★

## TECHNOLOGY ASSESSMENT AND RISK ANALYSIS PROGRAM

National Science Foundation

1800 G St., N. W.

Washington, DC 20550

Parent organization is Policy Research and Analysis Division, Directorate for Scientific, Technological, and International Affairs, National Science Foundation.

Studies in technology assessment which are conducted under this Program examine the planned and unplanned consequences of technology that are indirect, unanticipated, and delayed. Purpose is to generate information that will help decisionmakers anticipate and plan for contingencies associated with the implementation of new technologies. Studies in risk analysis involve questions of how information about risk is used in the science and technology policy decisionmaking process and how considerations of public and private costs and benefits are balanced in the science and technology policy decisionmaking process. Program encompasses both methodological and utilization studies in technology assessment and risk analysis. Methodological studies focus on improved methods of analysis; utilization studies focus on improving ways to incorporate results into the decisionmaking process.

Remarks: Consult Agency Index for listings of the Policy Research and Analysis Division and its other programs, each described individually in this issue.

## ★ 1343 ★

## TECHNOLOGY INNOVATION PROJECTS

National Science Foundation

1800 G St., N. W.

Washington, DC 20550

Program is administratively assigned to the Intergovernmental Science and Public Technology Division, Directorate for Engineering and Applied Science, National Science Foundation (NSF).

Technology Innovation Projects are designed to test methods for accelerating the application of findings of NSF-sponsored university research to industrial applications and to provide data for development of policy in this area. Projects do not attempt to create institutions or centers that extend beyond the project itself. A typical project involves a research program that is unsuitable for a single firm to undertake without assistance. It will deal with an innovation that has high potential for social benefit but a cost of development and implementation too high for any one company to be able to recover its investment. Since few companies will introduce innovation without reasonable assurance that the research will be reliable and cost-effective, an experimental test in an industrial setting provides a means for gaining industry acceptance, while at the same time providing a means for universities to become involved in practical industrial problems outside their normal province. Technology Innovation Projects link the company to the university in order to familiarize the company with current applicable research findings. This permits the firm to identify and collaborate with the university in resolving the remaining research gaps preventing implementation and testing of an innovation.

Remarks: See Agency Index in this issue for listings of other programs in industrial innovation sponsored by the NSF.

## ★ 1344 ★

## TEMPERATURE MEASUREMENTS AND STANDARDS DIVISION

National Bureau of Standards

Washington, DC 20234

(See Issue 1, entry #401, for description.)

UPDATE: Division is now the Temperature and Pressure Measurements and Standards Division.

## ★ 1345 ★

TEST WING, 4950th

Aeronautical Systems Division

Wright-Patterson AFB, OH 45433

Unit is a component of the Aeronautical Systems Division (ASD), Air Force Systems Command (AFSC), Department of the Air Force.

The 4950th Test Wing conducts research and development flight testing with 45 aircraft ("flying laboratories") for experiments and projects from ASD, other AFSC divisions and laboratories, and other Air Force and

government agencies. Exteriors of Test Wing aircraft are often reshaped to accommodate new gear inside. One example is the Advanced Range Instrumentation Aircraft (ARIA), which has a large, bulbous nose that houses the world's largest airborne steerable antenna. ARIA are used to track missile and spacecraft launches over land and water when ground tracking stations and ships are not available. Aircraft modifications are done in-house at the Wing. The modification center designs, fabricates, and installs all major Class II (temporary research and development) modifications on AFSC test aircraft.

Remarks: See separate entry in this issue for description of Aeronautical Systems Division.

★ 1346 ★

TEXAS AGRICULTURAL EXPERIMENT STATION (TAES)  
College Station, TX 77843 Phone: (713) 845-8484  
Dr. Neville P. Clarke, Director Established: 1888

Station operates in cooperation with Cooperative Research, Science and Education Administration, Department of Agriculture (USDA-SEA-CR); the Texas A&M University System; and the State of Texas. Staff includes 413 research and 391 supporting professionals, 834 technicians, and 303 others.

TAES conducts a program of field and laboratory research in agriculture, including research in veterinary medicine; biological sciences; soils, crops, plants, and water; wildlife studies; and aquaculture. Activities also include the use of remote sensing.

Research results are published as journal articles and research reports and in USDA publications series. Station publications include bulletins and monographs. Station also sponsors various seminars, meetings, and field days, most of which are open to the public.

Remarks: Station operates in affiliation with 16 research centers and 12 sub-stations located throughout the State of Texas. (See separate entry in this issue for further description of USDA-SEA's Cooperative Research program.)

★ 1347 ★

TEXAS WATER RESOURCES INSTITUTE  
Texas A & M University  
College Station, TX 77840  
Dr. J. R. Runkles, Director Phone: (713) 845-1851

Institute is part of a cooperative program between the Office of Water Research and Technology, Department of the Interior; the State of Texas; and Texas A & M University. Staff includes approximately 10 research and 5 supporting professionals, 5 technicians, and 5 others.

Institute conducts research on water and resources which affect water. Program includes studies on: water pollution by eroded sediments; water requirements in agriculture; systems analysis in water resource planning; effects of fatty alcohols on clarity and biota of water; hydrology and morphology of precipitation; and status of surface waters in Texas.

Research results are published in bulletins and as research reports. Institute sponsors seminars and conferences on specialized topics related to water resources of the State of Texas (open to the public).

Remarks: See entry for Office of Water Research and Technology in GRCD Issue 1 (entry #310) for a more specific description of the Federal role in the State university water resources institutes program.

★ 1348 ★

TEXTILES AND CLOTHING LABORATORY  
1303 W. Cumberland Ave.  
Knoxville, TN 37916  
Tyrone L. Vigo, Director Phone: (615) 974-5249

Parent agency is Agricultural Research - Southern Region, Science and

Education Administration, Department of Agriculture. Laboratory is located on the campus of, and cooperates with, the University of Tennessee, Knoxville.

Primary mission is to conduct basic and applied research on the most effective use and care of textiles, clothing, and home furnishings available to consumers. This includes: 1) development of scientific principles and information for improving service life, comfort, durability, aesthetic qualities, and safety and health aspects of textiles, and for utilizing them most effectively in energy conservation; 2) development of methods and instrumentation for evaluating functional and aesthetic properties of textiles to predict service life, acceptability, and performance levels; and 3) establishment of criteria for the properties required in textiles to meet the needs and wants of users more effectively. Research is accomplished intramurally (one to five-year projects requiring approval of the Agricultural Research National Program Staff); extramurally (cooperative agreements, grants, or contracts to universities or research institutes, also requiring National Program Staff approval); and as broad farm research conducted by students at the University of Tennessee's Knoxville campus.

Laboratory publishes REMOVING STAINS FROM FABRICS, HOW TO PREVENT AND REMOVE MILDEW, FABRICS FOR CONSUMER APPAREL, and SANITATION IN HOME LAUNDERING in cooperation with the Agricultural Research Information Staff.

★ 1349 ★

THERMOPHYSICAL PROPERTIES DIVISION  
National Bureau of Standards  
325 Broadway  
Boulder, CO 80303  
Neil A. Olien, Acting Chief Phone: (303) 497-3257

Division is a component of the Center for Chemical Engineering, National Engineering Laboratory, National Bureau of Standards, Department of Commerce. Staff includes 33 research professionals, 10 supporting professionals, 4 technicians, and 7 others.

Division conducts laboratory research in: 1) chemical engineering, including studies of heat and mass transfer, separation, mixing, scaleup, process analysis, and flow measurements; and 2) thermophysical properties of fluids and solids, including experimental measurements, theoretical studies, data correlation and evaluation, and predictive mathematical models.

Research results are published in primary journals, as conference proceedings, and in NBS TECHNICAL NOTES. Division sponsors biannual Cryogenic Engineering Conference. Library holds 3000 volumes in cryogenics, low temperature physics, and chemical engineering; Jo R. Mendenhall, Librarian.

Remarks: See separate entry in this issue for description of the Center for Chemical Engineering.

★ 1350 ★

THERMOPHYSICS DIVISION  
National Bureau of Standards  
Physics Bldg.  
Gaithersburg, MD  
(Mailing address: Washington, DC 20234) Phone: (301) 921-2443  
Dr. Harold J. Raveche, Chief Established: 1978

Division is part of the Center for Thermodynamics and Molecular Science; National Measurement Laboratory; National Bureau of Standards; Department of Commerce. Staff includes 30 research and 4 supporting professionals, 4 technicians, and 3 others.

Division conducts experimental and theoretical research on the thermophysical properties of condensed matter under equilibrium and nonequilibrium conditions. This includes studies of: 1) fluids and fluid mixtures; 2) interfacial phase transitions; 3) high melting point solids; 4) transport theory; 5) light and neutron scattering metastable states; 6) nonlinear effects; 7) noise in physical systems; 8) multicritical points; 9) aqueous solutions; 10) computer simulation; 11) data correlation; and 12) spherical

acoustic resonators.

Results are published in primary journals and as research reports and conference proceedings. Division publishes annual report (TECHNICAL HIGHLIGHTS). Thermophysics Division Colloquia are held weekly (open to all); Division also sponsors annual M. S. Green Statistical Physics Symposium in April (open to all registrants) and holds topical conferences as necessary.

★ 1351 ★

TOBACCO RESEARCH LABORATORY  
Federal Trade Commission  
6th St. and Pennsylvania Ave., N. W.  
Washington, DC 20580  
Mr. H. C. Pillsbury, Director

Phone: (202) 523-3559  
Established: 1966

Laboratory is a component of the Office of the Assistant Director for Advertising Practices, Bureau of Consumer Protection, Federal Trade Commission. Staff includes 2 research professionals and 5 technicians.

Laboratory tests cigarettes for tar, nicotine, and carbon monoxide.

Findings are published in the Federal Register.

★ 1352 ★

TRANSPORTATION SYSTEMS CENTER  
Kendall Square  
Cambridge, MA 02142

Center is a component of the Research and Special Programs Administration (RSPA), Department of Transportation.

Center is a systems research and development organization which provides a multidisciplinary perspective on transportation problems. Research activities include: 1) assessment of the compatibility of the national transportation system with available natural resources, economic conditions, the physical environment, and institutional characteristics; 2) system engineering and development, and assessment of hardware and software; and 3) advanced systems research on passenger and goods movement. Center also provides the technical support for RSPA's information management program, performing the basic measurement development and the analysis of statistical data. In addition, the Center is the focal point within the Department of Transportation for the exchange of information, ideas, and experience on a wide range of transportation topics.

Center is responsible for collection and dissemination of transportation information and statistics. Publications include TSC ANNUAL REPORT.

★ 1353 ★

TRIDENT SYSTEM PROJECT OFFICE  
2531 Jefferson Davis Hwy.  
Arlington, VA  
(Mailing address: Washington, DC 20362)

Office is a component of the Naval Material Command; the Chief of Naval Material reports to the Chief of Naval Operations, Department of the Navy.

The Trident System Project Manager has overall responsibility for the development of the TRIDENT strategic weapon system, which includes a new family of longer range sea-launched ballistic missiles; a larger, more survivable nuclear powered submarine; and a dedicated logistic support system. Current estimates project delivery of the TRIDENT submarine in the summer of 1981. The TRIDENT-1 Missile Development Flight Test program has successfully launched several of the new missiles, and support facilities (including a new submarine base with a training facility and a refitting facility for the TRIDENT submarine) are also expected to be completed in

1981.

Remarks: See separate entry in this issue for description of the related Strategic Systems Project Office.

★ 1354 ★

UNDERWATER SOUND REFERENCE DETACHMENT (USRD)

P. O. Box 8337  
Orlando, FL 32856 Phone: (305) 859-5120  
Dr. Joseph E. Blue, Acting Superintendent Established: 1945

Detachment is a component of the Systems Research and Technology Directorate, Naval Research Laboratory (NRL). NRL is a component of the Office of Naval Research; the Chief of Naval Research reports to the Assistant Secretary (Research, Engineering, and Systems), Department of the Navy. Staff includes 18 research and 19 supporting professionals, 38 technicians, and 19 others.

USRD is the Navy's primary standards laboratory for underwater sound. Its research and development program is aimed in part at expanding the state-of-the-art and providing Navy in-house expertise, facilities, calibration and evaluation measurements, and reference transducers. A large complex of specialized facilities simulating ocean environments and a stock of calibrated standard transducers are made available to all Navy activities and contractors. Major program elements include: 1) providing acoustic calibration, test, and evaluation reference measurements on acoustic transducers and materials; 2) providing a service wherein underwater acoustic standard transducers are calibrated and issued to Navy commands and contractors for use in research and development; 3) conducting research in underwater sound measurement theory, methodology, and instrumentation to provide a data base on acoustic and electroacoustic materials; 4) serving as the Navy's expert and providing consultation in the theory and practice of underwater sound measurements; and 5) performing research and development in the general area of acoustics, transduction, and underwater acoustics of Navy, government, or public interests that fall within the Detachment's capabilities.

Research results are published in primary journals, in NRL REPORTS and NRL MEMO REPORTS series, and as proceedings. Library holds 4000 volumes in underwater acoustics, physics, and engineering; Mel P. Roy, Library Technician.

Remarks: See Agency Index for listings of other components of the Systems Research and Technology Directorate, and of the Naval Research Laboratory, all included in this issue.

★ 1355 ★

U. S. ARMY AEROMEDICAL RESEARCH LABORATORY (USAARL)

P. O. Box 577  
Ft. Rucker, AL 36362 Phone: (205) 255-5107  
Col. Stanley C. Knapp, Commander Established: 1962

Laboratory is one of nine major components of the U. S. Army Medical Research and Development Command, which is administratively responsible to the Surgeon General, Department of the Army. Staff totals approximately 135.

USAARL conducts fundamental and applied research on the medical aspects of Army aviation and on airborne and ground operations that affect the soldier. Principal areas of research include medical study of visual/auditory functions, man-machine integrations, medical aspects of non-medical materiel, physiological responses to operational environments, and impacts of military operational training on ecology. Ft. Rucker is the center for Army aviation training and provides unique field facilities for Laboratory's research effort. In addition to its research activities, Laboratory also provides technical advice and consultation services to all elements of the Department of Defense and other Government agencies in support of helicopter, combat crew, and airborne activities.

A research library is maintained.

Remarks: See Agency Index for listings of other Medical Research and Development Command components included in GRCD Issues 1-3.

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## ★ 1356 ★

U. S. ARMY AIRCRAFT DEVELOPMENT TEST ACTIVITY (USAADTA)  
Ft. Rucker, AL 36362

USAADTA is a component of the U. S. Army Test and Evaluation Command (TECOM), a major subordinate command of the Materiel Development and Readiness Command, Chief of Staff of the Army, Department of the Army.

The Aircraft Development Test Activity functions as a tenant activity at Fort Rucker, with the responsibility to plan, conduct, evaluate, and report on government test elements and to monitor, evaluate, and report on contractor test elements of the Single Integrated Test Cycle concept of aircraft, aircraft components, and aircraft-related support equipment.

Remarks: See Agency Index for listings of TECOM and its other components included in GRCD Issues 1-3.

## ★ 1357 ★

U. S. ARMY ATMOSPHERIC SCIENCES LABORATORY (ASL)  
White Sands Missile Range, NM 88002

Laboratory is a component of the U. S. Army Electronics Research and Development Command (ERADCOM), Materiel Development and Readiness Command (DARCOM), Chief of Staff of the Army, Department of the Army. Staff totals approximately 500.

ASL conducts research and development in atmospheric environmental and meteorological technology as they apply to strategic operations. Laboratory has established an atmospheric environmental technology base for research and development on electro-optical weapon systems and is developing meteorological equipment, systems, and intelligence for Army combat and strategic operations. Activities have included: 1) a large field test to determine effects of dust on electro-optical sensors; 2) collection of data on aerosols and dust in the battle area; 3) development of remote wind sensors for tanks, helicopters, and remotely piloted vehicles, remotely piloted vehicle meteorological sensors, hand-held cloud ceiling and visibility sensors, models of atmospheric, smoke, and dust effects on electro-optical equipment, and weather intelligence applications for smoke, dust, chemical-biological agents, and high-energy lasers; and 4) establishment of a quick-reaction team to quantify atmospheric properties in support of electro-optical field tests. In addition, meteorology teams are assigned at 14 geographically dispersed locations, providing support to more than 50 research and development activities.

Remarks: See GRCD Issue 2, entry #862, for description of ERADCOM. See indexes for listings of other Command components in GRCD Issues 2 and 3.

## ★ 1358 ★

U. S. ARMY AVIATION RESEARCH AND DEVELOPMENT  
COMMAND (AVRADCOM)

Tucker Blvd. and Spruce St.

St. Louis, MO 63166

Stacy C. Stevens, Commanding General

Phone: (314) 263-1012

Established: 1977

AVRADCOM is a major subordinate command of the U. S. Army Materiel Development and Readiness Command (DARCOM), Chief of Staff of the Army, Department of the Army. AVRADCOM employs approximately 1750 civilian and 150 military personnel.

AVRADCOM serves as the DARCOM lead command for current and future Army aviation-related research, development, and initial procurement. Research is conducted through subordinate AVRADCOM activities located throughout the U. S., including: 1) Research and Technology Laboratories, Moffett Field, CA; 2) U. S. Army Avionics Research and Development Activity, Ft. Monmouth, NJ; and 3) U. S. Army Aviation Engineering Flight Activity, Edwards AFB, CA (see Agency Index for listings of AVRADCOM subordinate activities in GRCD Issues 1-3).

Research results are published in primary journals; a library in aviation development is maintained.

## ★ 1359 ★

U. S. ARMY AVIONICS RESEARCH AND DEVELOPMENT  
ACTIVITY (AVRADA)

Ft. Monmouth, NJ 07703

Col. Darwin A. Petersen, Commander

AVRADA is a component of the U. S. Army Aviation Research and Development Command (AVRADCOM), a major subordinate command of the Materiel Development and Readiness Command, Chief of Staff of the Army, Department of the Army.

Mission of AVRADA is to conduct that portion of the AVRADCOM mission pertaining to aviation electronics. This includes research and development; value, production, and maintenance engineering; product assurance; and human factors engineering for all aviation electronic subsystems and interfaces. AVRADA comprises an Office of the Commander and Deputy Director, a Technical Plans and Operations Office, an Administrative Office, and six Divisions: 1) Air Traffic Management Systems Division, which plans and conducts research and development of air traffic management and landing of airborne and ground subsystems for tactical and non-tactical development; 2) Advanced Systems Division, which plans and conducts interdisciplinary research and development to address system barrier problems in the area of integrated displays and controls, computation, integration and multifunction use of sensors, and man-machine interface; 3) Navigation Division, which plans and conducts research and development of externally referenced position fixing and navigation systems, self-contained positioning and navigation, and inertially derived electronic flight control augmentation; 4) Communications and Sensor Division, which plans and conducts research and development of communications systems in response to airborne needs, and plans and controls research and development of environmental sensing, avionics flight displays, techniques and crew station design, display materials, and symbol generation and pilot geographic orientation; 5) Aviation Electronics Integration Division, which serves as a focal point for systems engineering/integration/technical management of avionics systems; and 6) Installation/Test and Systems Support Division, which is responsible for that portion of the Activity mission pertaining to aviation electronics (systems and equipment) installation engineering, value engineering, integrated logistics support, product assurance, environmental test standards, and post-deployment software support.

Results are published as technical reports.

Remarks: See separate entry in this issue for description of AVRADCOM.

## ★ 1360 ★

U. S. ARMY BIOMEDICAL LABORATORY (USABML)

Aberdeen Proving Ground, MD 21010

Col. Craig H. Llewellyn, Commander

Phone: (301) 671-3276

Laboratory is one of nine major components of the U. S. Army Medical Research and Development Command; Office of the Surgeon General; Chief of Staff of the Army; Department of the Army. Staff includes 50 research professionals, 29 supporting professionals, 41 technicians, and 46 others.

USABML conducts basic and applied medical research and development, as well as test and evaluation, for medical defense against chemical agents and treatment for chemical agents. Laboratory comprises a Research Division, Veterinary Medicine and Laboratory Resource Support Division, and Administrative Division. The Research Division is made up of: 1) Pharmacology Branch, which conducts research on the pharmacological aspects of medical defense against chemical agents, with studies focusing on anticholinesterases, mustard, cyanide, and their respective antidotes and their relationship to enzymes, neurotransmitters, hormones, receptors, and membrane function; 2) Physiology Branch, which is responsible for assessment of the physiological consequences of exposure to chemical warfare agents (acute, lethal, or sublethal), with investigations focusing on mechanisms of action at the levels of neural membrane, synaptic interactions, regulation and function of motor and sensory systems, respiratory neurophysiology and function, cardiovascular system regulation and function, regulation of sleep/wake cycles, and histological (including neuroanatomical) distribution of agents; 3) Behavioral Toxicology Branch conducts research using behavioral methods to elucidate the biological effects of chemical warfare

agents and prophylactic/therapeutic compounds used to treat chemical warfare agent exposure; and 4) Special Projects Branch conducts research in many areas of chemical defense upon urgent request or needs as deemed necessary by the Laboratory's Commander. The Veterinary Medicine and Laboratory Resources Support Division includes the Veterinary Resources Branch, which provides all vertebrate animal programs for the USABML; the Comparative Pathology Branch, which provides full interpretative and diagnostic pathology support to USABML; and Operations and Liaison Office, Audio Visual Support, and Data Processing Support. Division's staff also conducts independent research projects, either individually or as collaborative investigators. Activities of the Administration Division include monitoring of research projects conducted under contract by members of the academic and civilian community.

Results are published in primary journals and as research reports. Laboratory sponsors Bimonthly Research Seminars and Bimonthly Journal Club, both of which are open to all technical personnel. Library holds 4000 books and 14,000 journals in pharmacology, toxicology, biochemistry, and neurosciences; Patricia M. Pepin, Librarian.

Remarks: The nucleus of what is now the U. S. Army Biomedical Laboratory was formed in 1915. After several transitions, medical research related to chemical warfare defense was assigned to the Chemical Systems Laboratory of the Materiel Development and Readiness Command. In 1979 formal command relationships with the Chemical Systems Laboratory were broken and USABML became part of the Medical Research and Development Command. In 1980 the Laboratory was nominated for Laboratory of the Year and Most Improved Laboratory.

★ 1361 ★

U. S. ARMY CAMOUFLAGE AND TOPOGRAPHIC LABORATORY

Mobility Equipment Research and Development Command  
 Ft. Belvoir, VA 22060 Phone: (703) 664-6723  
 William J. Haas, Chief Established: 1975

Unit is one of eight laboratories of the U. S. Army Mobility Equipment Research and Development Command (MERADCOM), Materiel Development and Readiness Command, Chief of Staff of the Army, Department of the Army. Staff includes 25 research professionals, 11 supporting professionals, 4 technicians, and 13 others.

Laboratory conducts: 1) research and advanced development in camouflage, focusing on suppression of signatures of Army equipment in the visual, near infrared, thermal infrared, and radar wavebands; and 2) engineering development of Army topographic equipment, including surveying, distance measuring, position finding, and map preparation and reproduction equipment.

Results are published as research reports, as symposia proceedings, and in primary (military) journals. A reference center of 3000 titles on camouflage and deception is maintained.

Remarks: See Agency Index for listing of MERADCOM and its other components included in GRCD Issues 1-3.

★ 1362 ★

U. S. ARMY COMBAT SURVEILLANCE AND TARGET ACQUISITION LABORATORY (CSTAL)

Ft. Monmouth, NJ 07703

Laboratory is a component of the U. S. Army Electronics Research and Development Command (ERADCOM), Materiel Development and Readiness Command (DARCOM), Chief of Staff of the Army, Department of the Army. Staff totals approximately 170.

CSTAL is responsible for improving the Army's capability in battlefield surveillance, target acquisition, and designation. Activities focus on radar, passive sensing, and the transmission of sensor data. Laboratory maintains a photographic test and analysis facility, an anechoic chamber, an antenna test range, and nuclear radiation facilities for alpha, beta, gamma, and neutron radiation. Among other accomplishments, CSTAL has

assumed lead responsibility for developing the "Battlefield Identification, Friend or Foe" (BIFF) system for the Department of Defense.

Remarks: See GRCD Issue 2, entry #862, for description of ERADCOM. See indexes for listings of other Command components in GRCD Issues 2 and 3.

★ 1363 ★

U. S. ARMY COMMUNICATIONS RESEARCH AND DEVELOPMENT COMMAND (CORADCOM)

Ft. Monmouth, NJ 07703 Phone: (201) 554-4748  
 Emmett Paige, Jr., Commanding General Established: 1978

CORADCOM is a major subordinate command of the U. S. Army Materiel Development and Readiness Command, Chief of Staff of the Army, Department of the Army. Staff includes 150 research professionals, 363 supporting professionals, 93 technicians, and 143 others.

CORADCOM is responsible for the research, development, and acquisition of Army command, control, and communications systems that will enhance the ability of the battlefield commander to achieve assigned missions. CORADCOM also conducts advanced research to maintain a technology base for communication and automation equipment and provides engineering support in the design of command, control, and communications systems in which the equipment is used.

Command publishes ANNUAL POSTURE REPORT and sponsors various seminars.

Remarks: The CORADCOM organization includes three research and development centers (Center for Communications Systems, Center for Tactical Computer Systems, and Center for Systems Engineering and Integration) and the program manager for the Satellite Communications Agency. See separate entries in this issue for descriptions of each.

★ 1364 ★

U. S. ARMY COUNTER INTRUSION LABORATORY

Mobility Equipment Research and Development Command  
 Ft. Belvoir, VA 22060  
 Stuart A. Kilpatrick, Chief

Unit is one of eight laboratories of the U. S. Army Mobility Equipment Research and Development Command (MERADCOM), Materiel Development and Readiness Command, Chief of Staff of the Army, Department of the Army. Staff includes 45 research professionals, 2 supporting professionals, 6 technicians, and 12 others.

Laboratory develops: 1) physical security sensors to protect installations, arms rooms, and other sensitive areas from theft, vandalism, and sabotage; 2) tactical sensors to provide all-weather, day and night surveillance on the battlefield; and 3) non-mine barrier systems to delay or impede the advance of the enemy. Laboratory also develops tunnel detectors and equipment and techniques for the rapid excavation and protection of field fortification.

Research results are published as contractor reports.

Remarks: See Agency Index for listing of MERADCOM and its other components included in GRCD Issues 1-3.

★ 1365 ★

U. S. ARMY COUNTERMINE LABORATORY

Mobility Equipment Research and Development Command  
 Ft. Belvoir, VA 22060 Phone: (703) 664-5484  
 Richard R. Rogowski, Chief Established: 1975

Unit is one of eight laboratories of the U. S. Army Mobility Equipment Research and Development Command (MERADCOM), Materiel Development and Readiness Command, Chief of Staff of the Army, Department of the

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Army. Staff includes 25 research professionals, 2 technicians, and 10 others.

Laboratory conducts applied research and exploratory, advanced, and engineering development for mine and minefield detection and neutralization. Research areas covered include enzyme chemistry, biosensors and electromagnetic sensors, and fluid and solid mechanics, all as applicable to mine and minefield detection and neutralization.

Results are published as research reports and in primary journals.

Remarks: See Agency Index for listing of MERADCOM and its other components included in GRCD Issues 1-3.

★ 1366 ★

U. S. ARMY ELECTRICAL POWER LABORATORY

Mobility Equipment Research and Development Command

Ft. Belvoir, VA 22060

Richard T. Sale, III, Chief

Phone: (703) 664-5706

Unit is one of eight laboratories of the U. S. Army Mobility Equipment Research and Development Command (MERADCOM), Materiel Development and Readiness Command, Chief of Staff of the Army, Department of the Army. Staff includes 15 research professionals, 62 supporting professionals, 21 technicians, and 20 others.

Laboratory conducts research, development, and engineering related to its responsibilities for electric power generation and distribution for the field Army and for the militarized environmental control equipment required to keep van or shelter-mounted electronic devices operational under all climatic conditions. Principal fields of research interest are electric power generation, engines, fuel cells, and environmental systems control.

Research results are published in primary journals, and as research reports and conference proceedings.

Remarks: See Agency Index for listing of MERADCOM and its other components included in GRCD Issues 1-3.

★ 1367 ★

U. S. ARMY ELECTRONIC WARFARE LABORATORY (EWL)

Ft. Monmouth, NJ 07703

Laboratory is a component of the U. S. Army Electronics Research and Development Command (ERADCOM), Materiel Development and Readiness Command (DARCOM), Chief of Staff of the Army, Department of the Army. Staff totals approximately 450.

EWL is responsible for the design, development, initial acquisition, and first fielding of electronic warfare and selected intelligence. Laboratory is the Army's primary center for research and development of electronic weaponry for neutralization of enemy activity, with lead responsibility for: 1) electronic warfare protection of our combat systems; 2) hardening of our communications-electronics systems against enemy electronic warfare threats; 3) hardening of our missile systems against enemy electronic warfare threats; 4) active electronic warfare, radiolocation, and targeting against enemy forces; 5) advancing tactical electronic warfare technology; and 6) intelligence materiel development and support.

Remarks: In addition to its central offices at Ft. Monmouth, EWL operates an Intelligence Materiel Systems Development Office (IMSDO) at Ft. Meade, MD and an Office of Missile Electronic Warfare (OMEW) at the White Sands Missile Range, NM. (See GRCD Issue 2, entry #862, for description of ERADCOM. See indexes for listings of other Command components in GRCD Issues 2 and 3.)

★ 1368 ★

U. S. ARMY ELECTRONICS TECHNOLOGY AND DEVICES LABORATORY (ETDL)

Ft. Monmouth, NJ 07703

Laboratory is a component of the U. S. Army Electronics Research and Development Command (ERADCOM), Materiel Development and Readiness

Command (DARCOM), Chief of Staff of the Army, Department of the Army. Staff totals approximately 275.

ETDL's primary mission is the research and development of future electronic weaponry systems. Laboratory is concerned with advancing the technology base in electron devices for eight major technical areas: 1) high-speed signal processing devices for identification and location of enemy equipment and weapons; 2) very-wide-band jamming devices and decoys for use in expendable and airborne mounted systems; 3) devices for location and identification of targets in smoke, haze, and inclement weather; 4) mobile high-power pulse sources for directed-beam weapons; 5) devices for combat, nonjammable, nonlocatable, secure, and reliable command, control, and communication and data links; 6) computer components and display devices linking the battlefield commander to the tactical situation; 7) modular assemblies for electronic systems; and 8) portable power units for designers, night vision, and communications-electronics systems.

Remarks: See GRCD Issue 2, entry #862, for description of ERADCOM. See indexes for listings of other Command components in GRCD Issues 2 and 3.

★ 1369 ★

U. S. ARMY ENERGY AND WATER RESOURCES LABORATORY

Mobility Equipment Research and Development Command

Ft. Belvoir, VA 22060

John A. Christians, Chief

Phone: (703) 664-3113

Unit is one of eight laboratories of the U. S. Army Mobility Equipment Research and Development Command (MERADCOM), Materiel Development and Readiness Command, Chief of Staff of the Army, Department of the Army. Staff includes 36 research and 17 supporting professionals, 7 technicians, and 17 others.

Laboratory conducts a comprehensive program of research, development, and engineering for the design, development, and initial production of systems development materiel to provide the safest possible fuels for Army ground equipment, and to develop tanker-moorings, pipelines, pumps, decontaminators, and storage facilities necessary to deliver these fuels. Laboratory also develops mobile water purification equipment to produce potable water from all types of sources; water treatment systems; and sewage treatment for Army watercrafts.

Research results are published as technical reports and in primary journals.

Remarks: See Agency Index for listing of MERADCOM and its other components included in GRCD Issues 1-3.

★ 1370 ★

U. S. ARMY FACILITIES ENGINEERING SUPPORT AGENCY (FESA)

Technology Support Division

Ft. Belvoir, VA 22060

Phone: (703) 664-5732

Col. Edgar J. Mixan, Commander/Director Established: 1974

Agency is part of the U. S. Army Corps of Engineers; the Chief of Engineers is administratively responsible to the Chief of Staff of the Army, Department of the Army. Staff for FESA's Technical Support Division (Research) includes 8 research professionals, 5 supporting professionals, and 2 others.

Activities of FESA are focused primarily in the areas of facilities engineering and energy. In the field of facilities engineering, Agency provides technical support to various military installations for utility systems improvements, buildings and grounds improvements, energy conservation, and cost reduction through: 1) field investigations and testing services; 2) preparation of studies, designs, and specifications; and 3) engineering consultation services. In the field of energy, FESA conducts: 1) research associated with nuclear energy, fixed and floating power plants, distribution and transmission systems, and energy conservation; 2) training in operation and maintenance of power plants and distribution systems; and 3) engineering, operation, and maintenance associated with the establishment and maintenance of a large pool of transportable power plants and power distribution equipment.

Results are published as research reports. FESA publishes RESEARCH NOTES quarterly.

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★ 1371 ★

U. S. ARMY INSTITUTE FOR WATER RESOURCES (IWR)  
Kingman Bldg. Phone: (202) 325-7000  
Ft. Belvoir, VA 22060 Established: 1969

Institute is a component of the Corps of Engineers; the Chief of Engineers is administratively responsible to the Chief of Staff, Department of the Army. Staff includes approximately 30 military and civilian professional and administrative personnel.

IWR was established to develop methodologies, techniques, and guidance for the Corps in planning development of the Nation's water resources and to analyze water resources policy issues. Research studies focus on the water resources planning activities of the Corps and include efforts to improve methods for analyzing the social, economic, and environmental impacts of water resources projects, and for predicting the impacts of potential projects. Studies which evaluate existing policies, assess modifications, examine alternative policy options, and investigate issuance of new policy guidance are conducted by IWR at the request of the Director of Civil Works.

Results are published as research reports and proceedings. IWR sponsors seminars and conferences for planners and managers in Corps of Engineers field offices.

★ 1372 ★

U. S. ARMY JEFFERSON PROVING GROUND (JPG)  
Madison, IN 47250  
Col. Benjamin A. Logerquist, Commander

Parent agency is U. S. Army Test and Evaluation Command; Materiel Development and Readiness Command; Chief of Staff of the Army, Department of the Army.

Mission of JPG is to plan, conduct, and report on tests and evaluation of ammunition and components. This mission includes the planning, direction, and control of research and development programs for test instrumentation, test facilities, and test methodology to satisfy testing requirements. The Proving Ground was designed and constructed to support high-volume munitions testing. It is centrally located to a majority of the ammunition manufacturing plants in the U. S. and itself has seven ammunition assembly plants, each adapted to process various types of ammunition. Other facilities include ranges, firing positions, test sites, and various tools, fixtures, and equipment. The main firing ranges allow for testing characteristics of ammunition with weapons of all sizes. There are also complete and extensive small arms and armor defeating ammunition test ranges which are complete with target and observation facilities. Test sites (which are in areas isolated from the range areas) facilitate a variety of tests, such as drop tests; environmental testing; static firing of rocket thrust units and of warheads; testing of mines, grenades, and pyrotechnic items; mine weathering tests; two signal positions for testing of ground parachute flares and signals; a parachute reefing line drop area; and a helicopter firing area.

★ 1373 ★

U. S. ARMY MARINE AND BRIDGE LABORATORY  
Mobility Equipment Research and Development Command  
Ft. Belvoir, VA 22060 Phone: (703) 664-5117  
Kennedy K. Harris, Chief

Unit is one of eight laboratories of the U. S. Army Mobility Equipment Research and Development Command (MERADCOM), Materiel Development and Readiness Command, Chief of Staff of the Army, Department of the Army. Staff includes 34 research professionals (engineers), 7 technicians, and 16 others.

Laboratory conducts research, development, design, and testing of military bridging and marine water craft, as well as ancillary support systems.

Research results are published as technical reports and symposia proceedings, and in primary journals.

Remarks: Laboratory is working with the United Kingdom and the Federal

Republic of Germany in an international program aimed at cooperative development and standardization of bridging. (See Agency Index for listing of MERADCOM and its other components included in GRCD Issues 1-3.)

★ 1374 ★

U. S. ARMY MATERIAL TECHNOLOGY LABORATORY  
Mobility Equipment Research and Development Command  
Ft. Belvoir, VA 22060 Phone: (703) 664-5820  
Emil J. York, Chief

Unit is one of eight laboratories of the U. S. Army Mobility Equipment Research and Development Command (MERADCOM), Materiel Development and Readiness Command, Chief of Staff of the Army, Department of the Army. Staff includes 25 research professionals, 11 technicians, and 5 others.

Laboratory conducts a program of testing, survey data collection and analysis, and research coordination to assist in the investigation, development, and prescription of the metals, plastics, fabrics, coatings, preservatives, adhesives, and packaging used in equipment development by MERADCOM's "commodity" laboratories and other military organizations. Principal area of research is materials, with secondary interest in instrumentation and analytical techniques.

Research results are published in primary journals, as research reports and proceedings, and in MERADCOM Reports.

Remarks: See Agency Index for listing of MERADCOM and its other components included in GRCD Issues 1-3.

★ 1375 ★

U. S. ARMY MATERIALS AND MECHANICS RESEARCH CENTER  
Arsenal St. Phone: (617) 923-3000  
Watertown, MA 02172 Established: 1967  
Dr. E. S. Wright, Director

Center is a component of the U. S. Army Materiel Development and Readiness Command, Chief of Staff of the Army, Department of the Army. Staff totals 600.

Center conducts research and development related to structural materials, including studies on: 1) metals, ceramics, and organic materials; 2) materials testing technology; and 3) mechanics of materials.

Results are published as technical reports. Library holds 20,000 volumes on materials and other science subjects; Ms. M. Murphy, Librarian.

★ 1376 ★

U. S. ARMY MATERIEL DEVELOPMENT AND READINESS  
COMMAND (DARCOM)  
5001 Eisenhower Ave. Phone: (703) 664-5117  
Alexandria, VA 22333 Established: 1962  
John R. Guthrie, Commanding General

DARCOM is a major command of the Chief of Staff of the Army, Department of the Army, directly employing approximately 9300 military and 105,000 civilian personnel.

DARCOM is responsible for the life cycle materiel functions formerly performed by six of the Army's seven Technical Services, including research and development; test and evaluation; procurement and production; storage and distribution; inventory management; maintenance; and disposal. Operations are carried out through major subcommands, with DARCOM Headquarters furnishing overall policy guidance. The present Command organization includes five U. S. Army Research and Development Commands (see "Remarks" below), three U. S. Army Materiel Readiness Commands, along with the U. S. Army Depot System Command, Missile Command, Natick Research and Development Laboratories, Security Assistance Center, Tank-Automotive Command, and Test and Evaluation Command.

Remarks: The five DARCOM research and development commands are:

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1) Armament Research and Development Command (ARRADCOM); 2) Aviation Research and Development Command (AVRADCOM); 3) Communications Research and Development Command (CORADCOM); 4) Electronics Research and Development Command (ERADCOM); and 5) Mobility Equipment Research and Development Command (MERADCOM). Consult Agency Index in this issue for complete listings of these Commands and their components, as well as other DARCOM components engaged in research or research-related activities, included in GRCD Issues 1-3.

## ★ 1377 ★

U. S. ARMY MATERIEL SYSTEMS ANALYSIS ACTIVITY (AMSAA)  
Aberdeen Proving Ground, MD 21005      Established: 1968

AMSAA is a component of the U. S. Army Materiel Development and Readiness Command (DARCOM), Chief of Staff of the Army, Department of the Army. Staff totals 440 (411 civilian and 29 military personnel).

AMSAA was established to provide DARCOM with the professional systems analysis capability to evaluate complex modern weapons systems and presently serves as the DARCOM center for independent materiel and weapons effectiveness studies and analysis. It is also the lead activity for survivability and for reliability, availability, and maintainability methodology. In addition, AMSAA performs independent test design and overall evaluation for decisions on major (and designated non-major) systems; provides overview of life surveillance programs for materiel systems in inventory; provides weapon systems effectiveness estimates for effectiveness analyses; provides systems analysis support to DARCOM components; and performs logistics and readiness related analysis.

Remarks: Major AMSAA components are: 1) Office of the Director; 2) Foreign Intelligence Office/Security Office; 3) Survivability Office; 4) Tactical Operations Analysis Office; 5) Ground Warfare Division; 6) Air Warfare Division; 7) Combat Support Division; 8) Reliability, Availability, and Maintainability Division; 9) Field Equipment and Technology Division; and 10) Management Services Division.

## ★ 1378 ★

U. S. ARMY MECHANICAL AND CONSTRUCTION EQUIPMENT  
LABORATORY

Mobility Equipment Research and Development Command  
Ft. Belvoir, VA 22060  
Wendell L. Keyes, Chief      Phone: (703) 664-5859

Unit is one of eight laboratories of the U. S. Army Mobility Equipment Research and Development Command (MERADCOM), Materiel Development and Readiness Command, Chief of Staff of the Army, Department of the Army. Staff includes 37 research professionals, 20 technicians, and 19 others.

Laboratory activities focus primarily on applications engineering for two major fields: 1) supply distribution and materials handling and 2) construction equipment. Laboratory relies strongly on commercial and modified commercial products to provide technical data packages and engineering support. Principal areas of interest are earthmoving equipment, concrete and bituminous processing and placement equipment, compressed gas generation, diving equipment, railway equipment, tool sets, warehousing forklifts, rough terrain forklifts, hydraulic systems and components, containerization, and air compressors.

Research results are published as MERADCOM Technical Reports.

Remarks: See Agency Index for listing of MERADCOM and its other components included in GRCD Issues 1-3.

## ★ 1379 ★

U. S. ARMY MEDICAL RESEARCH INSTITUTE OF INFECTIOUS  
DISEASES (USAMRIID)

Ft. Detrick  
Frederick, MD 21701  
Col. Richard F. Barquist, Commander

Institute is one of nine major components of the U. S. Army Medical Re-

search and Development Command, which is administratively responsible to the Surgeon General, Department of the Army. Staff of 461 includes 271 military and 190 civilian personnel.

Mission is to perform studies on the pathogenesis, diagnosis, prophylaxis, treatment, and epidemiology of naturally occurring infectious diseases of military importance, with emphasis on problems associated with the medical defense against biological agents and on those microorganisms which require special containment facilities. The research program is planned as a broad investigation of the infectious process and is multidisciplinary in approach. Principal areas of study are: 1) the pathogenesis of different types of infectious diseases, with emphasis on the use of representative model infections in laboratory animals and, when possible, in man; 2) development of immunoprophylactic measures, including studies of passive immunoprophylaxis and chemoprophylactic measures; 3) treatment and management of patients with infectious diseases of biological warfare importance, including development of methods for providing medical care to the large number of individuals that might be involved; and 4) development of rapid and accurate methods for establishing a specific etiologic diagnosis (this represents the most extensive part of the Institute's research program and includes exploration of biochemical and biophysical approaches).

Research results are published in primary journals, as research reports, and as conference proceedings. (Institute's research program is unclassified, and all appropriate information is reported. In addition, vaccines developed or controlled by USAMRIID are made available to other laboratories, and to other government agencies, research institutions, state and local health departments, medical schools and universities, and, in some cases, to foreign governments.)

Remarks: Certain support requirements are provided by the Commander, Walter Reed Army Medical Center, in conjunction with USAMRIID's responsibility for operation of the U. S. Army Health Clinic at Fort Detrick and Ward 200 of Walter Reed General Hospital. (See Agency Index for listings of other Medical Research and Development Command components included in GRCD Issues 1-3.)

## ★ 1380 ★

U. S. ARMY MISSILE COMMAND (MICOM)  
Redstone Arsenal, AL 35809

MICOM is a major subordinate command of the U. S. Army Materiel Development and Readiness Command, Chief of Staff of the Army, Department of the Army. MICOM employs approximately 7800 civilian and 800 military personnel.

MICOM manages the Army's missile and rocket program, with major responsibilities for research, development, procurement, and continued support of weapons systems which have achieved operational status. Facilities include laboratories, flight test ranges, and other specialized buildings and equipment. MICOM is also the center for laser research for the Army and manages efforts to develop laser weapons and laser designators used to guide missiles to their targets.

Remarks: The MICOM organization includes: 1) the U. S. Army Missile Intelligence Agency, which maintains, produces, and disseminates scientific and technical intelligence concerning foreign missile and space activities; 2) the U. S. Army Metrology and Calibration Center, which has worldwide responsibility for calibration support of all Army weapons and equipment; and 3) the U. S. Army Redstone Arsenal Support Activity.

## ★ 1381 ★

U. S. ARMY MOBILITY EQUIPMENT RESEARCH AND  
DEVELOPMENT COMMAND (MERADCOM)

Ft. Belvoir, VA 22060      Phone: (703) 664-5813  
Col. Albert F. Dorris, Commander      Established: 1947

MERADCOM is a major subordinate command of the U. S. Army Materiel Development and Readiness Command; Chief of Staff of the Army; Department of the Army. Staff includes 371 research professionals, 190 supporting professionals, 116 technicians, and 554 others.

Primary mission is to provide materiel for combat readiness, primarily through development, engineering, and acquisition in four main areas:

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1) barrier and counterbarrier systems; 2) countersurveillance systems; 3) energy and environmental systems; and 4) supply distribution and construction equipment systems. Principal subjects of research include barriers, bridging and structures, countermine, field fortifications, camouflage, physical security, tunnel detection, fuels and lubricants, fuels handling equipment, electric power generation and distribution, environmental control, water and waste management, materials handling and supply distribution, marine and rail transport, and construction equipment. Research activities are carried out in MERADCOM's eight specialized laboratories: Countermine Laboratory, Energy and Water Resources Laboratory, Electrical Power Laboratory, Camouflage and Topographic Laboratory, Marine and Bridge Laboratory, Mechanical and Construction Equipment Laboratory, Counter Intrusion Laboratory, and Material Technology Laboratory. (See separate entries in this issue for description of individual laboratories.)

Research results are published in primary journals, as technical reports, and as proceedings. Command publishes POSTURE REPORT annually. Library of 7000 volumes in engineering and the physical sciences is maintained; Ms. G. J. Holland, Technical Librarian.

Remarks: Before 1976 MERADCOM was known as U. S. Army Mobility Equipment Research and Development Center.

★ 1382 ★

U. S. ARMY NIGHT VISION AND ELECTRO-OPTICS LABORATORY (NVEOL)

Electronics Research and Development Command  
Ft. Belvoir, VA 22060

Laboratory is a component of the U. S. Army Electronics Research and Development Command (ERADCOM), Materiel Development and Readiness Command (DARCOM), Chief of Staff of the Army, Department of the Army. Staff totals approximately 470.

NVEOL is concerned with night vision devices using electro-optical and low-power laser technologies. Activities include research and development on infrared detector technologies; lasers for ranging, tracking, and imaging; image intensifiers; flat panel displays; far infrared imaging technology; airborne infrared sensors; and the integration of laser and infrared technologies for tank fire control.

Remarks: See GRCD Issue 2, entry #862, for description of ERADCOM. See indexes for listings of other Command components in GRCD Issues 2 and 3.

★ 1383 ★

U. S. ARMY RESEARCH INSTITUTE OF ENVIRONMENTAL MEDICINE (USARIEM)

Natick, MA 01760 Phone: (617) 653-1000  
Col. Harry G. Dangerfield, Commander Established: 1961

Institute is one of nine major components of the U. S. Army Medical Research and Development Command, which is administratively responsible to the Surgeon General, Department of the Army. Staff includes approximately 32 research professionals.

Mission is to conduct basic and applied research to determine the effects of heat, cold, high terrestrial altitude, and work upon the soldier's life processes, performance, and health in order to understand the complex interaction of environmental stresses, the body's defense mechanisms, and the techniques, equipment, and procedures best calculated to make the soldier operationally effective and provide environmental protection; to conduct continuing research in the physiological aspects and health effects of Army physical fitness training; and to provide technical advice and consultation to Army Commanders, installations, and activities in support of the Army Preventive Medicine Program. Research programs are conducted in laboratories which are equipped to support studies in physiology, biochemistry, pharmacology, psychology, physical anthropology, histology, pathology, medicine, physics, and veterinary medicine; in specially equipped environmental chambers capable of supporting human research

in a wide variety of simulated environmental extremes; and in the field. Institute is organized into seven main divisions: 1) Altitude Research Division conducts research on problems encountered by the soldier exposed to extremes of high terrestrial elevations, with emphasis on the etiology and symptomatology of Acute Mountain Sickness; 2) Exercise Physiology Division has responsibility for the Army's in-house research and development effort in biomedical research of physical fitness training and work performance; 3) Experimental Pathology Division provides healthy laboratory animals for research, provides veterinary assistance, performs experimental surgery, and develops animal models for human disorders associated with environmental extremes; 4) Health and Performance Division conducts research on the interactive effects of climate, physical fitness, and demands of Army operations on the psychological functioning, operational effectiveness, health, and well-being of Army personnel; 5) Heat Research Division studies the prevention, diagnosis, and treatment of heat cramps, heat exhaustion, and heat stroke; 6) Military Ergonomics Division research is concerned with the interactions of the soldier, his clothing and equipment, and the environment in determining thermal stress in hot or cold environments; and 7) Research Support Division provides administrative, logistical, budgetary, and ADP functions in support of Institute's research mission.

Results are published in primary journals.

Remarks: See Agency Index for listings of other Medical Research and Development Command components included in GRCD Issues 1-3.

★ 1384 ★

U. S. ARMY RESEARCH OFFICE (ARO)

Research Triangle Park, NC 27709 Phone: (919) 549-0641

Office is a component of the U. S. Army Materiel Development and Readiness Command (DARCOM), Chief of Staff of the Army, Department of the Army.

ARO's mission is to develop the DARCOM research program for mathematics and for the physical, engineering, environmental, and life sciences according to Army requirements. Office manages contracts and grants for extramural research with educational institutions, research institutes, and Government and industrial programs. These grants and contracts generally result from unsolicited proposals, but ARO does occasionally publish its interest in specific topics.

Remarks: The bulk of the Army's research is conducted in, or contracted from, DARCOM's laboratories. See Agency Index for specific listings of these laboratories in GRCD Issues 1-3.

★ 1385 ★

U. S. ARMY RESEARCH AND TECHNOLOGY LABORATORIES (RTL)

Ames Research Center  
Moffett Field, CA 94035 Phone: (415) 965-6385  
Dr. Richard M. Carlson, Director Established: 1970

Laboratories are components of the U. S. Army Aviation Research and Development Command (AVRADCOM), a major subordinate command of the Materiel Development and Readiness Command (DARCOM), Chief of Staff of the Army, Department of the Army. Staff totals approximately 500 scientists, engineers, technicians, and other research professionals.

RTL constitutes the Army's principal aeronautical research and technological development activity. Mission is to plan, develop, manage, and execute research and exploratory development programs, as well as advanced development programs, by providing a technical base for development of airborne systems. Emphasis is on rotary-wing aircraft (helicopters). RTL achieves its mission through in-house research, utilization of the resources of academic institutions and commercial research organizations, cooperation with other Government agencies, and contracts awarded to aerospace industrial firms, colleges, and universities.

Remarks: The four laboratories which comprise RTL are the Aeromechanics Laboratory, Applied Technology Laboratory, Structures Laboratory, and Propulsion Laboratory (see separate entries in this issue). RTL headquarters

and three of the four laboratories are located at National Aeronautics and Space Administration (NASA) research centers. This unique interagency relationship provides the Army with direct access to NASA's facilities and expertise for application to Army requirements. (Although geographically dispersed, the four Research and Technology Laboratories function as one laboratory, under one command.)

## ★ 1386 ★

**U. S. ARMY SATELLITE COMMUNICATIONS AGENCY (SATCOM)**  
Communications Research and Development Command  
Ft. Monmouth, NJ 07703 Phone: (201) 532-5496  
Col. Charles F. Lindberg, Commander Established: 1962

Project manager for SATCOM is assigned to the U. S. Army Communications Research and Development Command, a major subordinate command of the Materiel Development and Readiness Command, Chief of Staff of the Army, Department of the Army. Staff includes 88 research professionals, 84 supporting professionals, 80 technicians, and 53 others.

SATCOM activities include research and development in various satellite communications disciplines. Primary areas of research interest are satellite communications and terminal design, with secondary interest in antenna design, low noise amplifiers, and satellite access techniques.

Results are published as proceedings and as research reports. SATCOM sponsors various seminars and conferences.

Remarks: See Agency Index for listings of CORADCOM and its components, described separately in this issue.

## ★ 1387 ★

**U. S. ARMY TANK-AUTOMOTIVE COMMAND (TACOM)**  
Warren, MI 48090  
Maj. Gen. Oscar C. Decker, Jr.,  
Commander Phone: (313) 573-2131

TACOM is a major subordinate command of the U. S. Army Materiel Development and Readiness Command, Chief of Staff of the Army, Department of the Army. Staff includes approximately 5200 civilian and 250 military personnel.

Command is responsible for the wheeled and tracked vehicles and associated automotive equipment used by all of the military services. The TACOM mission involves research, development, procurement, distribution, repair parts supply, preparation of maintenance doctrine, and operational training. Systems assigned to TACOM include a wide spectrum of combat, tactical, and commercial vehicles, along with selected materials handling and construction equipment. Research and development are the functional responsibilities of TACOM's Tank-Automotive Research and Development Center (see separate entry in this issue). TACOM is also the National Inventory Control Point and the National Maintenance Point for the fleet inventory of 1.2 million vehicles that it manages. Facilities include the M60 Tank Plant in Warren, MI and the XM1 Tank manufacturing facility at the Lima Army Tank Center, Lima, OH, both of which are contractor operated.

## ★ 1388 ★

**U. S. ARMY TANK-AUTOMOTIVE RESEARCH AND DEVELOPMENT CENTER**  
Warren, MI 48090  
Brig. Gen. Church M. Matthews, Jr., Deputy  
Commander

Center is a component of the U. S. Army Tank-Automotive Command (TACOM), Materiel Development and Readiness Command, Chief of Staff

of the Army, Department of the Army.

Center has functional responsibility for research and development of wheeled and tracked vehicles and associated automotive equipment used by the military services. Areas of research include armor design, track, suspension, power package, and various components which provide a base for new vehicle concepts. Center comprises two Laboratories (Tank-Automotive Systems and Tank-Automotive Concepts); a Directorate for Engineering Support; Development Project Office for Vehicle Protection; Tactical Wheeled Vehicle Management Office; Tank Development Office; Systems and Technology Planning Office; Foreign Intelligence Office; and Executive Office. Center also works in close cooperation with contractors, universities, and other Federal organizations to develop vehicle concepts, long range forecasting, and advanced component hardware.

Remarks: For further description of TACOM research, see entry on Keweenaw Research Center, listed elsewhere in this issue.

## ★ 1389 ★

**U. S. ARMY WHITE SANDS MISSILE RANGE (WSMR)**  
White Sands Missile Range, NM 88002 Established: 1945

WSMR is one of eight national missile ranges operated for the Department of Defense. The Army operates WSMR in support of missile and test programs of the Army, Navy, and Air Force, and in support of programs of other government agencies.

WSMR's major directorates include: 1) National Range Operations (NRO), which plans and executes national range missions; 2) Army Materiel Test and Evaluation (ARMTE), which, as WSMR's testing arm, provides field and laboratory testing and evaluation of Army weapon systems, conducts extensive laboratory and flight tests of Army materiel (including guided missiles, rockets, warheads, and special weapons), and performs certain tests for range users on a non-interference, reimbursable basis; and 3) Instrumentation Directorate (ID), which develops instrumentation networks for sophisticated weapons by combining optics, telecommunications, radar, and electronics with computer systems. The U. S. Army Communications Command (USACC) at WSMR administers engineering, installation, operation, modification, and maintenance of telecommunications and data transmission systems. USACC also conducts frequency management, surveillance, analysis services, and operation of the WSMR terminal of worldwide military voice and record communications system. Major tenant units at WSMR are the Naval Ordnance Missile Test Facility; the Air Force Range Operations Office; the National Aeronautics and Space Administration; the U. S. Army Electronics Research and Development Command; the Missile Electronics Warfare Technical Area; and the U. S. Army TRADOC Systems Analysis Activity.

Remarks: Laboratory testing facilities at WSMR include nuclear environments, weapon systems simulation, guidance and control, propulsion, microbiology, climate, and metallography.

## ★ 1390 ★

**UNITED STATES-ISRAEL BINATIONAL SCIENCE FOUNDATION**  
P. O. Box 7677  
Jerusalem, Israel Established: 1972

Foundation represents a cooperative agreement between the U. S. and Israel.

Under the agreement signed by the two Governments when the Foundation was established, a program of cooperative scientific research and related activities is to be conducted principally in Israel, financed with Israeli currency, and is to involve scientists and institutions of the U. S. and Israel. Activities must be of mutual interest to both countries.

Information about U. S. involvement in Foundation programs may be obtained from: Division of International Programs, U. S.-Israel Binational Science Foundation, National Science Foundation, Washington, DC 20550.

★ 1391 ★

U. S. NAVAL OBSERVATORY (NAVOBSY)  
34th and Massachusetts Ave., N. W.  
Washington, DC 20390 Phone: (202) 254-4539  
Capt. Raymond A. Vahden, Superintendent Established: 1830

Observatory is a component of the Department of the Navy. Staff includes 63 research professionals, 16 supporting professionals, 18 technicians, 5 military personnel, and 75 others.

Mission of the Observatory is to provide means for safe navigation and accurate time, as well as to contribute to the general advancement of navigation and astronomy. In support of this mission, scientific staff at the Observatory provide the fundamental research required to predict the positions of planets and stars for the use of navigation in its broadest sense and to provide the most accurate time. Research subjects include: 1) astrometry, 2) celestial mechanics, 3) earth rotation, and 4) precise time. Studies involve use of fundamental reference frame, parallaxes, binaries, and photographic astrometry. Research efforts at NAVOBSY also involve technological development to support the Observatory's overall mission. For example, a highly automated transit circle telescope is being developed, and NAVOBSY has developed the world's most accurate atomic clock.

Research results are published as proceedings, in primary journals, and in Observatory's publications, which include almanacs and monthly TIME SERVICE BULLETINS. Observatory sponsors bi-weekly Scientific Colloquia, irregular symposia, and an annual international colloquium. Library holds 75,000 volumes in astronomy, mathematics, physics, and navigation, including rare books and periodical sets dating back to the 15th century; Brenda G. Corbin, Librarian.

Remarks: Observatory also maintains two field units: Time Service Substation, Box 570757, Miami, FL 33157 and Flagstaff Station, P. O. Box 1149, Flagstaff, AZ 86002. NAVOBSY's largest telescope is located at the Flagstaff Station.

★ 1392 ★

U. S. NAVY GUIDED MISSILE UNIT 41 (GMU-41)  
Naval Air Station  
Point Mugu, CA 93042 Phone: (805) 982-8858  
Lt. A. T. Stich, Officer-in-Charge Established: 1953

Unit reports directly to the Commanding Officer of Air Test and Evaluation Squadron Four, which is under the operational control of the Commander, Operational Test and Evaluation Force, Chief of Naval Operations, Department of the Navy. Staff includes 41 technicians and 3 others.

GMU-41 conducts air-to-air guided missile telemetry data collection and analysis, both in the field and at the Pacific Missile Test Range, Point Mugu, CA, in support of Air Test and Evaluation Squadron Four. Unit also aids activities such as the Naval Weapons Center, China Lake, CA in data collection on new refinements to air-to-air missiles.

Unit prepares "Quick Look" missile firing reports for appropriate Naval activities. Unit also sponsors annual Point Mugu Air Show in October.

★ 1393 ★

UNIVERSITY OF IDAHO RESEARCH AND EXTENSION CENTER  
P. O. Box AA  
Aberdeen, ID 83210 Phone: (208) 397-4181  
Galen McMaster, Superintendent Established: 1911

Center operates in cooperation with Cooperative Research, Science and Education Administration, Department of Agriculture (USDA-SEA-CR); the University of Idaho; and the State of Idaho. Staff includes 20 research professionals, 1 supporting professional, 21 technicians, and 22 others.

Center conducts a program of field and laboratory research in agriculture. Principal areas of research interest are potatoes and cereals.

Remarks: See separate entry in this issue for further description of USDA-SEA's Cooperative Research program.

★ 1394 ★

UNIVERSITY/INDUSTRY COOPERATIVE RESEARCH CENTERS PROGRAM  
National Science Foundation  
1800 G St., N. W.  
Washington, DC 20550 Phone: (202) 357-7527  
Robert M. Colton, Program Manager Established: 1973

Program is administratively assigned to the Intergovernmental Science and Public Technology Division, Directorate for Engineering and Applied Science, National Science Foundation (NSF).

Centers supported by this program are based on a one university-multicompany relationship dealing with particular scientific areas, such as polymer processing or computer graphics. Companies may be from one industry or from several industries. The center usually calls upon the services of many disciplines and functions within the university (especially those concerned with the business and engineering schools) and invites participation by local business and financial communities. Six to 12 private sector companies are generally associated with the center as co-sponsors of research and development programs of interest to both the participating companies and the university. Programs cover basic and applied research in various scientific disciplines and generic technologies with prospects of their leading to new products, processes, and services for the participating companies. Generally, the research agenda is established by the participants and is not subject to NSF control. Initially, the center is heavily subsidized by the NSF, but it is expected to become substantially self-sufficient within a five-year period. After a center reaches maturity, Government involvement is minimal.

Remarks: For additional description of this Program see GRCD Issue 1, entry #427. (It should be noted that this entry is intended to supplement and, to some extent, to update the previous description rather than to replace it.)

★ 1395 ★

USAF OCCUPATIONAL AND ENVIRONMENTAL HEALTH  
LABORATORY (OEHL)  
Brooks AFB, TX 78235

Laboratory is one of four major components of the Aerospace Medical Division, Air Force Systems Command, Department of the Air Force.

OEHL provides professional consultation and specialized laboratory services to support the operational requirements of the occupational, radiological, environmental health, and environmental quality programs of the Air Force.

Remarks: The other three Aerospace Medical Division components are the USAF School of Aerospace Medicine (see GRCD Issue 1, entry #428), Wilford Hall USAF Medical Center (see GRCD Issue 1, entry #453), and the Aerospace Medical Research Laboratory (see separate entry in this issue).

★ 1396 ★

WATER RESOURCES DIVISION  
Geological Survey National Center  
12201 Sunrise Valley Dr.  
Reston, VA 22092 Phone: (703) 860-6921  
Phillip Cahen, Chief Hydrologist

Division is part of the Geological Survey, Department of the Interior.

Mission of the Water Resources Division is to provide the hydrologic information and understanding needed for the best use and management of the Nation's water resources. To accomplish this mission, Division: 1) collects data needed to determine and evaluate the quantity, quality, and use of water resources; 2) conducts analytical and interpretive water-resource appraisals to describe the occurrence, availability, and physical, chemical, and biological characteristics of surface and ground water; 3) conducts supportive basic and problem-oriented research in hydraulics, hydrology, and related fields of science and engineering; and 4) disseminates water data and results of investigations and research. Division operates in cooperation with other Federal agencies and with State and local govern-

100

ments, coordinating the activities of Federal agencies in acquiring water data for streams, lakes, reservoirs, estuaries, and ground waters and providing scientific and technical assistance in hydrologic fields to other Federal, State, and local agencies.

Research results are published in Geological Survey series.

Remarks: Division headquarters are at the Geological Survey's National Center in Reston, VA, where the Chief Hydrologist provides overall direction for Division's programs. In addition, Division's field organization includes four Regional Hydrologists located at regional centers in Reston, VA (Northeastern Region); Atlanta, GA (Southeastern Region); Denver, CO (Central Region); and Menlo Park, CA (Western Region). These Regional Hydrologists are responsible for programs and projects conducted by District offices, Research Project offices, and central water-quality laboratories within their respective regions. Research projects are conducted mainly at the four regional centers and at the Gulf Coast Hydro-science Center in Bay St. Louis, MS (see GRCD Issue 2, entry #622). These research projects include studies in water chemistry, geochemistry, solute transport, hydrogeology, ground-water physics, surface water (general), surface water physics, sediment, snow and ice, unsaturated zone and evapotranspiration, ecology, and socio-economics. For further information on the Geological Survey, see separate entry in this issue. See Agency Index for listings of Water Resources Division components included in GRCD Issues 1-3.

★ 1397 ★

WESTERN HUMAN NUTRITION RESEARCH CENTER

Letterman Army Institute of Research  
The Presidio  
San Francisco, CA 94129  
Dr. Howerde B. Sauberlich, Research  
Leader

Established: 1980

Parent agency is Human Nutrition, Science and Education Administration, Department of Agriculture (USDA-SEA-HN).

Center plans and conducts research related to intervention programs and nutritional requirements. Research activities are concerned with: 1) identifying the factors resulting in suboptimal nutritional status; 2) developing reliable, efficient, and inexpensive methods for defining nutritional status; 3) planning and conducting research on human nutritional requirements; and 4) developing nutritional criteria for design and evaluation of intervention programs. Recent projects (conducted in conjunction with the University of California at Berkeley) have included a study on fibers and digestive absorption of nutrients and the production of gut gases; and studies on Vitamin C and Vitamin B6 requirements for women.

Remarks: Center is one of six Human Nutrition research components. See Agency Index for listings of others in GRCD Issues 2 and 3.

★ 1398 ★

WESTERN REGIONAL RESEARCH CENTER (WRRC)

800 Buchanan St.  
Berkeley, CA 94710  
Arthur I. Morgan, Jr., Director Phone: (415) 486-3506

Center is a component of Agricultural Research - Western Region, Science and Education Administration, Department of Agriculture. Staff includes 15 research professionals.

WRRC's program of agricultural research includes specialized units for the study of: 1) cereal products; 2) fabric processing; 3) feedstuffs; 4) fiber science; 5) food proteins; 6) engineering research; 7) food quality; 8) food technology; 9) plant physiology and chemistry; 10) chemical and structural analysis; 11) natural products chemistry; 12) nutrients; 13) plant protection phytochemistry; and 14) toxicology and biological evaluation.

Results are published in primary journals and as proceedings. A library is maintained; Rena Schonbrun, Librarian.

★ 1399 ★

WILSON (WOODROW) INTERNATIONAL CENTER FOR SCHOLARS

Smithsonian Institution Bldg.  
1000 Jefferson Dr., S. W.  
Washington, DC 20560 Phone: (202) 357-2841  
James H. Billington, Director Established: 1970

Center is organized within the Smithsonian Institution under the independent administration of a Board of Trustees appointed by the President. Board includes 8 members from private life and 8 from public positions.

Center is a creative scholarly institution which offers a residential fellowship program for advanced research. Center's program is organized in one broadly defined category (History, Culture, and Society) which enables the Center to attract superior projects from the entire range of scholarship in the humanities and social sciences; and in five more focused categories (American Society and Politics, Kennan Institute for Advanced Russian Studies, Latin American Program, East Asia Program, and International Security Studies Program) which have been designed to encourage scholarship either on particular areas of the world or on special topics which the Board of Trustees has chosen to emphasize. In general terms, the program of study at the Center is advanced, international, and humanistic. The Center seeks variety in disciplines and cultural perspectives, and no sponsored, classified, or structured group research is conducted.

Academic participants are normally established scholars with doctoral degrees in the U. S. or equivalent achievement in other countries. They are expected to have demonstrated their scholarly development through published work beyond the Ph.D. dissertation. Each fellow is expected to define and work on a single major scholarly project on a full-time basis in Washington. Most fellows have concentrated on book-length studies, but projects which result in major articles or essays are also welcome, as long as the research and writing represent the focused exploration of an important topic.

Remarks: For further information, contact the Center at the above address.

★ 1400 ★

WINCHESTER ENGINEERING AND ANALYTICAL CENTER (WEAC)

109 Halton St.  
Winchester, MA 01890  
John M. Taylor, Director

Center is a field laboratory of the Food and Drug Administration (FDA), Public Health Service, Department of Health and Human Services. Staff totals approximately 65.

Center is a multipurpose facility which supports FDA's mission to protect consumer health by: 1) monitoring radiation emitted by electronic products; 2) testing medical devices; 3) analyzing prescription drugs; and 4) checking foods for possible contamination from the byproducts of atomic energy. Center has FDA's major responsibility of compliance testing of certain medical devices and is the only FDA field laboratory equipped to test radiopharmaceuticals and radioactive contamination in foods. Center activities also include development of test methods and design of some testing equipment.

Remarks: In addition to its testing and analysis activities, Center provides training for State and local health personnel and FDA field investigators; has established a training program for State radiation control personnel in cooperation with the FDA's Bureau of Radiological Health; and provides consultation to industry representatives on engineering and laboratory techniques.

★ 1401 ★

WISCONSIN AGRICULTURAL EXPERIMENT STATION

1450 Linden Dr.  
Madison, WI 53706 Phone: (608) 262-2349  
Dr. Leo M. Walsh, Director Established: 1883

Station operates in cooperation with Cooperative Research, Science and

Education Administration, Department of Agriculture (USDA-SEA-CR); the University of Wisconsin; and the State of Wisconsin. Staff totals approximately 340.

Station conducts research in: 1) all phases of food production, including processing and marketing; 2) rural development, including land use, preservation, and use of natural resources; and 3) environmental concerns and human nutrition, including studies in agronomy, bacteriology, biochemistry, dairy science, agricultural economics, engineering, and journalism, continuing and vocational education, entomology, food science, food microbiology and toxicology, genetics, forestry, horticulture, and landscape architecture, meat and animal science and poultry science, nutritional science, plant pathology, rural sociology, soils, veterinary science, and wildlife ecology.

Research results are published as journal articles and research reports. Station sponsors annual seminars on agricultural subjects.

Remarks: See separate entry in this issue for further description of USDA-SEA's Cooperative Research program.

★ 1402 ★

WISCONSIN COOPERATIVE FISHERY RESEARCH UNIT

College of Natural Resources

University of Wisconsin

Stevens Point, WI 54481

Dr. Daniel W. Coble, Leader

Phone: (715) 346-2178

Established: 1971

Unit is part of a cooperative program between the U. S. Fish and Wildlife Service, Department of the Interior; the University of Wisconsin-Stevens Point; and the Wisconsin Department of Natural Resources. Staff includes 6 research professionals.

Unit objectives include research and training of students at the Master's degree level in aquatic sciences. Areas of study which have been emphasized are: 1) management; 2) fishery biology; 3) genetics; 4) physiology; 5) systematics; and 6) limnology.

Results are published in primary journals and as research reports and proceedings. Unit's extension activities include sponsorship of fish management assessment workshops and other meetings.

★ 1403 ★

WISCONSIN RESEARCH AND DEVELOPMENT CENTER FOR INDIVIDUALIZED SCHOOLING

University of Wisconsin

1025 W. Johnson St.

Madison, WI 53706

Prof. Richard A. Rossmiller, Director

Phone: (608) 263-4200

Established: 1964

Center is a university-based organization which is supported primarily by Department of Education funds. Staff includes 40 research and 20 supporting professionals, 5 technicians, and 25 others.

Center's mission is to improve the quality of education by addressing the issues and problems related to individualized schooling. Center pursues its mission by: 1) conducting and synthesizing research to clarify the processes of school-age children's learning and development; 2) conducting and synthesizing research to clarify effective approaches to teaching students basic skills and concepts; 3) developing and demonstrating im-

proved instructional strategies, processes, and materials for students, teachers, and school administrators; and 4) providing to educators assistance which helps transfer research and development outcomes to improved practice in local schools and teacher education institutions.

Research results are published as research reports. Center publishes WISCONSIN R&D CENTER NEWS (2-3 times per year) and annual BIBLIOGRAPHY OF PUBLICATIONS. Center sponsors Research and Practice Conference in April or May each year; attendance is open.

Remarks: For further description of Center's relationship to the Department of Education, see separate entry in this issue on the National Institute of Education.

★ 1404 ★

WORK FORCE EFFECTIVENESS AND DEVELOPMENT GROUP (WED)

Office of Personnel Management

1900 E St., N. W.

Washington, DC 20415

James Gregg, Associate Director

Parent agency is Office of Personnel Management (OPM).

OPM is charged with promoting productivity throughout the Federal Government. Within OPM, this task is the special responsibility of the Work Force Effectiveness and Development Group (WED). Within WED, the Office of Productivity Programs (OPP) carries out several coordinate research and development programs through its various divisions. Other offices in WED conduct policy analysis and provide training, consulting services, and technical assistance to agencies based on OPP's research and development.

Remarks: See separate entries in this issue for descriptions of the Office of Productivity Programs and its Productivity Research Division. See Agency Index for listings of other OPM components included in GRCD Issues 1-3.

★ 1405 ★

WYOMING AGRICULTURAL EXPERIMENT STATION (WAES)

Box 3354

University of Wyoming

Laramie, WY 82071

Dr. H. J. Tuma, Director

Phone: (307) 766-4133

Station operates in cooperation with Cooperative Research, Science and Education Administration, Department of Agriculture (USDA-SEA-CR); the University of Wyoming; and the State of Wyoming. Staff includes 50 research and 12 supporting professionals, 26 technicians, and 20 others.

Station conducts basic and applied research relating to all segments of agricultural production. Principal fields of research interest are economics, animal science, plant science, agricultural engineering, veterinary medicine, microbiology, and biochemistry.

Research results are published as journal articles, research reports, and proceedings. Station publishes RESEARCH JOURNAL and bulletins.

Remarks: See separate entry in this issue for further description of USDA-SEA's Cooperative Research program.

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Forest Service - Intermountain Forest and Range Experiment Station.  
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Forest Service - Intermountain Forest and Range Experiment Station.  
FOREST SERVICE RESEARCH WORK UNIT, Reno, NV: 1086

Forest Service - Intermountain Forest and Range Experiment Station.  
FORESTRY SCIENCES LABORATORY, Moscow, ID: 1091

Forest Service - Intermountain Forest and Range Experiment Station.  
FORESTRY SCIENCES LABORATORY, Bozeman, MT: 599

Forest Service - Intermountain Forest and Range Experiment Station.  
FORESTRY SCIENCES LABORATORY, Missoula, MT: 1092

Forest Service - Intermountain Forest and Range Experiment Station.  
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Forest Service - Intermountain Forest and Range Experiment Station.  
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Forest Service – Northeastern Forest Experiment Station.  
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Forest Service – Northeastern Forest Experiment Station.  
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Forest Service – Pacific Northwest Forest and Range Experiment Station.  
FOREST SERVICE RESEARCH WORK UNITS, Seattle, WA: 591

Forest Service – Pacific Northwest Forest and Range Experiment Station.  
FORESTRY SCIENCES LABORATORY, Anchorage, AK: 592

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FORESTRY SCIENCES LABORATORY, Juneau, AK: 593

Forest Service – Pacific Northwest Forest and Range Experiment Station.  
FORESTRY SCIENCES LABORATORY, Corvallis, OR: 604

Forest Service – Pacific Northwest Forest and Range Experiment Station.  
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Forest Service – Pacific Northwest Forest and Range Experiment Station.  
FORESTRY SCIENCES LABORATORY, Wenatchee, WA: 147

Forest Service – Pacific Northwest Forest and Range Experiment Station.  
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Forest Service – Pacific Northwest Forest and Range Experiment Station.  
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Forest Service – Pacific Northwest Forest and Range Experiment Station.  
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Forest Service.  
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Forest Service – Pacific Southwest Forest and Range Experiment Station.  
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Forest Service – Pacific Southwest Forest and Range Experiment Station.  
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Forest Service – Pacific Southwest Forest and Range Experiment Station.  
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Forest Service – Pacific Southwest Forest and Range Experiment Station.  
FOREST SERVICE RESEARCH WORK UNITS, Fresno, CA: 1088

Forest Service – Pacific Southwest Forest and Range Experiment Station.  
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Forest Service – Pacific Southwest Forest and Range Experiment Station.  
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Forest Service.  
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Forest Service – Rocky Mountain Forest and Range Experiment Station.  
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Forest Service – Rocky Mountain Forest and Range Experiment Station.  
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Forest Service – Rocky Mountain Forest and Range Experiment Station.  
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Forest Service - Southeastern Forest Experiment Station.  
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Forest Service - Southeastern Forest Experiment Station.  
FORESTRY SCIENCES LABORATORY, Research Triangle  
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Forest Service - Southeastern Forest Experiment Station.  
NAVAL STORES AND TIMBER PRODUCTION LABORATORY: 728

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SOUTHERN FOREST FIRE LABORATORY: 835

Forest Service.  
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Forest Service - Southern Forest Experiment Station.  
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Forest Service - Southern Forest Experiment Station.  
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FOREST SERVICE RESEARCH WORK UNIT, Auburn, AL: 1082

Forest Service - Southern Forest Experiment Station.  
FOREST SERVICE RESEARCH WORK UNIT, Fayetteville, AR: 1083

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DEPARTMENT OF THE ARMY (Cont'd)

Chief of Staff of the Army - U. S. Army Materiel Development and Readiness Command - Mobility Equipment Research and Development Command.  
U. S. ARMY MECHANICAL AND CONSTRUCTION EQUIPMENT LABORATORY: 1378

Chief of Staff of the Army - U. S. Army Materiel Development and Readiness Command.  
U. S. ARMY NATICK RESEARCH AND DEVELOPMENT COMMAND: 871

Chief of Staff of the Army - U. S. Army Materiel Development and Readiness Command.  
U. S. ARMY RESEARCH OFFICE: 1384

Chief of Staff of the Army - U. S. Army Materiel Development and Readiness Command.  
U. S. ARMY TANK-AUTOMOTIVE COMMAND: 1387

Chief of Staff of the Army - U. S. Army Materiel Development and Readiness Command - Tank-Automotive Command.  
U. S. ARMY TANK-AUTOMOTIVE RESEARCH AND DEVELOPMENT CENTER: 1388

Chief of Staff of the Army - U. S. Army Materiel Development and Readiness Command - Tank-Automotive Command.  
KEWEENAW RESEARCH CENTER: 1131

Chief of Staff of the Army - U. S. Army Materiel Development and Readiness Command.  
U. S. ARMY TEST AND EVALUATION COMMAND: 873

Chief of Staff of the Army - U. S. Army Materiel Development and Readiness Command - Test and Evaluation Command.  
ELECTRONIC PROVING GROUND: 560

Chief of Staff of the Army - U. S. Army Materiel Development and Readiness Command - Test and Evaluation Command.  
MATERIEL TESTING DIRECTORATE: 217

Chief of Staff of the Army - U. S. Army Materiel Development and Readiness Command - Test and Evaluation Command.  
TROPIC TEST CENTER: 855

Chief of Staff of the Army - U. S. Army Materiel Development and Readiness Command - Test and Evaluation Command.  
U. S. ARMY AIRCRAFT DEVELOPMENT TEST ACTIVITY: 1356

Chief of Staff of the Army - U. S. Army Materiel Development and Readiness Command - Test and Evaluation Command.  
U. S. ARMY COLD REGIONS TEST CENTER: 417

Chief of Staff of the Army - U. S. Army Materiel Development and Readiness Command - Test and Evaluation Command.  
U. S. ARMY DUGWAY PROVING GROUND: 861

Chief of Staff of the Army - U. S. Army Materiel Development and Readiness Command - Test and Evaluation Command.  
U. S. ARMY JEFFERSON PROVING GROUND: 1372

Chief of Staff of the Army - U. S. Army Materiel Development and Readiness Command - Test and Evaluation Command.  
U. S. ARMY WHITE SANDS MISSILE RANGE: 1389

Chief of Staff of the Army - U. S. Army Materiel Development and Readiness Command - Test and Evaluation Command.  
YUMA PROVING GROUND: 904

Chief of Staff of the Army - U. S. Army Surgeon General.  
U. S. ARMY MEDICAL RESEARCH AND DEVELOPMENT COMMAND: 421

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DEPARTMENT OF THE ARMY (Cont'd)

Chief of Staff of the Army - U. S. Army Surgeon General - Medical Research and Development Command.  
LETTERMAN ARMY INSTITUTE OF RESEARCH: 201

Chief of Staff of the Army - U. S. Army Surgeon General - Medical Research and Development Command.  
U. S. ARMY AEROMEDICAL RESEARCH LABORATORY: 1355

Chief of Staff of the Army - U. S. Army Surgeon General - Medical Research and Development Command.  
U. S. ARMY BIOMEDICAL LABORATORY: 1360

Chief of Staff of the Army - U. S. Army Surgeon General - Medical Research and Development Command.  
U. S. ARMY INSTITUTE OF DENTAL RESEARCH: 867

Chief of Staff of the Army - U. S. Army Surgeon General - Medical Research and Development Command.  
U. S. ARMY INSTITUTE OF SURGICAL RESEARCH: 868

Chief of Staff of the Army - U. S. Army Surgeon General - Medical Research and Development Command.  
U. S. ARMY MEDICAL BIOENGINEERING RESEARCH AND DEVELOPMENT LABORATORY: 870

Chief of Staff of the Army - U. S. Army Surgeon General - Medical Research and Development Command.  
U. S. ARMY MEDICAL RESEARCH INSTITUTE OF INFECTIOUS DISEASES: 1379

Chief of Staff of the Army - U. S. Army Surgeon General - Medical Research and Development Command.  
U. S. ARMY RESEARCH INSTITUTE OF ENVIRONMENTAL MEDICINE: 1383

Chief of Staff of the Army - U. S. Army Surgeon General - Medical Research and Development Command.  
WALTER REED ARMY INSTITUTE OF RESEARCH: 439

DEPARTMENT OF THE NAVY

ASSISTANT SECRETARY OF THE NAVY (RESEARCH, ENGINEERING, AND SYSTEMS): 944

Assistant Secretary of the Navy (Research, Engineering, and Systems).  
OFFICE OF NAVAL RESEARCH: 1232

Assistant Secretary of the Navy (Research, Engineering, and Systems) - Office of Naval Research.  
NAVAL BIOSCIENCES LABORATORY: 725

Assistant Secretary of the Navy (Research, Engineering, and Systems) - Office of Naval Research.  
NAVAL RESEARCH LABORATORY: 1190

Assistant Secretary (Research, Engineering, and Systems) - Office of Naval Research - Naval Research Laboratory.  
GENERAL SCIENCE AND TECHNOLOGY DIRECTORATE: 1095

Assistant Secretary (Research, Engineering, and Systems) - Office of Naval Research - Naval Research Laboratory - General Science and Technology Directorate.  
ENVIRONMENTAL SCIENCES DIVISION: 1062

Assistant Secretary (Research, Engineering, and Systems) - Office of Naval Research - Naval Research Laboratory - General Science and Technology Directorate.  
LABORATORY FOR COMPUTATIONAL PHYSICS: 1133

DEPARTMENT OF THE NAVY (Cont'd)

Assistant Secretary (Research, Engineering, and Systems) - Office of Naval Research - Naval Research Laboratory - General Science and Technology Directorate.  
LABORATORY FOR COSMIC-RAY PHYSICS: 1134

Assistant Secretary (Research, Engineering, and Systems) - Office of Naval Research - Naval Research Laboratory - General Science and Technology Directorate.  
PLASMA PHYSICS DIVISION: 1256

Assistant Secretary (Research, Engineering, and Systems) - Office of Naval Research - Naval Research Laboratory - General Science and Technology Directorate.  
SPACE SCIENCE DIVISION: 1325

Assistant Secretary (Research, Engineering, and Systems) - Office of Naval Research - Naval Research Laboratory.  
MATERIAL SCIENCE AND COMPONENT TECHNOLOGY DIRECTORATE: 1147

Assistant Secretary (Research, Engineering, and Systems) - Office of Naval Research - Naval Research Laboratory - Material Science and Component Technology Directorate.  
CHEMISTRY DIVISION: 980

Assistant Secretary (Research, Engineering, and Systems) - Office of Naval Research - Naval Research Laboratory - Material Science and Component Technology Directorate.  
CONDENSED MATTER AND RADIATION SCIENCES DIVISION: 994

Assistant Secretary (Research, Engineering, and Systems) - Office of Naval Research - Naval Research Laboratory - Material Science and Component Technology Directorate.  
ELECTRONICS TECHNOLOGY DIVISION: 1047

Assistant Secretary (Research, Engineering, and Systems) - Office of Naval Research - Naval Research Laboratory - Material Science and Component Technology Directorate.  
ELECTRO-OPTICAL TECHNOLOGY PROGRAM OFFICE: 1048

Assistant Secretary (Research, Engineering, and Systems) - Office of Naval Research - Naval Research Laboratory - Material Science and Component Technology Directorate.  
HEALTH PHYSICS STAFF: 1104

Assistant Secretary (Research, Engineering, and Systems) - Office of Naval Research - Naval Research Laboratory - Material Science and Component Technology Directorate.  
LABORATORY FOR STRUCTURE OF MATTER: 1135

Assistant Secretary (Research, Engineering, and Systems) - Office of Naval Research - Naval Research Laboratory - Material Science and Component Technology Directorate.  
NAVAL SCIENCE AND TECHNOLOGY DIVISION: 1148

Assistant Secretary (Research, Engineering, and Systems) - Office of Naval Research - Naval Research Laboratory - Material Science and Component Technology Directorate.  
OPTICAL SCIENCES DIVISION: 1248

Assistant Secretary (Research, Engineering, and Systems) - Office of Naval Research - Naval Research Laboratory.  
SPACE AND COMMUNICATIONS TECHNOLOGY DIRECTORATE: 1323

Assistant Secretary (Research, Engineering, and Systems) - Office of Naval Research - Naval Research Laboratory - Space and Communications Technology Directorate.  
ADVANCED PROJECTS OFFICE: 909

Assistant Secretary (Research, Engineering, and Systems) - Office of Naval Research - Naval Research Laboratory - Space and Communications Technology Directorate.  
COMMUNICATIONS SCIENCES DIVISION: 990

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DEPARTMENT OF THE NAVY (Cont'd)

Assistant Secretary (Research, Engineering, and Systems) - Office of Naval Research - Naval Research Laboratory - Space and Communications Technology Directorate.

CONCEPT DEVELOPMENT STAFF: 993

Assistant Secretary (Research, Engineering, and Systems) - Office of Naval Research - Naval Research Laboratory - Space and Communications Technology Directorate.

SPACE SYSTEMS DIVISION: 1326

Assistant Secretary (Research, Engineering, and Systems) - Office of Naval Research - Naval Research Laboratory - Space and Communications Technology Directorate.

SPACECRAFT TECHNOLOGY CENTER: 1327

Assistant Secretary (Research, Engineering, and Systems) - Office of Naval Research - Naval Research Laboratory.

SYSTEMS RESEARCH AND TECHNOLOGY DIRECTORATE: 1336

Assistant Secretary (Research, Engineering, and Systems) - Office of Naval Research - Naval Research Laboratory - Systems Research and Technology Directorate.

ACOUSTICS DIVISION: 905

Assistant Secretary (Research, Engineering, and Systems) - Office of Naval Research - Naval Research Laboratory - Systems Research and Technology Directorate.

MARINE TECHNOLOGY DIVISION: 1143

Assistant Secretary (Research, Engineering, and Systems) - Office of Naval Research - Naval Research Laboratory - Systems Research and Technology Directorate.

OCEANOGRAPHIC COMPUTER APPLICATIONS GROUP: 1212

Assistant Secretary (Research, Engineering, and Systems) - Office of Naval Research - Naval Research Laboratory - Systems Research and Technology Directorate.

RADAR DIVISION: 1267

Assistant Secretary (Research, Engineering, and Systems) - Office of Naval Research - Naval Research Laboratory - Systems Research and Technology Directorate.

SHIP FACILITY GROUP: 1308

Assistant Secretary (Research, Engineering, and Systems) - Office of Naval Research - Naval Research Laboratory - Systems Research and Technology Directorate.

TACTICAL ELECTRONIC WARFARE DIVISION: 1337

Assistant Secretary (Research, Engineering, and Systems) - Office of Naval Research - Naval Research Laboratory - Systems Research and Technology Directorate.

UNDERWATER SOUND REFERENCE DETACHMENT: 1354

Assistant Secretary (Research, Engineering, and Systems) - Office of Naval Research - Naval Research Laboratory.

TECHNICAL SERVICES DIRECTORATE: 1341

CHIEF OF NAVAL OPERATIONS: 983

Chief of Naval Operations - Bureau of Medicine and Surgery.  
NAVAL MEDICAL RESEARCH AND DEVELOPMENT COMMAND: 271

Chief of Naval Operations - Bureau of Medicine and Surgery - Naval Medical Research and Development Command.  
NAVAL AEROSPACE MEDICAL RESEARCH LABORATORY: 723

Chief of Naval Operations - Bureau of Medicine and Surgery - Naval Medical Research and Development Command.  
NAVAL DENTAL RESEARCH INSTITUTE: 269

DEPARTMENT OF THE NAVY (Cont'd)

Chief of Naval Operations - Bureau of Medicine and Surgery - Naval Medical Research and Development Command.  
NAVAL HEALTH RESEARCH CENTER: 1188

Chief of Naval Operations - Bureau of Medicine and Surgery - Naval Medical Research and Development Command.  
NAVAL MEDICAL RESEARCH INSTITUTE: 272

Chief of Naval Operations - Bureau of Medicine and Surgery - Naval Medical Research and Development Command - Naval Medical Research Institute.  
NAVY TOXICOLOGY DETACHMENT: 731

Chief of Naval Operations - Bureau of Medicine and Surgery - Naval Medical Research and Development Command.  
NAVAL SUBMARINE MEDICAL RESEARCH LABORATORY: 1192

Chief of Naval Operations - Chief of Naval Material.  
NAVAL PERSONNEL RESEARCH AND DEVELOPMENT CENTER: 1196

Chief of Naval Operations.  
NAVAL MATERIAL COMMAND: 1189

Chief of Naval Operations - Naval Material Command.  
ANTI-SUBMARINE WARFARE SYSTEMS PROJECT OFFICE: 932

Chief of Naval Operations - Naval Material Command.  
STRATEGIC SYSTEMS PROJECT OFFICE: 1333

Chief of Naval Operations - Naval Material Command.  
TRIDENT SYSTEM PROJECT OFFICE: 1353

Chief of Naval Operations - Naval Material Command.  
NAVAL AIR DEVELOPMENT CENTER: 724

Chief of Naval Operations - Naval Material Command.  
NAVAL AIR SYSTEMS COMMAND: 1184

Chief of Naval Operations - Naval Material Command - Naval Air Systems Command.  
NAVAL AIR ENGINEERING CENTER: 1182

Chief of Naval Operations - Naval Material Command - Naval Air Systems Command.  
NAVAL AIR PROPULSION CENTER: 1183

Chief of Naval Operations - Naval Material Command - Naval Air Systems Command.  
NAVAL AIR TEST CENTER: 1185

Chief of Naval Operations - Naval Material Command - Naval Air Systems Command.  
NAVAL ENVIRONMENTAL PREDICTION RESEARCH FACILITY: 270

Chief of Naval Operations - Naval Material Command - Naval Air Systems Command.  
NAVAL WEAPONS EVALUATION FACILITY: 729

Chief of Naval Operations - Naval Material Command - Naval Air Systems Command.  
PACIFIC MISSILE TEST CENTER: 779

Chief of Naval Operations - Naval Material Command - Naval Air Systems Command - Pacific Missile Test Center.  
MARINE AVIATION DETACHMENT: 1142

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DEPARTMENT OF THE NAVY (Cont'd)

DEPARTMENT OF EDUCATION

Chief of Naval Operations - Naval Material Command.  
NAVAL COASTAL SYSTEMS CENTER: 1186

Chief of Naval Operations - Naval Material Command.  
NAVAL ELECTRONIC SYSTEMS COMMAND: 1187

Chief of Naval Operations - Naval Material Command.  
NAVAL FACILITIES ENGINEERING COMMAND: 726

Chief of Naval Operations - Naval Material Command - Naval  
Facilities Engineering Command.  
CIVIL ENGINEERING LABORATORY: 62

Chief of Naval Operations - Naval Material Command.  
NAVAL OCEAN SYSTEMS CENTER: 727

Chief of Naval Operations - Naval Material Command - Naval Sea  
Systems Command.  
NAVAL SHIP WEAPON SYSTEMS ENGINEERING STATION: 1191

Chief of Naval Operations - Naval Material Command - Naval Supply  
Systems Command - Navy Resale and Services Support Office.  
NAVY CLOTHING AND TEXTILE RESEARCH FACILITY: 730

Chief of Naval Operations - Naval Material Command.  
NAVAL SURFACE WEAPONS CENTER: 1193

Chief of Naval Operations - Naval Material Command - Naval Surface  
Weapons Center.  
NAVAL SURFACE WEAPONS CENTER ACOUSTIC FACILITY: 1194

Chief of Naval Operations - Naval Material Command - Naval Surface  
Weapons Center.  
HYPERVELOCITY TUNNEL: 1109

Chief of Naval Operations - Naval Material Command.  
NAVAL UNDERWATER SYSTEMS CENTER: 273

Chief of Naval Operations - Naval Material Command - Naval Under-  
water Systems Center.  
TUDOR HILL LABORATORY: 411

Chief of Naval Operations - Naval Material Command.  
NAVAL WEAPONS CENTER: 1195

Chief of Naval Operations - Naval Material Command.  
TAYLOR (DAVID W.) NAVAL SHIP RESEARCH AND DEVELOPMENT  
CENTER: 1333

Chief of Naval Operations - Naval Material Command.  
TAYLOR (DAVID W.) NAVAL SHIP RESEARCH AND DEVELOPMENT  
CENTER - ANNAPOLIS LABORATORY: 1339

Chief of Naval Operations - Operational Test and Evaluation Force -  
Air Test and Evaluation Squadron Four.  
U. S. NAVY GUIDED MISSILE UNIT 41: 1392

CENTER FOR NAVAL ANALYSES: 969

U. S. NAVAL OBSERVATORY: 1391

U. S. Marine Corps - Marine Corps Development and Education  
Command.  
DEVELOPMENT CENTER: 90

Office of Educational Research and Improvement.  
INSTITUTE OF MUSEUM SERVICES: 1119

Office of Educational Research and Improvement.  
NATIONAL CENTER FOR EDUCATION STATISTICS: 1162

Office of Educational Research and Improvement.  
NATIONAL INSTITUTE OF EDUCATION: 1174

Office of Educational Research and Improvement - National Institute of  
Education.  
DISSEMINATION AND IMPROVEMENT OF PRACTICE  
PROGRAM: 1018

Office of Educational Research and Improvement - National Institute of  
Education.  
EDUCATIONAL POLICY AND ORGANIZATION PROGRAM: 1044

Office of Educational Research and Improvement - National Institute of  
Education.  
TEACHING AND LEARNING PROGRAM: 1340

Office of Educational Research and Improvement - National Institute of  
Education.  
NATIONAL COUNCIL ON EDUCATIONAL RESEARCH: 1168

APPALACHIA EDUCATIONAL LABORATORY, INC.: 933

CEMREL, INC.: 955

CENTER FOR EDUCATIONAL POLICY AND MANAGEMENT: 965

CENTER FOR SOCIAL ORGANIZATION OF SCHOOLS: 971

CENTER FOR THE STUDY OF EVALUATION: 974

FAR WEST LABORATORY FOR EDUCATIONAL RESEARCH AND  
DEVELOPMENT: 1071

INSTITUTE FOR RESEARCH ON EDUCATIONAL FINANCE AND  
GOVERNANCE: 1120

LEARNING RESEARCH AND DEVELOPMENT CENTER: 1137

NATIONAL CENTER FOR HIGHER EDUCATION MANAGEMENT  
SYSTEMS: 1163

NATIONAL CENTER FOR RESEARCH IN VOCATIONAL EDUCA-  
TION: 1165

NORTHWEST REGIONAL EDUCATIONAL LABORATORY: 1206

RESEARCH FOR BETTER SCHOOLS, INC.: 1271

RESEARCH AND DEVELOPMENT CENTER FOR TEACHER EDUCA-  
TION: 1273

SOUTHWEST EDUCATIONAL DEVELOPMENT LABORATORY: 1321

SWRL EDUCATIONAL RESEARCH AND DEVELOPMENT: 1335

WISCONSIN RESEARCH AND DEVELOPMENT CENTER FOR  
INDIVIDUALIZED SCHOOLING: 1403

Office of Special Education and Rehabilitative Services.  
NATIONAL INSTITUTE OF HANDICAPPED RESEARCH: 1175

Office of Special Education and Rehabilitative Services - Office of  
Special Education - Division of Innovation and Development.  
RESEARCH PROJECTS BRANCH: 1286

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DEPARTMENT OF EDUCATION (Cont'd)

Office of Vocational and Adult Education.  
DIVISION OF RESEARCH AND DEMONSTRATION: 1033

DEPARTMENT OF ENERGY

Assistant Secretary for Conservation and Solar Energy.  
SOLAR ENERGY RESEARCH INSTITUTE: 377

ASSISTANT SECRETARY FOR DEFENSE PROGRAMS: 943

Assistant Secretary for Defense Programs.  
KANSAS CITY PLANT: 1128

Assistant Secretary for Defense Programs.  
LAWRENCE LIVERMORE NATIONAL LABORATORY: 674

Assistant Secretary for Defense Programs.  
LOS ALAMOS SCIENTIFIC LABORATORY: 678

Assistant Secretary for Defense Programs.  
MOUND FACILITY: 238

Assistant Secretary for Defense Programs.  
NEW BRUNSWICK LABORATORY: 277

Assistant Secretary for Defense Programs.  
ROCKY FLATS PLANT: 1294

Assistant Secretary for Defense Programs.  
SANDIA NATIONAL LABORATORIES: 823

Assistant Secretary for Defense Programs.  
SAVANNAH RIVER LABORATORY: 363

Assistant Secretary for Environment.  
COMPARATIVE ANIMAL RESEARCH LABORATORY: 69

Assistant Secretary for Environment.  
ENVIRONMENTAL MEASUREMENTS LABORATORY: 565

Assistant Secretary for Environment.  
INHALATION TOXICOLOGY RESEARCH INSTITUTE: 182

Assistant Secretary for Environment.  
LABORATORY FOR ENERGY-RELATED HEALTH RESEARCH: 666

Assistant Secretary for Environment.  
LABORATORY OF NUCLEAR MEDICINE AND RADIATION  
BIOLOGY: 668

Assistant Secretary for Environment.  
LABORATORY OF RADIOBIOLOGY: 196

Assistant Secretary for Environment.  
OAK RIDGE ASSOCIATED UNIVERSITIES: 293

Assistant Secretary for Environment.  
OFFICE OF HEALTH AND ENVIRONMENTAL RESEARCH: 756

Assistant Secretary for Environment.  
RADIOBIOLOGY DIVISION: 1269

Assistant Secretary for Environment.  
SAVANNAH RIVER ECOLOGY LABORATORY: 824

Assistant Secretary for Environment.  
UNIVERSITY OF ROCHESTER BIOMEDICAL LABORATORY: 426

DEPARTMENT OF ENERGY (Cont'd)

Assistant Secretary for Fossil Energy.  
BARTLESVILLE ENERGY TECHNOLOGY CENTER: 23

Assistant Secretary for Fossil Energy.  
CARBONDALE MINING TECHNOLOGY CENTER: 38

Assistant Secretary for Fossil Energy.  
GRAND FORKS ENERGY TECHNOLOGY CENTER: 1099

Assistant Secretary for Fossil Energy.  
LARAMIE ENERGY TECHNOLOGY CENTER: 199

Assistant Secretary for Fossil Energy.  
MORGANTOWN ENERGY TECHNOLOGY CENTER: 1156

Assistant Secretary for Fossil Energy.  
PITTSBURGH ENERGY TECHNOLOGY CENTER: 790

Assistant Secretary for Fossil Energy.  
PITTSBURGH MINING TECHNOLOGY CENTER: 791

Assistant Secretary for Nuclear Energy.  
BETTIS ATOMIC POWER LABORATORY: 950

Assistant Secretary for Nuclear Energy.  
ENERGY TECHNOLOGY ENGINEERING CENTER: 1050

Assistant Secretary for Nuclear Energy.  
HANFORD ENGINEERING DEVELOPMENT LABORATORY: 624

Assistant Secretary for Nuclear Energy.  
IDAHO NATIONAL ENGINEERING LABORATORY: 1111

Assistant Secretary for Nuclear Energy.  
KNOLLS ATOMIC POWER LABORATORY: 1132

Assistant Secretary for Nuclear Energy.  
PACIFIC NORTHWEST LABORATORY: 320

Assistant Secretary for Nuclear Energy - Pacific Northwest Laboratory -  
Ecological Sciences Department.  
MARINE RESEARCH LABORATORY: 212

Assistant Secretary for Nuclear Energy.  
ROCKWELL HANFORD OPERATIONS: 1293

Assistant Secretary for Policy and Evaluation - Office of Minority  
Economic Impact.  
RESEARCH AND INFORMATION: 353

Assistant Secretary for Resource Applications.  
BONNEVILLE POWER ADMINISTRATION: 32

Assistant Secretary for Resource Applications.  
PADUCAH GASEOUS DIFFUSION PLANT: 1252

Energy Information Administration - Office of Energy Information  
Validation Analysis.  
VALIDATION RESEARCH DIVISION: 880

OFFICE OF ENERGY RESEARCH: 755

Office of Energy Research.  
ARGONNE NATIONAL LABORATORY: 478

Office of Energy Research.  
AMES LABORATORY: 930

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DEPARTMENT OF ENERGY (Cont'd)

Office of Energy Research.  
BATES LINEAR ACCELERATOR FACILITY: 486

Office of Energy Research.  
BROOKHAVEN NATIONAL LABORATORY: 951

Office of Energy Research.  
FERMI NATIONAL ACCELERATOR LABORATORY: 570

Office of Energy Research.  
LAWRENCE BERKELEY LABORATORY: 673

Office of Energy Research.  
MSU-DOE PLANT RESEARCH LABORATORY: 239, 1157

Office of Energy Research.  
NOTRE DAME RADIATION LABORATORY: 1207

Office of Energy Research.  
OAK RIDGE NATIONAL LABORATORY: 746

Office of Energy Research.  
PRINCETON UNIVERSITY PLASMA PHYSICS LABORATORY: 800

Office of Energy Research.  
STANFORD LINEAR ACCELERATOR CENTER: 392

Project Offices

ALBUQUERQUE OPERATIONS OFFICE: 927

CHICAGO OPERATIONS AND REGIONAL OFFICE: 982

CLINCH RIVER BREEDER REACTOR PLANT PROJECT OFFICE: 63

GRAND JUNCTION OFFICE: 160

IDAHO OPERATIONS OFFICE: 1112

NEVADA OPERATIONS OFFICE: 733

OAK RIDGE OPERATIONS OFFICE: 1210

RICHLAND OPERATIONS OFFICE: 1292

SAN FRANCISCO OPERATIONS OFFICE: 1298

SAVANNAH RIVER OPERATIONS OFFICE: 1301

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Office of Human Development Services - Administration for Children, Youth, and Families - Children's Bureau.  
NATIONAL CENTER ON CHILD ABUSE AND NEGLECT: 701

Office of Human Development Services - Administration for Children, Youth, and Families - Children's Bureau - National Center on Child Abuse and Neglect.  
CLEARINGHOUSE ON CHILD ABUSE AND NEGLECT INFORMATION: 512

Office of Human Development Services - Office of Policy Development.  
DIVISION OF RESEARCH AND DEMONSTRATIONS: 351, 1272

Public Health Service - Office of the Assistant Secretary for Health.  
OFFICE OF HEALTH RESEARCH, STATISTICS, AND TECHNOLOGY: 1228

DEPARTMENT OF HEALTH AND HUMAN SERVICES (Cont'd)

Public Health Service - Office of Health Research, Statistics, and Technology.  
NATIONAL CENTER FOR HEALTH CARE TECHNOLOGY: 247

Public Health Service - Office of Health Research, Statistics, and Technology.  
NATIONAL CENTER FOR HEALTH SERVICES RESEARCH: 702

Public Health Service - Office of Health Research, Statistics, and Technology.  
NATIONAL CENTER FOR HEALTH STATISTICS: 248

Public Health Service - Office of Health Research, Statistics, and Technology - National Center for Health Statistics - Cooperative Health Statistics Systems Division.  
DIVISION OF RESEARCH AND STATISTICAL SERVICES: 102

Public Health Service - Alcohol, Drug Abuse, and Mental Health Administration.  
NATIONAL INSTITUTE ON ALCOHOL ABUSE AND ALCOHOLISM: 1172

Public Health Service - Alcohol, Drug Abuse, and Mental Health Administration - National Institute on Alcohol Abuse and Alcoholism.  
DIVISION OF EXTRAMURAL RESEARCH: 1027

Public Health Service - Alcohol, Drug Abuse, and Mental Health Administration - National Institute on Alcohol Abuse and Alcoholism.  
DIVISION OF INTRAMURAL RESEARCH: 1030

Public Health Service - Alcohol, Drug Abuse, and Mental Health Administration.  
NATIONAL INSTITUTE ON DRUG ABUSE: 1173

Public Health Service - Alcohol, Drug Abuse, and Mental Health Administration - National Institute on Drug Abuse.  
NATIONAL CLEARINGHOUSE FOR DRUG ABUSE INFORMATION: 1166

Public Health Service - Alcohol, Drug Abuse, and Mental Health Administration - National Institute on Drug Abuse.  
RESEARCH DIVISION: 809

Public Health Service - Alcohol, Drug Abuse, and Mental Health Administration - National Institute on Drug Abuse - Research Division.  
ADDICTION RESEARCH CENTER: 906

Public Health Service - Alcohol, Drug Abuse, and Mental Health Administration - National Institute on Drug Abuse - Resource Development Division.  
SERVICES RESEARCH BRANCH: 1307

Public Health Service - Alcohol, Drug Abuse, and Mental Health Administration.  
NATIONAL INSTITUTE OF MENTAL HEALTH: 1176

Public Health Service - Alcohol, Drug Abuse, and Mental Health Administration - National Institute of Mental Health.  
DIVISION OF BIOMETRY AND EPIDEMIOLOGY: 1019

Public Health Service - Alcohol, Drug Abuse, and Mental Health Administration - National Institute of Mental Health - Division of Biometry and Epidemiology.  
CENTER FOR EPIDEMIOLOGIC STUDIES: 501

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DEPARTMENT OF HEALTH AND HUMAN SERVICES (Cont'd)

Public Health Service - Alcohol, Drug Abuse, and Mental Health Administration - National Institute of Mental Health.  
DIVISION OF EXTRAMURAL RESEARCH PROGRAMS: 1028

Public Health Service - Alcohol, Drug Abuse, and Mental Health Administration - National Institute of Mental Health - Division of Extramural Research Programs - Clinical Research Branch.  
CENTER FOR STUDIES OF AFFECTIVE DISORDERS: 972

Public Health Service - Alcohol, Drug Abuse, and Mental Health Administration - National Institute of Mental Health - Division of Extramural Research Programs - Clinical Research Branch.  
CENTER FOR STUDIES OF CHILD AND ADOLESCENT MENTAL HEALTH DISORDERS: 973

Public Health Service - Alcohol, Drug Abuse, and Mental Health Administration - National Institute of Mental Health - Division of Extramural Research Programs - Clinical Research Branch.  
CENTER FOR STUDIES OF SCHIZOPHRENIA: 506

Public Health Service - Alcohol, Drug Abuse, and Mental Health Administration - National Institute of Mental Health - Division of Manpower and Training Programs.  
CENTER FOR MENTAL HEALTH SERVICES MANPOWER RESEARCH AND DEMONSTRATION: 49

Public Health Service - Alcohol, Drug Abuse, and Mental Health Administration - National Institute of Mental Health.  
DIVISION OF MENTAL HEALTH SERVICE PROGRAMS: 1031

Public Health Service - Alcohol, Drug Abuse, and Mental Health Administration - National Institute of Mental Health - Division of Mental Health Service Programs.  
MENTAL HEALTH STUDY CENTER: 689

Public Health Service - Alcohol, Drug Abuse, and Mental Health Administration - National Institute of Mental Health.  
DIVISION OF SPECIAL MENTAL HEALTH PROGRAMS: 1038

Public Health Service - Alcohol, Drug Abuse, and Mental Health Administration - National Institute of Mental Health - Division of Special Mental Health Programs.  
CENTER FOR MINORITY GROUP MENTAL HEALTH PROGRAMS: 968

Public Health Service - Alcohol, Drug Abuse, and Mental Health Administration - National Institute of Mental Health - Division of Special Mental Health Programs.  
CENTER FOR STUDIES OF CRIME AND DELINQUENCY: 505

Public Health Service - Alcohol, Drug Abuse, and Mental Health Administration - National Institute of Mental Health - Division of Special Mental Health Programs.  
CENTER FOR STUDIES OF MENTAL HEALTH OF THE AGING: 51

Public Health Service - Alcohol, Drug Abuse, and Mental Health Administration - National Institute of Mental Health - Division of Special Mental Health Programs.  
CENTER FOR STUDIES OF METROPOLITAN PROBLEMS: 52

Public Health Service - Alcohol, Drug Abuse, and Mental Health Administration - National Institute of Mental Health - Division of Special Mental Health Programs.  
NATIONAL CENTER FOR THE PREVENTION AND CONTROL OF RAPE: 1164

Public Health Service - Alcohol, Drug Abuse, and Mental Health Administration - National Institute of Mental Health.  
HOFFMAN DIVISION OF RESEARCH: 633

DEPARTMENT OF HEALTH AND HUMAN SERVICES (Cont'd)

Public Health Service - Alcohol, Drug Abuse, and Mental Health Administration - National Institute of Mental Health.  
INTRAMURAL RESEARCH PROGRAM: 655

Public Health Service - Alcohol, Drug Abuse, and Mental Health Administration - National Institute of Mental Health (Intramural Research Program) - Biological and Biochemical Research Division.  
LABORATORY OF NEUROCHEMISTRY: 195

Public Health Service - Alcohol, Drug Abuse, and Mental Health Administration - National Institute of Mental Health (Intramural Research Program) - Clinical and Behavioral Research Division.  
LABORATORY OF CLINICAL SCIENCE: 194

Public Health Service - Alcohol, Drug Abuse, and Mental Health Administration - National Institute of Mental Health (Intramural Research Program) - Clinical and Behavioral Research Division.  
LABORATORY OF SOCIO-ENVIRONMENTAL STUDIES: 197

Public Health Service.  
CENTER FOR DISEASE CONTROL: 44, 963

Public Health Service - Center for Disease Control - Bureau of Epidemiology.  
HEPATITIS LABORATORIES DIVISION: 631

Public Health Service - Center for Disease Control.  
BUREAU OF LABORATORIES: 495

Public Health Service - Center for Disease Control - Bureau of Laboratories.  
BACTERIOLOGY DIVISION: 485

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- U. S. Fish and Wildlife Service - Division of Wildlife Ecology Research.  
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- U. S. Fish and Wildlife Service - Division of Wildlife Ecology Research - Patuxent Wildlife Research Center.  
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- U. S. Fish and Wildlife Service - Division of Wildlife Ecology Research - Patuxent Wildlife Research Center.  
DELRAY BEACH FIELD STATION: 537
- U. S. Fish and Wildlife Service - Division of Wildlife Ecology Research - Patuxent Wildlife Research Center.  
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- U. S. Fish and Wildlife Service - Division of Wildlife Ecology Research - Patuxent Wildlife Research Center.  
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- U. S. Fish and Wildlife Service - Division of Wildlife Ecology Research - Patuxent Wildlife Research Center.  
MAUI FIELD STATION: 218
- U. S. Fish and Wildlife Service - Division of Wildlife Ecology Research - Patuxent Wildlife Research Center.  
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- U. S. Fish and Wildlife Service - Division of Wildlife Ecology Research - Patuxent Wildlife Research Center.  
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- U. S. Fish and Wildlife Service - Division of Wildlife Ecology Research - Patuxent Wildlife Research Center.  
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- U. S. Fish and Wildlife Service - Division of Wildlife Ecology Research - Patuxent Wildlife Research Center.  
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- U. S. Fish and Wildlife Service - Division of Wildlife Ecology Research - Patuxent Wildlife Research Center.  
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- U. S. Fish and Wildlife Service - Office of the Associate Director - Research.  
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- U. S. Fish and Wildlife Service.  
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- U. S. Fish and Wildlife Service.  
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- U. S. Fish and Wildlife Service.  
ALASKA COOPERATIVE WILDLIFE RESEARCH UNIT: 465
- U. S. Fish and Wildlife Service.  
ARIZONA COOPERATIVE FISHERY RESEARCH UNIT: 15
- U. S. Fish and Wildlife Service.  
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- U. S. Fish and Wildlife Service.  
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- U. S. Fish and Wildlife Service.  
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- U. S. Fish and Wildlife Service.  
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- U. S. Fish and Wildlife Service.  
FLORIDA COOPERATIVE FISH AND WILDLIFE RESEARCH UNIT: 122
- U. S. Fish and Wildlife Service.  
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- U. S. Fish and Wildlife Service.  
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- U. S. Fish and Wildlife Service.  
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- U. S. Fish and Wildlife Service.  
IDAHO COOPERATIVE FISHERY RESEARCH UNIT: 1110
- U. S. Fish and Wildlife Service.  
IDAHO COOPERATIVE WILDLIFE RESEARCH UNIT: 637
- U. S. Fish and Wildlife Service.  
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- U. S. Fish and Wildlife Service.  
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- U. S. Fish and Wildlife Service.  
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- U. S. Fish and Wildlife Service.  
LOUISIANA COOPERATIVE WILDLIFE RESEARCH UNIT: 1139
- U. S. Fish and Wildlife Service.  
MAINE COOPERATIVE FISHERY RESEARCH UNIT: 209
- U. S. Fish and Wildlife Service.  
MAINE COOPERATIVE WILDLIFE RESEARCH UNIT: 210
- U. S. Fish and Wildlife Service.  
MASSACHUSETTS COOPERATIVE FISHERY RESEARCH UNIT: 1146
- U. S. Fish and Wildlife Service.  
MASSACHUSETTS COOPERATIVE WILDLIFE RESEARCH UNIT: 214
- U. S. Fish and Wildlife Service.  
MISSISSIPPI COOPERATIVE FISH AND WILDLIFE RESEARCH UNIT: 231
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- U. S. Fish and Wildlife Service.  
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- U. S. Fish and Wildlife Service.  
NEW YORK COOPERATIVE FISHERY RESEARCH UNIT: 279
- U. S. Fish and Wildlife Service.  
NEW YORK COOPERATIVE WILDLIFE RESEARCH UNIT: 280
- U. S. Fish and Wildlife Service.  
NORTH CAROLINA COOPERATIVE FISHERY RESEARCH UNIT: 737
- U. S. Fish and Wildlife Service.  
OHIO COOPERATIVE FISHERY RESEARCH UNIT: 771
- U. S. Fish and Wildlife Service.  
OHIO COOPERATIVE WILDLIFE RESEARCH UNIT: 772
- U. S. Fish and Wildlife Service.  
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- U. S. Fish and Wildlife Service.  
OKLAHOMA COOPERATIVE WILDLIFE RESEARCH UNIT: 775
- U. S. Fish and Wildlife Service.  
OREGON COOPERATIVE FISHERY RESEARCH UNIT: 778
- U. S. Fish and Wildlife Service.  
OREGON COOPERATIVE WILDLIFE RESEARCH UNIT: 1249
- U. S. Fish and Wildlife Service.  
PENNSYLVANIA COOPERATIVE FISHERY RESEARCH UNIT: 783
- U. S. Fish and Wildlife Service.  
PENNSYLVANIA COOPERATIVE WILDLIFE RESEARCH UNIT: 784
- U. S. Fish and Wildlife Service.  
SOUTH DAKOTA COOPERATIVE FISHERY RESEARCH UNIT: 380
- U. S. Fish and Wildlife Service.  
SOUTH DAKOTA COOPERATIVE WILDLIFE RESEARCH UNIT: 1315
- U. S. Fish and Wildlife Service.  
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- U. S. Fish and Wildlife Service.  
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- U. S. Fish and Wildlife Service.  
UTAH COOPERATIVE WILDLIFE RESEARCH UNIT: 878
- U. S. Fish and Wildlife Service.  
VIRGINIA COOPERATIVE FISHERY RESEARCH UNIT: 435
- U. S. Fish and Wildlife Service.  
VIRGINIA COOPERATIVE WILDLIFE RESEARCH UNIT: 436
- U. S. Fish and Wildlife Service.  
WASHINGTON COOPERATIVE FISHERY RESEARCH UNIT: 440
- U. S. Fish and Wildlife Service.  
WISCONSIN COOPERATIVE FISHERY RESEARCH UNIT: 1402
- U. S. Fish and Wildlife Service.  
WISCONSIN COOPERATIVE WILDLIFE RESEARCH UNIT: 898
- U. S. Fish and Wildlife Service.  
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National Park Service - Midwest Region.  
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National Park Service - Southeast Region.  
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Bureau of Mines - Minerals Information and Analysis Directorate - Field Operations Division.  
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Bureau of Mines - Minerals Information and Analysis Directorate - Field Operations Division.  
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Bureau of Mines - Minerals Information and Analysis Directorate - Field Operations Division.  
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Bureau of Mines - Minerals Information and Analysis Directorate - Field Operations Division.  
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Bureau of Mines - Minerals Research Directorate - Research Center Operations.  
ALBANY RESEARCH CENTER: 7

Bureau of Mines - Minerals Research Directorate - Research Center Operations.  
AVONDALE RESEARCH CENTER: 21

Bureau of Mines - Minerals Research Directorate - Research Center Operations.  
DENVER RESEARCH CENTER: 88

Bureau of Mines - Minerals Research Directorate - Research Center Operations.  
PITTSBURGH RESEARCH CENTER: 332

Bureau of Mines - Minerals Research Directorate - Research Center Operations.  
RENO RESEARCH CENTER: 306

Bureau of Mines - Minerals Research Directorate - Research Center Operations.  
ROLLA RESEARCH CENTER: 820

Bureau of Mines - Minerals Research Directorate - Research Center Operations.  
SALT LAKE CITY RESEARCH CENTER: 360

Bureau of Mines - Minerals Research Directorate - Research Center Operations.  
SPOKANE RESEARCH CENTER: 841

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Geological Survey - Office of Earth Sciences Applications.  
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Geological Survey - Office of Land Information and Analysis.  
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Geological Survey - Office of Land Information and Analysis.  
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Geological Survey - Geologic Division (Eastern Region) - Office of Marine Geology.  
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Geological Survey.  
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Geological Survey - Geologic Division (Western Region).  
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Geological Survey.  
NATIONAL MAPPING DIVISION: 1178

Geological Survey - National Mapping Division.  
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Geological Survey - National Mapping Division.  
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Geological Survey.  
WATER RESOURCES DIVISION: 1396

Geological Survey - Water Resources Division.  
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Geological Survey.  
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Geological Survey.  
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Geological Survey - Water Resources Division (Northeastern Region).  
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Geological Survey.  
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Technical Services and Research.  
APPLIED RESEARCH DIVISION: 473

Office of Surface Mining Reclamation and Enforcement – Office of  
Technical Services and Research – Applied Research Division – State  
Mining and Minerals Resources and Research Institutes Program.  
ALABAMA MINERAL RESOURCES INSTITUTE: 463

Office of Surface Mining Reclamation and Enforcement – Office of  
Technical Services and Research – Applied Research Division – State  
Mining and Minerals Resources and Research Institutes Program.  
ALASKA MINING AND MINERAL RESOURCES RESEARCH  
INSTITUTE: 469

Office of Surface Mining Reclamation and Enforcement – Office of  
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Mining and Minerals Resources and Research Institutes Program.  
ARIZONA MINING AND MINERAL RESOURCES RESEARCH  
INSTITUTE: 480

Office of Surface Mining Reclamation and Enforcement – Office of  
Technical Services and Research – Applied Research Division – State  
Mining and Minerals Resources and Research Institutes Program.  
CALIFORNIA MINING AND MINERAL RESOURCES AND  
RESEARCH INSTITUTE: 498

Office of Surface Mining Reclamation and Enforcement – Office of  
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Mining and Minerals Resources and Research Institutes Program.  
COLORADO MINING AND MINERAL RESOURCES AND  
RESEARCH INSTITUTE: 527

Office of Surface Mining Reclamation and Enforcement – Office of  
Technical Services and Research – Applied Research Division – State  
Mining and Minerals Resources and Research Institutes Program.  
ILLINOIS MINING AND MINERAL RESOURCES AND RESEARCH  
INSTITUTE: 639

Office of Surface Mining Reclamation and Enforcement – Office of  
Technical Services and Research – Applied Research Division – State  
Mining and Minerals Resources and Research Institutes Program.  
KENTUCKY INSTITUTE FOR MINING AND MINERALS  
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Office of Surface Mining Reclamation and Enforcement – Office of  
Technical Services and Research – Applied Research Division – State  
Mining and Minerals Resources and Research Institutes Program.  
MASSACHUSETTS MINING AND MINERAL RESOURCES AND  
RESEARCH INSTITUTE: 684

Office of Surface Mining Reclamation and Enforcement – Office of  
Technical Services and Research – Applied Research Division – State  
Mining and Minerals Resources and Research Institutes Program.  
MINNESOTA MINERAL RESOURCES RESEARCH CENTER: 692

Office of Surface Mining Reclamation and Enforcement – Office of  
Technical Services and Research – Applied Research Division – State  
Mining and Minerals Resources and Research Institutes Program.  
MISSISSIPPI MINERAL RESOURCES INSTITUTE: 693

Office of Surface Mining Reclamation and Enforcement – Office of  
Technical Services and Research – Applied Research Division – State  
Mining and Minerals Resources and Research Institutes Program.  
MISSOURI MINING AND MINERAL RESOURCES AND RESEARCH  
INSTITUTE: 694

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Technical Services and Research – Applied Research Division – State  
Mining and Minerals Resources and Research Institutes Program.  
MONTANA MINING AND MINERAL RESOURCES AND  
RESEARCH INSTITUTE: 695

Office of Surface Mining Reclamation and Enforcement – Office of  
Technical Services and Research – Applied Research Division – State  
Mining and Minerals Resources and Research Institutes Program.  
OKLAHOMA MINING AND MINERAL RESOURCES AND  
RESEARCH INSTITUTE: 776

Office of Surface Mining Reclamation and Enforcement – Office of  
Technical Services and Research – Applied Research Division – State  
Mining and Minerals Resources and Research Institutes Program.  
TEXAS MINING AND MINERAL RESOURCES AND RESEARCH  
INSTITUTE: 848

Office of Surface Mining Reclamation and Enforcement – Office of  
Technical Services and Research – Applied Research Division – State  
Mining and Minerals Resources and Research Institutes Program.  
UTAH MINING AND MINERAL RESOURCES RESEARCH  
INSTITUTE: 879

Office of Surface Mining Reclamation and Enforcement – Office of  
Technical Services and Research – Applied Research Division – State  
Mining and Minerals Resources and Research Institutes Program.  
WEST VIRGINIA UNIVERSITY MINING AND MINERAL  
RESOURCES AND RESEARCH INSTITUTE: 895

Office of Surface Mining Reclamation and Enforcement – Office of  
Technical Services and Research – Applied Research Division – State  
Mining and Minerals Resources and Research Institutes Program.  
WYOMING MINING AND MINERAL RESOURCES AND  
RESEARCH INSTITUTE: 902

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INTERAGENCY ARCHEOLOGICAL SERVICES – WASHING-  
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Water and Power Resources Service – Engineering and Research Center.  
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Water and Power Resources Service.  
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Federal Bureau of Investigation – Law Enforcement Services.  
FBI LABORATORY: 1072

Federal Bureau of Investigation – Law Enforcement Services – FBI  
Laboratory.  
SCIENTIFIC ANALYSIS SECTION: 1304

Immigration and Naturalization Service – Information Services Division.  
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National Institute of Justice.  
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National Institute of Justice.  
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Bureau of International Labor Affairs.  
FOREIGN ECONOMIC RESEARCH STAFF: 579

Bureau of Labor Statistics.  
OFFICE OF RESEARCH AND EVALUATION: 762

Employment Standards Administration.  
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Service.  
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Employment and Training Administration - Unemployment Insurance  
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DIVISION OF RESEARCH SERVICES: 556

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Occupational Safety and Health Administration - Directorate of  
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Bureau of Intelligence and Research.  
DEPUTY ASSISTANT SECRETARY FOR ASSESSMENTS AND  
RESEARCH: 1011

Bureau of Intelligence and Research - Deputy Assistant Secretary for  
Assessments and Research.  
OFFICE OF ECONOMIC RESEARCH AND ANALYSIS: 754, 1011

Bureau of Intelligence and Research - Deputy Assistant Secretary for  
Assessments and Research.  
OFFICE OF LONG-RANGE ASSESSMENTS AND RESEARCH: 1231

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Bureau of Intelligence and Research.  
DEPUTY ASSISTANT SECRETARY FOR CURRENT ANALYSIS: 1012

Bureau of Intelligence and Research.  
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Federal Aviation Administration - Office of Aviation Medicine.  
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Federal Railroad Administration.  
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Federal Railroad Administration.  
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National Highway Traffic Safety Administration.  
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National Highway Traffic Safety Administration - Associate Administrator  
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National Highway Traffic Safety Administration - Associate Administrator  
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OFFICE OF HEAVY DUTY VEHICLE RESEARCH: 1229

National Highway Traffic Safety Administration - Associate Administrator  
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Research and Special Programs Administration - Transportation Programs  
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Research and Special Programs Administration.  
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OFFICE OF RESEARCH AND DEVELOPMENT: 306

U. S. Coast Guard.  
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U. S. Coast Guard - U. S. Coast Guard Research and Development  
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Assistant Secretary for International Affairs - International Economic Analysis.

OFFICE OF QUANTITATIVE STUDIES: 1236

Bureau of Alcohol, Tobacco and Firearms.

OFFICE OF THE SPECIAL ASSISTANT TO THE DIRECTOR (RESEARCH AND DEVELOPMENT): 770

Bureau of Alcohol, Tobacco and Firearms.

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Bureau of Engraving and Printing - Office of the Assistant Director (Research and Engineering).

OFFICE OF RESEARCH AND TECHNICAL SERVICES: 307

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Comptroller of the Currency - Office of the Senior Deputy Comptroller for Policy.

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Comptroller of the Currency - Senior Deputy Comptroller for Policy - Research and Economic Programs.

BANKING RESEARCH AND ECONOMIC ANALYSIS: 948

Federal Law Enforcement Training Center - Office of Program Management.

OFFICE OF RESEARCH AND EVALUATION: 1238

Internal Revenue Service - Office of the Assistant Commissioner (Compliance) - Collection Division.

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Internal Revenue Service - Office of the Assistant Commissioner (Planning and Research).

RESEARCH AND OPERATIONS ANALYSIS DIVISION: 1285

U. S. Customs Service - Office of the Comptroller.

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COMMODITY FUTURES TRADING COMMISSION

Division of Economics and Education - Research and Education Section.

RESEARCH UNIT: 1290

COMMUNITY SERVICES ADMINISTRATION

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Office of Research and Development.

OFFICE OF ENVIRONMENTAL ENGINEERING AND TECHNOLOGY: 1222

Office of Research and Development - Office of Environmental Engineering and Technology.

INDUSTRIAL ENVIRONMENTAL RESEARCH LABORATORY, Research Triangle Park, NC: 181

Office of Research and Development - Office of Environmental Engineering and Technology.

INDUSTRIAL ENVIRONMENTAL RESEARCH LABORATORY, Cincinnati, OH: 642

Office of Research and Development - Office of Environmental Engineering and Technology - Industrial Environmental Research Laboratory, Cincinnati - Resource Extraction and Handling Division.

OIL AND HAZARDOUS MATERIALS SPILLS BRANCH: 312

Office of Research and Development - Office of Environmental Engineering and Technology - Industrial Environmental Research Laboratory, Cincinnati - Resource Extraction and Handling Division - Oil and Hazardous Materials Spills Branch.

OIL AND HAZARDOUS MATERIALS SIMULATED ENVIRONMENTAL TEST TANK: 311

Office of Research and Development - Office of Environmental Engineering and Technology.

MUNICIPAL ENVIRONMENTAL RESEARCH LABORATORY, Cincinnati, OH: 698

Office of Research and Development.

OFFICE OF ENVIRONMENTAL PROCESSES AND EFFECTS RESEARCH: 1223

Office of Research and Development - Office of Environmental Processes and Effects Research.

ENVIRONMENTAL RESEARCH LABORATORY, Gulf Breeze, FL: 116

Office of Research and Development - Office of Environmental Processes and Effects Research.

ENVIRONMENTAL RESEARCH LABORATORY, Athens, GA: 1059

Office of Research and Development - Office of Environmental Processes and Effects Research.

ENVIRONMENTAL RESEARCH LABORATORY, Duluth, MN: 1060

Office of Research and Development - Office of Environmental Processes and Effects Research - Environmental Research Laboratory, Duluth, MN.

LARGE LAKES RESEARCH STATION, Grosse Ile, MI: 672

Office of Research and Development - Office of Environmental Processes and Effects Research - Environmental Research Laboratory, Duluth, MN.

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Office of Research and Development - Office of Environmental Processes and Effects Research.  
ENVIRONMENTAL SCIENCES RESEARCH LABORATORY, Research Triangle Park, NC: 117

Office of Research and Development - Office of Environmental Processes and Effects Research - Environmental Sciences Research Laboratory, Research Triangle Park, NC.  
FLUID MODELING FACILITY: 125

Office of Research and Development - Office of Environmental Processes and Effects Research.  
KERR (ROBERT S.) ENVIRONMENTAL RESEARCH LABORATORY, Ada, OK: 662

Office of Research and Development - Office of Environmental Processes and Effects Research.  
ENVIRONMENTAL RESEARCH LABORATORY, Corvallis, OR: 1061

Office of Research and Development - Office of Environmental Processes and Effects Research - Environmental Research Laboratory, Corvallis, OR.  
NEWPORT FIELD STATION, Newport, OR: 736

Office of Research and Development - Office of Environmental Processes and Effects Research.  
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Office of Research and Development - Office of Health and Environmental Assessment.  
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Office of Research and Development.  
OFFICE OF HEALTH RESEARCH: 1227

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HEALTH EFFECTS RESEARCH LABORATORY, Research Triangle Park, NC: 629

Office of Research and Development - Office of Health Research.  
HEALTH EFFECTS RESEARCH LABORATORY, Cincinnati, OH: 168

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OFFICE OF MONITORING SYSTEMS AND QUALITY ASSURANCE: 757

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ENVIRONMENTAL MONITORING AND SUPPORT LABORATORY, Cincinnati, OH: 1056

Office of Research and Development - Office of Monitoring Systems and Quality Assurance.  
ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, Las Vegas, NV: 1057

Office of Research and Development - Office of Monitoring Systems and Quality Assurance.  
ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, Research Triangle Park, NC: 114

Office of the Assistant Administrator for Enforcement - Office of Mobile Source and Noise Enforcement - Noise Enforcement Division.  
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Office of the Assistant Administrator for Pesticides and Toxic Substances - Office of Program Integration and Information - Survey and Analysis Division.  
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RESEARCH AND HEARINGS ADVISORY GROUP: 813

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ADVANCE PLANNING AND RESEARCH DIVISION: 908

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Board for International Food and Agricultural Development.  
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OFFICE OF ADVANCED MAIL SYSTEMS DEVELOPMENT: 1213Research and Technology Group - Research and Development Laboratories.  
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RESEARCH STAFF: 1288Department of Medicine and Surgery.  
OFFICE OF RESEARCH AND DEVELOPMENT: 761Department of Medicine and Surgery - Office of Research and Development.  
HEALTH SERVICES RESEARCH AND DEVELOPMENT SERVICE: 1105Department of Medicine and Surgery - Office of Research and Development.  
MEDICAL RESEARCH SERVICE: 688Department of Medicine and Surgery - Office of Research and Development.  
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