

## **Remote Instrumentation for Educational Purposes**

### **National Science Foundation**

#### **Earth Sciences: Instrumentation and Facilities**

*Deadline: Annually, August 8 and February 8*

The Instrumentation and Facilities Program in the Division of Earth Sciences (EAR/IF) supports meritorious requests within and across Earth science disciplines. EAR/IF will consider proposals for:

1. ***Acquisition or Upgrade of Research Equipment*** that will advance laboratory and field investigations, and student training opportunities in the Earth sciences;
2. ***Development of New Instrumentation, Analytical Techniques or Software*** that will extend current research and research training capabilities in the Earth sciences;
3. ***Support of National or Regional Multi-User Facilities*** that will make complex and expensive instruments or systems of instruments broadly available to the Earth sciences research and student communities;
4. ***Support of Research Technicians*** who will provide for optimal and efficient operation of advanced instrumentation, analytical protocol development, and user training for Earth science research instrumentation;
5. ***Development of Cyberinfrastructure for the Earth Sciences (Geoinformatics)*** that will enable transformative advances in Earth science research and education through novel application, development or adaptation of information technologies.

Planned research uses of requested instruments must include basic research on solid-Earth and surface-Earth processes.

### **National Science Foundation**

#### **Chemistry Research Instrumentation and Facilities: Departmental Multi-User Instrumentation (CRIF: MU)**

*Deadline: Annually, 4<sup>th</sup> Monday in June*

The sponsor provides funds for the purchase of multi-user instruments, for major instrumentation development and construction, and for the establishment and support of multi-user research facilities in the chemical sciences. The program is designed to respond flexibly to a variety of infrastructure needs that support advanced research and education in chemistry. The sponsor's underlying goal is the support of graduate education and research activities in analytical, inorganic, organic, physical, surface, and materials chemistry. The program is designed to support the following types of academic instrumentation research needs: purchase or upgrade of departmental multi-user instrumentation; design and construction of new chemistry research instruments; and establishment and support of unique, state-of-the-art national or regional instrumentation facilities for research in chemistry. The maximum request is \$500,000 for instrumentation. Additional funds may be requested for personnel who are needed to support cyber-enhanced projects.

Other components of CRIF include:

- **CRIF:ID** The Instrument Development component of CRIF (CRIF:ID) provides funds for the design and construction of instruments that will enable new chemical measurements or will significantly broaden the use of chemical instrumentation.
- **CRIF:CRF** Cyberinfrastructure and Research Facilities (CRIF:CRF) provides funds to establish and support either centers for the development of cyber-enabled chemical research, or regional or national instrumentation facilities. Awards in CRIF:CRF range from \$300,000-1,200,000/yr for up to five years.

**National Institute of Standards and Technology  
NIST Chemical Science and Technology Laboratory Grants Program**

*Deadline—Open*

**Objectives:**

The sponsor provides support for research supported by the divisions under the Chemical Science and Technology Laboratory. The research areas for each division are as follows: Biotechnology Division, 831--the primary objective is to advance the commercialization of biotechnology by developing the scientific/ engineering technical base, reliable measurements, standards, data and models to enable U.S. industry to quickly and economically produce biochemical products with appropriate quality control.

Process Measurement Division, 836--the primary objective is to develop and provide measurement standards and services, measurement techniques, recommended practices, sensing technology, instrumentation, and mathematical models required for analysis, control, and optimization of industrial processes.

Surface and Microanalysis Science Division, 837--the primary objective is to promote U.S. economic growth, safety, health, and environmental quality by working with industry, other government agencies, and standards organizations to develop and apply key technologies, measurements, and standards for spatially and temporally resolved chemical characterization.

Physical and Chemical Properties Division, 838--the primary objective is to be the Nation's reference laboratory for measurements, standards, data, and models for, the thermophysical and thermochemical properties of gases, liquids, and solids--both pure materials and mixtures.

Analytical Chemistry Division, 839--the primary objective is to serve as the Nation's reference laboratory for chemical measurements and standards to enhance U.S. industry's productivity and competitiveness, assure equity in trade, and provide quality assurance for chemical measurements used for assessing and improving public health, safety, and the environment.

**Eligibility:**

Eligible applicants are institutions of higher education; hospitals; non-profit organizations; commercial organizations; state, local, and Indian tribal governments; foreign governments; organizations under the jurisdiction of foreign governments; and international organizations.

**National Science Foundation  
Major Research Instrumentation Program (MRI)**

*Deadline—4<sup>th</sup> Thursday in January*

The Major Research Instrumentation Program (MRI) is designed to increase access to scientific and engineering equipment for research and research training in our Nation's organizations of higher education, research museums and non-profit research organizations. This program seeks to improve the quality and expand the scope of research and research training in science and engineering, and to foster the integration of research and education by providing instrumentation for research-intensive learning environments. The MRI program encourages the development and acquisition of research instrumentation for shared inter- and/or intra-organizational use and in concert with private sector partners.

The MRI program assists in the acquisition or development of major research instrumentation by organizations that is, in general, too costly for support through other NSF programs. Proposals may be for a single instrument, a large system of instruments, or multiple instruments that share a common or specific research focus.

**Department of the Army  
ARO--BAA--Research Instrumentation Grants**

*Deadline—Open*

**Objectives:**

Support is provided to improve the capabilities of U.S. universities to conduct research and educate scientists and engineers in areas important to national defense. Funds may be used to purchase instrumentation in support of this research or in the development of new research capabilities. Areas of interest include the biosciences, chemistry, electronics, engineering sciences, environmental sciences, mathematical and computer sciences, materials science, and physics.

**Restrictions:**

Eligible applicants are U.S. universities, who must have, at the time of submission, a current grant or contract, and the instrumentation requested must be in support of research being presently carried out. Funding will vary from project to project. Applicants must include a budget that addresses equipment to be purchased and costs, per item and total. Preapplication consultation is strongly advised. Proposal guidelines are available. Currently solicitations for minority-serving institutions.