

## DOE Notes

### SBIR Awards Announced for Phases I and II

The U.S. Department of Energy recently announced fiscal year 1988 Phase I and II awards for its ongoing Small Business Innovation Research (SBIR) program. Now in its sixth year, the SBIR program implements the Small Business Innovation Development Act of 1982, intended to strengthen the role of small, innovative firms in areas of federally funded research and development and to stimulate technological innovation.

Phase I awards were announced for 135 proposals from firms located in 24 states. Selection was made on the basis of scientific and technical merit from 1,214 submitted proposals in 29 technical, energy-related research topics ranging from advanced industrial sensors and control systems to the superconducting supercollider and high temperature superconducting materials.

Sixty-two projects were selected this

Spring for Phase II funding in fiscal year 1988. The awards averaged \$480,000 over a two-year period and covered a broad spectrum of energy-related R&D: conservation, renewable energy, fossil and nuclear energy, basic energy sciences, magnetic fusion, and high energy physics. Of this year's awards, Phase II funding negotiations have been completed with 26 firms to date, and negotiations with the remaining recipients have begun.

The DOE expects to issue the next SBIR solicitation in the Fall of 1988. For a list of all announced SBIR awards, recipients and projects, or information about submitting a proposal, contact: Gerry Washington, ER-16, U.S. Department of Energy, Washington, DC 20545; telephone (301) 353-5867.

### High School Science Honors Program Hosts 312 Students at Six DOE Labs

The U.S. Department of Energy's 1988 High School Science Honors Program will host 312 students at six DOE research laboratories this summer. The students were selected by their state governors on

the basis of scholastic aptitude and demonstrated competence in science and mathematics. Along with students from six other countries, they will each spend two weeks doing various forms of research and other activities at:

- Argonne National Laboratory (hands-on experience studying superconductors),
- Brookhaven National Laboratory (chemical, biological, and physics research at the National Synchrotron Light Source),
- Fermi National Accelerator Laboratory (particle physics research using the Tevatron accelerator),
- Lawrence Berkeley Laboratory (projects in the life sciences, including sequencing nucleotides in DNA),
- Lawrence Livermore National Laboratory (hands-on experience with supercomputers to solve problems in mathematics, physics, and computer graphics), and
- Oak Ridge National Laboratory (field and laboratory work in environmental sciences).

Next year's program will include a seventh laboratory, Battelle Pacific Northwest Laboratories in Washington State. For information contact your state's Department of Education or: John Ortman, U.S. Department of Energy, Office of Energy Research, ER-44, Washington, DC 20585; telephone (202) 586-1634.

## NSF Notes

### 27 Grants Awarded for New Undergraduate Faculty Education Program

The National Science Foundation recently awarded 27 grants under its new \$3 million Undergraduate Faculty Enhancement Program (UFEP). Begun this year, the program is intended to revitalize the teaching of undergraduate science, mathematics, and engineering by providing workshop and seminar opportunities for undergraduate faculty to work on recent developments in the disciplines they teach. Announced awards cover the physical, biological, and social sciences, computer science, mathematics, and engineering. Several are interdisciplinary. Additional awards may be made before the end of fiscal 1988.

Under UFEP guidelines, interaction must be sustained among participants, who are themselves active scientists and teachers, and with authorities in their fields, both during the funded project and continuing thereafter. Approximately 700 undergraduate faculty will take part in this year's conferences and workshops ad-

### Phase I SBIR Awards High T<sub>c</sub> Superconducting Materials: Processing and Devices

Company	Topic
Advanced Fuel Research, Inc. East Hartford, CT	Infrared detectors using high T <sub>c</sub> granular Josephson junctions
Atek Metals Center, Inc. Cincinnati, OH	Extrusion of high temperature superconducting materials
Cape Cod Research Buzzards Bay, MA	Fabrication and processing of high T <sub>c</sub> superconducting materials
EIC Laboratories, Inc. Norwood, MA	Development of multifilamentary YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7-x</sub> superconducting composites
Fibertek, Inc. Herndon, VA	Fabrication of high T <sub>c</sub> superconductor filaments for metal-containing polymeric precursors
Flame-Spray Industries, Inc. Port Washington, NY	Novel oxygen-plasma-spray system for processing high T <sub>c</sub> superconductors
Foster-Miller, Inc. Waltham, MA	Using superconductivity for power and signal distribution
Intermagnetics General Corp. Waterbury, CT	Oriented 1-2-3 superconductor fabricated by a novel technique for use in power applications at liquid nitrogen temperature
Jupiter Technologies, Inc. Ithaca, NY	Enforcing critical current density in high T <sub>c</sub> superconducting ceramic wire through hot-extrusion induced texture
Physical Dynamics, Inc. La Jolla, CA	Magnetic control of critical currents in SQUIDs operating at 77 K
Plasma and Materials Technologies, Inc. Burbank, CA	New technique for sputter deposition of high temperature superconducting thin films and coatings
Sievers Research, Inc. Boulder, CO	Preparation of thin film superconductors by chemical vapor deposition of volatile metal chelates
Supercon, Inc. Shrewsbury, MA	Enhanced J <sub>c</sub> in YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7-x</sub> conductors using dual temperature extrusion processing
Supercon, Inc. Shrewsbury, MA	Enhanced J <sub>c</sub> in YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7-x</sub> superconductors using low temperature densification

dressings both theoretical and experimental topics. Each of the funded clinics is residential, and will use the facilities of the host academic institution to help foster informal interactions among the participants.

An alphabetical list of the awards and also information about upcoming awards and projects or submitting proposals is available from: Duncan McBride, National Science Foundation, 1800 G Street, Washington, DC 20550; telephone (202) 357-7051.

### 75 Minority Graduate Fellowships Announced

The NSF recently awarded 75 fellowships to minority students of outstanding ability, for graduate study in the sciences, mathematics, and engineering. This is 20 more fellowships than were awarded in 1987 and is a first step toward a goal of doubling the number of Minority Graduate Fellowships over the next several years. Each award has an annual stipend of \$12,300 for full-time graduate work, and an annual cost-of-education allowance of \$6,000 in lieu of all U.S. institution tuition and fees.

Applications were submitted nationwide by approximately 740 students, who had to be either Native American, Black, Pacific Islander, or Hispanic. In addition to the awarded fellowships, 214 Honorable Mentions were also accorded. The latter entitles recipients to obtain, upon request, limited use of a supercomputer at one of the five NSF-supported National Computer Centers.

A list of awardees, both Fellowship and Honorable Mention, is available from the Minority Graduate Fellowship Program, Division of Research Career Development, NSF, Washington, DC 20550. Application information about the 1989 Minority Graduate Fellowship competition will be available at the beginning of September 1988 from: Fellowship Office, National Research Council, 2101 Constitution Avenue NW, Washington, DC 20418; telephone (202) 334-2872.

### 57 NSF-NATO Postdoctoral Fellowships Awarded

The NSF recently awarded 57 NSF-NATO Postdoctoral Fellowships in Science to young scientists and engineers for full-time postgraduate study abroad at institutions and laboratories in NATO countries, or in neighboring countries that cooperate with NATO. Begun by NATO in 1959, the program is intended to advance science and technology, and to promote closer collaboration among NATO members and associated countries.

In this year's competition, NATO funds were supplemented by contributions from the NSF research directorates in order to increase the number of awardees. Additional awards were made in engineering, mathematics, computer science, and ocean science. The distribution of the 57 awards was as follows: 20 for research and training in the life sciences; 35 in the physical sciences, mathematics, and engineering; and two went to the social and behavioral sciences.

The deadline for 1989 fellowships is November 5, 1988. For application information send a postcard to: National Science Foundation, NATO Postdoctoral Fellowships, Director for Science & Engineering Education, Washington, DC 20550; telephone (202) 357-7536.

### 25 Women Receive Visiting Professorship Awards

As an important part of the NSF's initiative to enhance the participation of

women in U.S. science and engineering enterprises, 25 women received awards under the 1988 Visiting Professorships for Women program. The visiting professors will teach, conduct research, and serve as role models, counselors and mentors.

The 25 awardees were selected on the basis of a rigorous two-stage review process that focused on the excellence of the research and on the proposed plan for lecturing and serving as counselor and mentor to women entering research careers. The NSF awards range from \$48,283 to \$235,441 and extend from nine to 24 months. In some cases host institutions are also contributing to the awards.

This year's deadline for applications is November 15, 1988. For information and application forms, contact: Dr. Margrete S. Klein, VPW Program Manager, National Science Foundation, 1800 G Street NW, Washington, DC 20550; telephone (202) 357-7734. □



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