



National Science Foundation
4201 Wilson Boulevard
Arlington, Virginia 22230

DATE: March 18, 2008

TITLE: The Division of Chemical, Bioengineering, Environmental, and Transport Systems (CBET)

Employment Opportunities for Program Directors - - Dear Colleague Letter

Dear Colleague:

The Division of Chemical, Bioengineering, Environmental, and Transport Systems (CBET), within the Directorate for Engineering at the National Science Foundation (NSF), announces a nationwide search for an engineering professional to fill the following two positions:

**Program Director: (1) Thermal Transport Processes
(2) Energy for Sustainability**

These positions are open **until filled**. While disciplinary expertise will be expected for the program director, the focus of the search is to assemble a scholarly, open-minded, diverse and intellectually integrated group to join the present team in sharing The Engineering Directorate's responsibilities within NSF's overall mission: to promote the progress of science, to advance the national health, prosperity, and welfare, to secure the national defense.

Brief Program Descriptions:

The **Thermal Transport Processes** program supports research aimed at gaining a basic understanding of the microscopic and macroscopic levels of thermal phenomena underlying energy conversion, the synthesis and processing of materials, cooling and heating of buildings and equipment, the interaction of industrial processes with the environment, the propulsion of air and land-based vehicles, and thermal phenomena in biological and environmental systems.

The program supports fundamental research and education in transport processes that occur by thermal gradients and thermal history, and their manipulation to achieve engineering goals.

This engineering science forms an important part of the intellectual infrastructure of a number of modern technologies. Basic research in flow and convective processes with and without phase change, heat and mass transfer at nano- and molecular scales, radiative transport, and the fundamental characterization of material properties important to these processes are especially relevant to this program. Priority is given to innovative, insightful investigations of fundamental problems with broad applications and to novel use of heat transfer principles to meet the engineering needs of the nation.

The **Energy for Sustainability** program supports novel and exploratory fundamental research in energy production, conversion, and storage and is focused on energy sources that are environmentally friendly and renewable. With projected increases in global energy needs, more sustainable methods for energy production will need to be developed, and production of greenhouse gases will need to be reduced. Sources of sustainable energy include but are not limited to: Sunlight, Wind, and Biomass. Development of these fuels also requires fundamental research on the reaction and transport mechanisms at the catalyst and membrane electrolyte interface, and research to address key challenges in efficiency, durability, power density, and environmental impacts. New materials and novel fabrication techniques for solar energy conversion are also supported by the program.

NSF Program Directors bear the primary responsibility for carrying out the Agency's overall mission. To discharge this responsibility requires not only knowledge in the appropriate disciplines, but also a commitment to high standards, a considerable breadth of interest and receptivity to new ideas, a strong sense of fairness, good judgment, and a high degree of personal integrity.

Qualification requirements include a Ph.D. or equivalent professional experience in the relevant discipline, plus six or more years of successful research, research administration and/or substantial managerial experience in academe, industry, or government. Appointees are expected to have significant and relevant knowledge of research related to thermal transport processes or energy for sustainability. Also desirable is knowledge of the general scientific community, skill in written communication and preparation of technical reports, an ability to communicate orally, and several years of successful independent research of the kind normally expected of the academic rank of professor. All appointees are expected to function effectively both within specific programs and in a team mode, contributing to and coordinating with organizations in the Directorate, across the Foundation, and with other Federal and State government agencies and private-sector organizations as necessary.

Periodic appointments to leadership of interdivisional, inter-directorate and interagency programs may be made. NSF is particularly interested in attracting women and under-represented minorities to these positions. Program Director positions recruited under this announcement may be filled under one of the following appointment options:

Intergovernmental Personnel Assignment (IPA) Act: Individuals eligible for an IPA assignment with a Federal agency include employees of State and local government agencies or institutions of higher education, Indian tribal governments, and other eligible organizations in instances where such assignments would be of mutual benefit to the organizations involved. Initial assignments under IPA provisions may be made for a period up to two years, with a possible extension for up to an additional two-year period. The individual remains an employee of the home institution and NSF provides funding toward the assignee's salary and benefits. Initial IPA assignments are made for a one-year period and may be extended by mutual

agreement. Supplementary contractual arrangements can be included for periodic visits, at NSF expense, back to home institutions to maintain research programs during one's stay at NSF.

Visiting Scientist Appointment: Appointment to this position will be made under the Excepted Authority of the NSF Act. Visiting Scientists are on a non-paid leave status from their home institution and appointed to NSF's payroll as Federal employee. NSF withholds Social Security benefits (i.e., health benefits and life insurance), either directly to the home institution or to the carrier. Appointments are usually made for up to one year and may be extended for an additional year by mutual agreement.

Temporary Excepted Service Appointment: Appointment to this position will be made under the Excepted Authority of the NSF Act. Candidates who do not have civil service or reinstatement eligibility will not obtain civil service status if selected. Candidates currently in the competitive service will be required to waive competitive civil service rights if selected. Usual civil service benefits (retirement, health benefits, and life insurance) are applicable for appointments of more than one year. Temporary appointments may not exceed three years.

For additional information on NSF's rotational programs, please see "Programs for Scientists, Engineers, and Educators" on the NSF website at: http://www.nsf.gov/about/career_opps/.

Should you or your colleagues be interested in this position, or wish to nominate suitable candidates, please contact the search committee coordinator, Dr. Robert M. Wellek rwellek@nsf.gov, and forward a curriculum vita to him by April 18, 2008. Applications will be reviewed immediately after this date. Inquiries, applications and nominations for this Program Director position should be directed to:

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