



National Science Foundation

4201 Wilson Boulevard
Arlington, Virginia 22230

Title: Division of Engineering Education and Centers (EEC), Engineering Research Centers (ERC)
Program Director
Employment Opportunities -- Dear Colleague Letter

Date: August 17, 2005

Dear Colleague:

The Division of Engineering Education and Centers (EEC) is seeking a qualified candidate to serve as a Program Director and member of the Engineering Research Centers (ERC) Program team, within the Division of Engineering Education and Centers (EEC), Directorate for Engineering. The ERC Program supports Engineering Research Centers (ERCs), Nanoscale Science and Engineering Centers (NSECs), Nanoscale Interdisciplinary Research Teams (NIRTs), and the Network for Computational Nanotechnology (NCN). The person selected would serve as a part of the ERC Program team in the capacity of Microelectronics Cluster Leader, also serving as the Program Director for selected ERCs and NSECs.

ERCs play critical roles in advancing knowledge, technology and education in partnership with industry. Each center focuses cross-disciplinary teams of faculty and students on the definition, fundamental understanding, development, and validation of technologies needed to realize a well-defined class of engineered systems with the potential to spawn whole new industries or radically transform the product lines, processing technologies, or service delivery methodologies of current industries. Faculty, students and industry partners integrate discovery and learning in an interdisciplinary environment that reflects the complexities and realities of real-world technology and product development. The National Science Foundation (NSF) views these centers as change agents for academic engineering programs and the engineering community at large and expects their innovations in research and education to add to current knowledge, affect industrial practice, and impact curricula at all levels from pre-college to life-long learning. Each ERC or NSEC is funded by NSF for up to 10 years and undergoes annual and renewal reviews. Other information about the ERC Program, the NSECs and the NIRTs may be found at <http://www.nsf.gov/div/index.jsp?div=EEC> and a detailed description of the activities of the ERCs may be found at http://www.erc-assoc.org/erc_links.htm. Information on the NSECs can be found at <http://www.nano.gov/>.

NSF Program Directors bear the primary responsibility for carrying out the Agency's overall mission: to support innovative and merit-reviewed activities in basic research and education that contribute to the nation's technical strength, security, and welfare. 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. In addition, Program Director positions at the NSF provide a challenging experience and an excellent opportunity to encourage and support engineering research and education. This position provides an additional opportunity to work with academe and industry to develop strategic plans to advance technology and produce engineering graduates who are more effective in industrial practice. The successful candidate will work with the Leader of the ERC Program and the other ERC Program Directors in formulating and implementing improvements in the Program, developing cooperation among government, academia, and industry, fostering outreach to underrepresented groups, and providing leadership within NSF and the research community.

Duties: The individual selected will be a member of the team of Program Directors and staff responsible for the selection and post-award oversight of Engineering Research Centers and will work under the guidance of the Leader of the ERC Program, who is responsible for overall management of the ERC Program. The individual will work under the supervision of the Director of the Division for

Engineering Education and Centers. The position advertised is for an electrical engineer responsible for the oversight of the subset of ERCs focused on topics in microelectronics. There are currently seven ERCs that focus broadly on topics that rely on skills in micro electronics and optics and more may be expected as new ERCs come on line in FY 2006. The technical concentrations of current centers in these fields are wireless microsystems, power electronics, subsurface sensing and imaging systems, multimedia communications, extreme ultraviolet microscopy, sensing/information system for hazard detection and warning, and computer integrated surgical systems. The successful candidate will be responsible for coordinating these microelectronics/optics ERCs to assure effective collaboration among them and for the direct oversight of a subset of them as well as one or two Nanscale Science and Engineering Centers. The Program Director will work with a team of other Program Directors from NSF to carry out these post-award oversight responsibilities. The oversight of ERCs is a complex and interesting endeavor that requires and develops background in research management, strategic planning, integration of research into educational materials, and industrial collaboration. The position also involves coordination of the centers' activities with the research programs in these fields funded by the Director for Engineering and the Directorate for Computer Information Science and Engineering, or other divisions of the NSF and other relevant agencies

Qualifications: Qualification requirements include a Ph. D. or equivalent experience in electrical engineering or in a field of science that is closely related to microelectronics/optoelectronics engineering, plus six or more years of related experience that includes management of interdisciplinary projects or programs of research. This position may be filled under one of the following appointment options:

- **Visiting Scientist Appointment.** Appointment to this position will be made under the Excepted Authority of the NSF Act. Visiting Scientists are on non-paid leave status from their home institutions and appointed to NSF's payroll as Federal employees. NSF withholds Social Security taxes and pays the home institution's contributions to maintain retirement and fringe 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.
- **Intergovernmental Personnel Act (IPA) Assignment.** 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. The individual remains an employee of the home institution and NSF provides funding towards the assignee's salary and benefits. 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.
- **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 status 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, life insurance) are applicable for appointments of more than one year. Temporary appointments may not exceed three years.

Should you or your colleagues be interested in this position and/or have questions, please contact the EEC Search Committee Coordinator, Dr. Vilas Mujumdar, or the Leader of the ERC Program, Ms. Lynn Preston. Applications must be submitted by October 15, 2005, and interviews are planned to take place during October and early November 2005. Decisions will be made by late November 2005.

Applications and questions concerning this Program Director position should be directed to:

Ms. Lynn Preston, Leader of the ERC Program
Deputy Division Director – Centers
Division of Engineering Education and Centers, Suite 585
National Science Foundation
4201 Wilson Blvd., Arlington, VA 22230
Phone: 703-292-5358
Fax: 703-292-9051/2
Email: lpreston@nsf.gov

Dr. Vilas Mujumdar, Earthquake ERC Cluster Leader and ERC Program Director
Division of Engineering Education and Centers, Suite 585
National Science Foundation
4201 Wilson Blvd., Arlington, VA 22230
Phone: 703-292-7262
Fax: 703-292-9051/2
Email: vmujumda@nsf.gov

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