

PRESS RELEASE

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UT College of Engineering Receives Multi-Million Dollar Grant From National Science Foundation for International Materials Institute

A University of Tennessee (UT) College of Engineering (COE) materials research proposal team, led by Department of Materials Science and Engineering professors Peter K. Liaw, Hahn Choo, and Raymond A. Buchanan, in cooperation with Drs. Camden R. Hubbard (Metals and Ceramics Division) and Xun-Li Wang (Spallation Neutron Source Division) of the Oak Ridge National Laboratory, has received a grant of \$3.6 million from the National Science Foundation (NSF) to establish the International Materials Institute (IMI) at The University of Tennessee under the name of Advanced Neutron Scattering netWork for Education and Research (ANSWER). The University of Tennessee has committed an additional \$1.13 million in support of IMI through the efforts of the Office of the Provost and the Office of Research along with the Tennessee Advanced Materials Laboratory, the Center for Materials Processing and the Joint Institute for Neutron Sciences, providing total funding of \$4.73 million for the institute over the next five years from February 1, 2003 through January 31, 2008. In total, there were approximately 70 proposals submitted to NSF, 2002-2003, and NSF selected UT, Princeton, and Rensselaer Polytechnic Institute as the first three IMIs in the USA.

The overall mission of the IMI is to develop an international neutron scattering network for innovative multi-disciplinary materials research and education. Goals for the institute include:

- Advancing the fundamental understanding of mechanical behavior of materials using state-of-the-art neutron sources in the world;

- Developing an international network of researchers and educators who are actively involved in the field of neutron scattering;
- Facilitating the exchange of scientific information through collaborative research projects that will ultimately lead toward a global partnership network;
- Developing a world-class workforce by providing students, post-doctoral associates, and senior researchers opportunities to access neutron scattering and materials research programs in the USA and other countries via international exchange programs;
- Establishing educational and training activities for undergraduate students, graduate students, and post-doctoral associates in addition to K-12 students and the general public; and
- Maintaining a uniform database of research and education progress, and establishing an international Internet-based “virtual” institute.

Neutron scattering is one of the most powerful techniques available for materials research. The ongoing construction of the Spallation Neutron Source (SNS) and upgrades at the High Flux Isotope Reactor (HFIR) in nearby Oak Ridge provides a unique opportunity for UT to partner with ORNL to lead the nation in the science and education of the application of neutron scattering in materials research, specifically in the study of mechanical behavior of advanced materials.

Additional university participants in the IMI program include the California Institute of Technology, the Illinois Institute of Technology, Northwestern University, the University of Missouri at Columbia, and the University of Pennsylvania. National laboratory facilities that will be utilized in IMI’s research efforts include, in addition to SNS and HFIR, the national neutron user facilities such as High Temperature Materials Laboratory’s (HTML) Residual Stress User Center at ORNL, the Los Alamos Neutron Science Center (LANSCE) located at the Los Alamos National Laboratory in New Mexico, and the Intense Pulsed Neutron Source (IPNS) at the Argonne National Laboratory, Illinois. Corporate IMI participants include ALCOA, Boeing Company, DANA Corporation, Federal Mogul, the General Electric Company, Haynes International Inc., and Solar Turbines Inc.

The IMI program also will encompass researchers and neutron scattering facilities from foreign universities and national laboratories in Canada, the United Kingdom, France, Germany, Japan, China, and Korea.

Dr. Liaw will direct the IMI program, and Dr. Hahn Choo, a fellow professor in the UT COE's Department of Materials Science and Engineering and also a joint faculty at ORNL, has been named Co-Director. Dr. Fred Tompkins, Interim Dean for the COE, will head up the education programs component, and Dr. Raymond Buchanan, interim department head and professor in the MSE department, will lead faculty recruitment efforts. Drs. Camden Hubbard and Xun-Li Wang of ORNL will assist in the organization of an exchange program, neutron workshops, colloquia, and access to ORNL's neutron facilities. Dr. John Ray, a professor in the UT College of Education and an expert in graduate program assessment, will assist with developing the program assessment tools that will provide NSF with the resources necessary to evaluate the program on an annual basis.

For more information, contact Kim Cowart, Engineering Development, 974-0686; Dr. Peter K. Liaw, 974-6356; Dr. Hahn Choo, 974-3643; Dr. Raymond Buchanan, 974-4858; Dr. Camden Hubbard, 574-4472; or Dr. Xun-Li Wang, 574-9164. The IMI program will support undergraduate, masters and Ph.D. students and research associates in neutron research related to mechanical behavior of materials. Students who are interested in the IMI program may contact any of the above College of Engineering or program personnel for more information.

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