Center for Nanotechnology Education and Utilization

The Penn State Center for Nanotechnology Education and Utilization (CNEU) is the home of the Pennsylvania Nanofabrication Manufacturing Technology (NMT) Partnership, the NSF Advanced Technology Education (ATE) Center for Nanofabrication Manufacturing Education. It is also the Penn State home of the NSF National Nanofabrication Infrastructure Network (NNIN), the national NSF nanotechnology resource for enabling academic and industry R&D.

The CNEU Mission:

The CNEU is dedicated to research, development, and education across all aspects of micro- and nanotechnology. The Center resources are focused on addressing the incorporation of nanotechnology into K-12 education, into post-secondary education, and into industry applications.

CNEU – Highlights of Upcoming Activities:

- **Fundamentals of Nanofabrication Workshop for Educators**: Registration is continuing for this May 9-11, 2005 three-day workshop. Participants will learn about the growing applications of nanotechnology in many industries including the biotechnology, MEMs, optoelectronics, chemical and electronics industries. The fundamentals of nanofabrication processes and tools will be covered and practiced through hands-on processing labs in the class 10 clean rooms of the Penn State Nanofabrication Facility. Please contact Ms. Lisa Daub at 814-865-9635 or ldaub@engr.psu.edu for more information.

- **Summer Nanotech Camps**: The dates have been set for the 2005 three-day Nanotechnology Introduction Camps. As of now, there are only 5 open dates left. These are as follows: **June 13-15**, **July 18-20**, **July 20-22**, **July 25-27**, and **July 27-29**. These Nanotech Introduction Camps, for students in 9th grade and above, are a great opportunity to learn about nanotechnology and nanofabrication. Careers are explored and educational pathways to nanofabrication careers are discussed. The agenda is designed to be interactive and fun, while still maintaining a high level of introductory level knowledge. For further information on Nanotech Camps and to make camp reservations, please contact Ms. Lisa Daub at 814-865-9635 or ldaub@engr.psu.edu.

- **Fall 2004 / Spring 2005 NMT Class**: The Fall 2004 NMT Term is nearing completion. Nineteen (19) students are positioned to successfully complete the Capstone Semester. The Spring 2005 Term will begin on January 10, with enrollment currently at 20 students.

CNEU Program Highlights for October and November 2004

- **2004 Annual Fall NMT Conference**: The Annual Fall NMT Conference was held October 7-8, 2004 at the Penn Stater Conference Center with over 220 attendees consisting of secondary and undergraduate students, educators, administrative personnel, state and national representatives, and industry personnel. The theme of the conference was Careers and Educational Pathways. Industry perspectives, academic pathway models, and NMT alumni employment and educational experiences were highlighted.

- **ATE Conference**: The Eleventh National ATE Principal Investigators Conference co-sponsored by the National Science Foundation and the American Association of Community Colleges was held at the Omni Shoreham Hotel, Washington, DC on October 13-15, 2004. Paul Hallacher, Bill Mack and Doug Fenwick represented CNEU’s NSF ATE Regional Center for Nanofabrication Manufacturing Education at the conference. The Regional Center exhibited at the ATE Centers’ Showcase and Bill and Doug presented at Concurrent Sessions.

- **2004 National Tech Prep Network (NTPN) Annual Conference**: On October 14th, 2004, Bill Mahoney of CNEU and Jeanette Fraser of Pennsylvania College of Technology gave two presentations at this conference, held in Minneapolis, Minnesota, which showcased the CNEU ATE Regional Center and the 2+2+2 program offered at Penn College.

- **ATE Center Exhibit**: The CNEU’s NSF ATE Regional Center for Nanofabrication Manufacturing Education exhibited at the League for Innovation’s 20th Annual International Conference on Information Technology in Tampa, Florida, November 7-10, 2004. Conference materials contained the following announcement: “The League and the National Association of Manufacturers (NAM) have entered into a collaboration to promote the sharing of best practices, emerging technologies, significant trends, cutting-edge solutions, and other important considerations facing manufacturing technology educators at community and technical colleges.”

- **Fundamentals of Nanofabrication Workshop for Educators**: This workshop was held November 10-12, 2004. Thirty-one educators from Pennsylvania, Michigan, Minnesota, Alabama, Wisconsin, Oregon, Oklahoma, and Mississippi attended this three-day workshop.

CNEU Outreach: During this period, the center has received visits by 139 people from 10 organizations (7 high schools, 1 community college, and 1 statewide conference). In addition, center personnel have visited 10 sites impacting 436 people. This off-site outreach included in-service presentations, high school career days, conference presentations, and visits to partner institutions.

For Further Information on these Highlights or the NMT Partnership, contact:

- Bob Ehrmann (814) 865-7558 rke2@psu.edu
- Lisa Daub (814) 865-9635 ldaub@engr.psu.edu