

The NE-UPdate

A periodic update of the U.S. Department of Energy's Nuclear Energy University Programs (NEUP).

Meet the NEUP Executive Committee

The NEUP Integration Office Executive Committee was created to help provide feedback and review of the program's operations and initiatives. The goal is to improve the quality of NEUP and its programs and their delivery to the university community.

The committee is comprised of professors and representatives from various nuclear energy research organizations and universities.

This year's members are:

Committee Chair and NEAC Representative

Mike Corradini

Chair of the Nuclear Engineering Department at the University of Wisconsin in Madison

NEDHO Representative

Audeen Fentiman

A professor of Nuclear Engineering at Purdue University and Associate Dean for Graduate Education and Interdisciplinary Programs

TRTR Representative

Ralph Butler

Director of the Reactor Program at the University of Missouri in Columbia

Members at Large

Ken Nash

Chemistry professor at Washington State University

Ken Lewis

Dean of Engineering, Science and Technology at South Carolina State University

Wes Hines

A professor in the Nuclear Engineering Department at the University of Tennessee in Knoxville

Greetings from the NEUP Integration Office

It's been an exciting few months at our office at the Center for Advanced Energy Studies in Idaho Falls, Idaho.

In May, DOE announced the FY2010 NEUP research and development awards. And this month, we announced the FY2010 infrastructure and scholarship and fellowship selections.

More than 85 U.S. undergraduate university students were awarded \$5,000 scholarships and 32 graduate students were selected to receive \$150,000 three-year fellowships. In addition, 39 U.S. universities and colleges will receive nearly \$13.2 million to purchase new equipment or to upgrade their research reactors.

Altogether, DOE has funded approximately \$109 million in research, equipment, infrastructure upgrades, scholarships and fellowships through NEUP since it created the program in fall 2008.

We expect our record of success to continue in FY2011. We have strong support from DOE's Office of Nuclear Energy and Assistant Secretary Dr. Warren "Pete" Miller.

Dr. Miller is attending NEUP's annual workshop, which is being held July 27-28 in Rockville, Md. There he is expected to announce some new plans and improvements for NEUP. He has been personally engaged in this process and wants to hear your feedback.

Dr. Miller, the DOE-NE team, which includes Dennis Miotla, deputy assistant secretary, Mike Worley, director, and Mary McCune, manager, and our operational staff at INL led by Dr. Marsha Lambregts, are dedicated to making NEUP a success. We look forward to seeing you at the workshop.

Sincerely,



Dr. John Gilligan
Director
NEUP Integration Office

Out and About

NEUP team members made numerous presentations to the Nuclear Energy community in recent months including three discussions with the Nuclear Engineering Department Head Organization (NEDHO) at the last two ANS meetings and one at a Nuclear Energy Institute workshop.

NEUP representatives also have visited numerous universities including Texas A&M, the University of Missouri, the Missouri University of Science and Technology, University of Illinois – Urbana/Champaign, Purdue University, Pennsylvania State University and others to gain feedback and to talk to faculty/students about our programs.

NEUP Fellowship Student Captivated By Nuclear Energy Research

By Kortny Rolston

NEUP Communications



Shadi Ghrayeb found his calling his sophomore year of high school. The Pennsylvania State University doctoral student was hunting for a science career that would be challenging and let him help people, but had nothing to do with medicine.

“When you like math and science, every parent’s advice is to go into medicine, but I didn’t want to do that. It seemed so boring,” Ghrayeb said. His research

led him to nuclear energy. As he delved into it, he became convinced it was the right field for him.

The issues facing nuclear energy like closing the fuel cycle were interesting. And working as a researcher in the energy field would definitely allow him to help people. “In this field you can help your neighbor, your community and your country,” Ghrayeb said. “There aren’t many careers where you find that.”

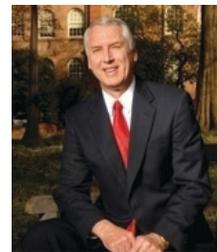
Convincing his parents, however, was another matter. They balked at the idea of their son being involved in the nuclear field. They envisioned him building top-secret weapons for the government. “They have old school thinking about nuclear. They thought I would be working on an island somewhere, three stories underground and that I would never see daylight again,” he said.

Ghrayeb stuck by his decision. He graduated from Rensselaer Polytechnic with a bachelor’s degree in nuclear engineering and earned his master’s in it as well. Last fall, he began pursuing a Phd in nuclear engineering with the help of Nuclear Energy University Programs in the Department of Energy’s Office of Nuclear Energy.

Ghrayeb was one of 16 advanced degree students awarded a NEUP fellowship in 2009. He will receive \$150,000 over three years to cover the cost of his education and research. Ghrayeb’s research will focus on developing methods to correct the kernel of the neutron transport equation for heavy nuclides scattering resonances to predict the neutron flux in reactor cores and evaluate its effect on innovative designs. This model will change the way the neutrons are going to interact with the fuel isotopic composition and as a result will change the flux spectrum in the core, which in turn will affect the absorption and production of neutrons in fuel assemblies.

Dr. Marsha Lambregts, NEUP program manager, said Ghrayeb should be proud of his accomplishment. “We received more than 100 applications for 18 fellowships in our first fellowship solicitation so it was a very competitive process,” she said. “Those who won had top-notch research proposals.” Ghrayeb is excited to continue his research. Even after studying nuclear energy for so many years, the field still captivates him. “The idea that something so small can release so much energy just fascinates me,” he said.

Meet NEUP Staff



Dr. John Gilligan
Director, NEUP Integration Office

Dr. Gilligan has been a faculty member in the nuclear engineering department at North Carolina State University since 1983.

Dr. Gilligan stepped down as the university’s vice chancellor for research and graduate studies in 2008 after serving six years in the post. During his tenure, research expenditures at North Carolina State grew to more than \$360 million a year with 400-plus doctoral graduates per year in 66 doctoral programs. He also has served at the dean level in the college of engineering.

Dr. Gilligan has taught several courses including nuclear reactor physics, reactor heat transfer, thermodynamics, reactor systems, plasma physics and nuclear fusion at both the undergraduate and graduate levels. He has published more than 100 peer-reviewed articles in areas such as high power density plasmas and launchers, plasma-material interactions, nuclear systems, nuclear fusion, and computational transport methods.

Dr. Gilligan has edited and published the Nuclear Engineering Education Sourcebook for ANS and DOE since 1986, and has served on a number of external boards of directors including UT-Battelle (Oak Ridge National Laboratory) and the Research Triangle Institute International.

In his current position as director of the NEUP Integration Office, Dr. Gilligan sets direction and provides overall guidance to the NEUP program offices and serves as the interface between the universities community and the DOE-NE leadership.

FY 2011 Nuclear Energy University Programs Workshop

NEUP’s annual workshop is July 27-28 in Rockville, Md.

For more information see: <http://events.energetics.com/UnivWorkshop2011/registration.html>



U.S. Department of Energy