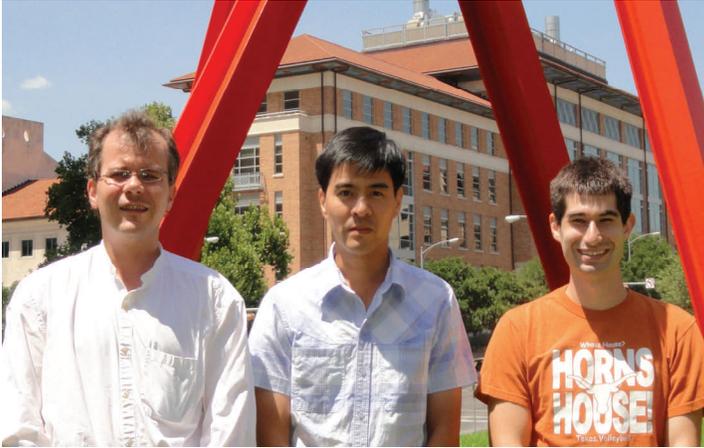




# PHAM HONG SON: Vietnam

## Planning and development of a nuclear power infrastructure



At Mr. Pham Hong Son's home insitute, the Nuclear Research Institute of Dalat, Vietnam, he works as a researcher and reactor operator in the Reactor Center. However, for three months, he is working in the United States on an IAEA fellowship under the project VIE/4/015. His project's goal is to plan and develop a nuclear power infrastructure. His training began on June 1, 2010 at the University of Texas at Austin in the Department of Mechanical Engineering. He is working under the direction of Dr. Erich Schneider, Assistant Professor for the Nuclear and Radiation Engineering Program at the University.

The goal of Mr. Pham Hong Son's training is to create a thermal hydraulic model of the 1 MW University of Texas TRIGA research reactor. They are using the MCNPX radiation transport code to determine the spatial fission rate in the core and the subsequent heat source. The power profiles produced by MCNPX are used to describe the heat source in a second code, TRACE/RELAP. Calculated flow conditions are being benchmarked against experimental data for forced and natural convection operating modes. The final objective of his work is to produce a TRACE/RELAP5 model of the TRIGA coolant flow that incorporates MCNP-generated fuel pin power profiles and can be used to simulate transient or abnormal flow conditions.

Working with faculty and students in the Department of Mechanical Engineering at the University, Mr. Pham Hong Son has gained hands on experience in the use of computer codes to analyze the thermo-hydraulic behavior of a nuclear reactor. Once he returns to Vietnam, he plans to use the knowledge to continue his research, particularly in areas that relate to safety evaluation of nuclear reactors. He hopes that with the training he receives during his IAEA fellowship, he will be able to contribute effectively to his country's nuclear power strategy, particularly with the building of the first nuclear power plant that will be up and operating by the year 2020.

**Trained 6/1/2010—8/31/2010**