

## **Acquisition of an Automated Pneumatic Sample Transfer System for Neutron Irradiation at the University of Florida Training Reactor**

**PI:** Donald Wall,  
University of Florida

**Collaborators:** N/A

**Program:** Reactor Upgrade

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### **ABSTRACT:**

The University of Florida proposes to acquire an automated pneumatic sample transfer system to be used for moving samples into the University of Florida Training Reactor for irradiation, then transferring the samples to laboratories for experimental use.

The objectives of the installation of an automated pneumatic sample changing system include:

- Increasing the capability to work with short half-life radionuclides (minutes to hours) in the radiochemistry laboratories at the UFTR and in the other radiochemistry laboratories in the NEP (which are in a different building);
- Develop a rapid throughput capability for sample analysis by neutron activation;
- Create a means to transfer high-activity samples directly from the reactor into shielding or transfer casks or gamma-ray detectors, with little or no personnel contact. High activity samples can then be transferred into the UFTR hot cell facility for experimental use, such as post irradiation examination of nuclear fuels.

The Nuclear Engineering Program (NEP) at the University of Florida is the only nuclear engineering program in Florida. Installation of a sample transfer system will increase the availability, capability and reliability of the UFTR for the purpose of sample irradiation, which will benefit the UF NEP by upgrading the UFTR as a teaching and research asset.