Abstract:

This project focuses on nuclear engineering workforce cultivation and development by deeply engaging students at the high school level. Workforce development in support of the anticipated expansion in the deployment of nuclear energy is a crucial step for the success of such deployment. Consequently, the goal of this project is to develop a deep engagement model that draws high school students to nuclear reactors and radiation applications at a stage that is years ahead of the standard time. Using North Carolina State University's (NCSU) PULSTAR reactor, a nuclear reactor and radiation applications course that is typically used for the training of 2nd year college students will be tailored and used for practical hands-on introduction of high school students to the fundamentals of nuclear reactor operations and utilization. The course will be fashioned to be suitable for students with a general STEM background. However, all high school students (including non-STEM students) that may be interested in nuclear energy and radiation applications will be evaluated as potential participants in this course. In addition to the students, the course will also engage high school educators and science teachers; thereby improving awareness and understanding of nuclear science, engineering, and technology