

East Carolina University®
Department of Physics

Seminar

Friday, March 31st 2023, Room N109, Howell Science Complex
3:15 PM–4:30 PM
Light refreshments will be available at 3:00 PM

Dr. Zaijing Sun
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Department of Health Physics and Diagnostic Sciences
University of Nevada, Las Vegas (UNLV)

Developing an Remote Gamma Spectra Collection System (RGSCS)
for Online Teaching in Radiation Sciences

Interrupting experimental activities during the pandemic causes trouble to students and professors, particularly those with radiation detection and measurement experiments. Most of the experiments for teaching have been temporarily suspended due to the social distance policy and the constrained capacity of the lab facilities. To address this challenge, we established a remote spectra collection system to allow students to receive gamma spectra via the campus network and remotely operate the automatic sample changer with robotic sample handling. The project served as a platform, especially for minority students, for studying software design, data acquisition, instrumental control, and prototype testing in real-time scenarios of radiation detection. The project improves educational and research endeavors online, diminishes the needs of laboratory personnel, and significantly reduces the cost of education.

Bio Dr. Zaijing Sun is an associate professor in the Department of Health Physics and Diagnostic Sciences at the University of Nevada Las Vegas (UNLV). He received his Ph.D. in Applied Nuclear Physics from the Idaho Accelerator Center. Before joining UNLV, he was an assistant professor at South Carolina State University and a postdoc in the Nuclear Engineering Division at the Argonne National Laboratory. His research interests include environmental health physics, nuclear activation analysis, radiochemistry, Monte Carlo simulations, and data mining in nuclear engineering and medical imaging. He is a member of the Health Physics Society and American Nuclear Society, and he also serves as the faculty advisor of the ANS-UNLV student chapter.

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