

"Research is not measured by the time it took, nor the time of day when it was done. It is only measured by the results."



Leslie A Geddes, founder of Biomedical Engineering at Purdue, est. 1974

WELDON SCHOOL OF BIOMEDICAL ENGINEERING

BME DISTINGUISHED RESEARCH SEMINAR SERIES

January 07, 2025

9:30-10:20 am, MJIS 1001 and via ZOOM

ZOOM LINK: <https://purdue-edu.zoom.us/j/95303222017>

"Small cyclotrons in theranostic nuclear medicine"



Associate Professor in the departments of Medical Physics and Radiology at the University of Wisconsin with affiliations in Chemistry and Engineering Physics

Abstract: As targeted radionuclide therapy transforms the landscape of cancer management strategies, the world's prolific small accelerator network has a unique opportunity to explore complementary theranostic technologies that advance new cutting-edge medicine and probe its future. This task is fundamentally interdisciplinary, requiring nuclear and particle physics, versatile accelerator targetry, nuclear-, radio-, and biochemistry, advanced imaging, and medical expertise. The Cyclotron Research Group, with an array of essential collaborations, is a nexus of this work at the University of Wisconsin. Two research projects that exemplify the necessary scientific environment will be described: the development of diagnostic radiolanthanum congeners for positron emission tomography characterization of new actinium-225 therapeutics, and the exploration of diagnostic and therapeutic cobalt radionuclides with unique physical and chemical advantages for nuclear medicine applications.

Bio: Jonathan W. Engle has >15 years' experience in radionuclide production, accelerator targetry and radiochemistry, as an analytical and preparative radiochemist in clinical and pre-clinical positron emission tomography (PET) scanning environments, in the construction of automated radiochemistry modules for routine and novel syntheses, and bringing PET radiotracer production facilities from bare slab to routine production and research activities. He has degrees in Religion, Education, and Physics. His interests are focused on radiometals production and novel small accelerator targetry, particularly for the production of positron and Auger electron emitting radionuclides like Zr-89, Cu-64, As-72, Y-86, Br-77, Ga-68, Co-55, and Sc-44, among others.