

Daniel E. Archer

Ph.D., Experimental Nuclear Structure Physics, Florida State University, 1996

M.S., Physics, Florida State University, 1993

B.S., Physics (Major), Computer Based Honors Program (Minor), Mathematics (Minor),
University of Alabama, 1991

- Oak Ridge National Laboratory, Staff Member, E&ES/NSTD, 2005 - Present
- Lawrence Livermore National Laboratory, Career Staff, C&MS/CBN 1996 - 2005
- Gamma-ray spectroscopy experience
- Knowledge of radiological issues facing the U.S.
- General problem solving with particular expertise in experimental nuclear physics, including “hands-on” laboratory experience
- Leadership skills in developing a team atmosphere in order to get a quality deliverable completed.
- Experience in radiation detectors for Homeland Security, the NMIS – Nuclear materials Identification System, and CMTB – Counter-Measures Test Bed – Gamma spectral analysis and classification for rail commerce

Dr. Archer began his professional career as a graduate student at Florida State University where he studied rapidly rotating nuclei in the rare-earth region. Specifically, he studied the identical rotational band structure in the mass $A \sim 170$ region utilizing the FN Tandem and Superconducting Linear Accelerator in conjunction with the 10 element escape-suppressed high-purity germanium (HPGe) detector array. In time, his professional credits grew to include the position of Detector Lead at PANY/NJ CMTB – Port Authority of New York and New Jersey Countermeasures Test Bed where he worked on developing radiation detectors for use in the Test Bed, including a vehicle mounted design; reviewing/improving ANSI Standards and using the recently written standards for testing of radiation detection equipment for Homeland Security; working with the California Highway Patrol in an effort to secure California borders against the nuclear threat; and acting as Lead Scientist in the Adaptable Radiation Area Monitor project (ARAM) where he developed a radiation detector system that can detect radioactive materials traveling up to 60 mph. ARAM was also developed as a radiation detection system for pedestrian monitoring, package monitor, and general area monitoring.

Other credits include Lead Scientist on the Detection and Tracking System (DTS) in which multiple DTS demonstrations were performed including demonstrations at Kirtland Air Force Base and Fort Leonard Wood as part of the Unconventional Nuclear Warfare Defense (UNWD) program in the Department of Defense; service as the Lawrence Livermore National Laboratory (LLNL) Portal Monitor Expert where he developed a Pu age determination algorithm and contributed to the design of the automatic collimator; implemented an automatic algorithm named Pu300 for determining Pu age, which was to be used as an ‘attribute’, or partial identifier of Pu material Second Line of Defense (SLD) – Portal monitoring for smuggled Special Nuclear Material; and

he served as a scientist on the Xenon Time Projection Chamber to develop a gamma-ray imaging detector using a high-pressure gas medium and evaluated Russian personnel and rail portal monitors. Dr. Archer is also the author and holder of several patents and licenses.