

Marc Fitzgerald



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Biography

Marc Fitzgerald is a 3rd year student in the UNLV Radiochemistry PhD Program. He received his B.S. in Chemistry from the University of Maryland, College Park.

Research

Multi-Component Urban Matrices Characterization and Standardization

Post-detonation nuclear forensic analysis demands both an accurate and rapid analysis of elemental and isotopic abundances in order to infer important information about the nuclear device. Although nuclear forensics has been well developed over the last half century, it has existed as a tool for analysis of foreign or domestic nuclear tests. Measurements were made under ideal conditions and without time constraints. Any deliberate detonation of a nuclear device in a major metropolitan city will yield copious quantities of unfamiliar materials that must necessarily be analyzed as rapidly as possible. The goal of the urban matrices project is to produce well characterized matrix standards that are similar to those expected in an urban detonation environment. This research will assist scientists in the rapid identification and quantification of isotopic signatures.

Publications, Presentations and Awards

2012 Nuclear Forensics Graduate Fellowship Award

U.S. Department of Homeland Security, Domestic Nuclear Detection Office

U.S. Department of Defense, Defense Threat Reduction Agency