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## LABORATORY ANALYSIS AND SAFETY

### 1 DAY

#### OVERALL OBJECTIVE

This course is for those involved with the handling and analysis of explosives in the laboratory. It is aimed at those who may have experience in chemical analysis but not necessarily in explosive analysis. Emphasis will be placed on mass spectrometry and thermal analysis methods in terms of experimental design and instrument fundamentals. Woven into this course will be safety aspects. Sensitivity testing and handling requirements specific to each explosive will be discussed. For a “lessons learned” the course will review historic explosive accidents.

#### INSTRUCTORS:

**Dr. Jimmie Carol Oxley** is Professor of Chemistry at the University of Rhode Island (URI), former co-Director of the Department of Homeland Security Center of Excellence in Explosives Detection, Mitigation, and Response, and present co-Director of the Forensic Science Partnership of URI. She has over twenty years’ experience in explosive research.

**Dr. Maurice Marshall**, OBE, is retired from the Defense Science & Technology Laboratory (UK) where he was Head of the Forensic Explosive Laboratory (FEL). During Marshall's tenure the Laboratory investigated around 1800 cases both in Britain and abroad, and also conducted an active program of research into forensic aspects of explosives.

**Dr. James L. Smith** is a Professor of Chemistry at University of Rhode Island. He co-directs a research group studying energetic materials. His specialties include chromatography, mass spectrometry, thermodynamic properties and thermal analysis as applied to energetic materials.