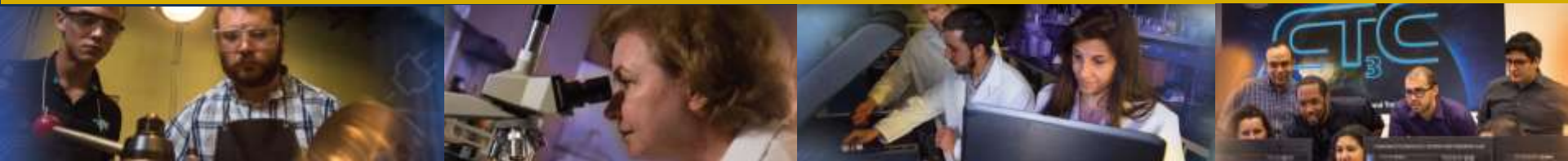




FX2 Advanced Fogging Technology

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Project Description



- Background
 - Advanced technology to address potential airborne contaminants in DOE SRS Site 235-F
 - Current methods are labor intensive, costly, and often ineffective
- Objectives
 - Evaluate the effectiveness of advanced fogging technology using FX2 agent provided by Idaho National Laboratory



Methodology



Evaluation of Critical Properties

- Controlling of Airborne Particulates
 - Hot cell mockup
 - Airborne particle counter
 - Surfaces of varying materials
- Adhesiveness and Coverage Area
 - ImageJ
- Flammability
 - ASTM D3065
- Shielding Properties
 - Polonium 210 alpha emitter
- Other Significant Physical and Chemical Properties
 - Burn rate, surface tension, viscosity and density



Visual Aid





Discussion



- Hypothesis:
 - Considerable reduction in concentration of airborne particles
 - Suitable adhesiveness to all surfaces and optimal coverage
 - Significant resistance to flammability
 - Correlation established between coverage and radiation shielding



Future Work

- Engineering and manufacturing of mobile robotic fogging device
- Establishing universally-recognized ASTM performance standard for stabilizers designed for fixing dispersible radioactive contamination



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