



# Ultrasensitive Aerosol-Based Detection of Explosives and Chemical Weapons



- **Purpose:**

- Explosives and chemical weapons have low vapor pressures and primarily exist in the condensed phase.
- They are much easier to detect as airborne particles than as gaseous species.
- We are combining aerosol sampling techniques with rapid thermal vaporization in vacuum followed by chemical and glow discharge ionization techniques to permit sensitive identification of species in the particle phase.
- The goal of this technique is ultrasensitive detection of chemical weapons and explosive. Attogram detection limits are expected.

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- **Sponsor: Funding Sought**