



Chemical Sciences Division

# Ion Trap-Based MALDI of Individual Airborne Particles



ornl Aerosol  
Mass Spec Group

  
Bust The Dust

- Purpose:
  - We are developing the aerosol MALDI technique for use with an ion trap mass spectrometer.
  - An on-line matrix deposition technique that permits coating of individual airborne particles for analysis by the aerosol MALDI technique has been developed.
  - The aerosol MALDI technique has been demonstrated on individual bioparticles of between 200 and 3000 nm in diameter and shown sensitivities in the zeptomole range.
  - Tandem mass spectrometry of species below 2000 Da has been demonstrated.
  - We are currently exploring the limits of the mass range of the technique and looking methods for increasing it with the goal of identifying individual airborne bacteria.
- PIs: **Peter T. A. Reilly and William B. Whitten**
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