

Transportation Security Laboratory

Web Site: http://www.dhs.gov/xres/labs/editorial_0903.shtm

1. General description of your facility

The specially designed facilities at TSL are used to perform research on explosives characteristics, detection and chemistry, suicide detection imaging technology, communications, and human factor performance evaluations. Specialized blast resistant labs are used to evaluate explosive detection equipment and weapons imaging equipment against an extensive library of domestic, foreign, and home made explosive compounds.

The TSL has 60 Federal Employees and 60 contract employees, with a wide variety of backgrounds, including chemists, physicists, engineers, research physiologists, and explosive specialists.

2. Description of the homeland security expertise of your facility

The Transportation Security Laboratory is a Department of Homeland Security Federal Laboratory located at the William J. Hughes Technical Center, Atlantic City International Airport, and is a part of the Science and Technology Directorate of DHS.

The core mission is to enhance homeland security by developing and validating solutions to detect and mitigate the threat of improvised explosive devices.

TSL does life cycle management of technology from conception to deployment, including applied research, development, prototyping, test and evaluation, certification, system qualification test, and laboratory assessment testing.

The TSL is internationally recognized for its role in development of standards, protocols and test articles necessary for detection technology assessments.

The R&D programs conducted at TSL have provided deployable ready explosive detection equipment, including explosive detection systems (EDS), trace explosive detectors, enhanced metal detectors, suicide bomb detection technology, hardened cargo containers for aircraft, RFID tags, biometric standards, and a variety of ancillary products, such as modular bomb set training kits, high fidelity simulants for explosives, and quality control aides for EDS, trace equipment, and K-9's. Over 30 major technology products have been developed, tested and deployed within the last 2 years.

3. Title and short description of available project(s) or research topic(s) with a direct relationship to one or more homeland security research areas. Please list the homeland security research area(s) related to or supported by the project.

Ion Mobility Spectrometry-Mass Spectrometry (IMS-MS) Ion Chemistry Characterization Program: Under the direction of a senior research scientist at TSL, this work will involve the characterization/evaluation of Ion Mobility Spectroscopy ETD (Explosives Trace Detection) systems, the ion chemistry that occurs with detection, and instrument modification/development of IMS/MS system(s). The ion chemistry characterization involves identifying the chemical composition of IMS detected species, relationship to instrument parameters/variations, and evaluation of peak identification for new threat materials (mainly improvised homemade explosive materials).

4. Name and contact information of the person that will serve as the research advisor for project

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5. Terms of postdoctoral appointments at your facility, such as level of flexibility regarding start/end dates, housing availability, security clearance requirements, if any, etc.

Flexible start date in the fall with an end date/renewal date set for one year after start date.

Apartments and single family homes for rent or purchase in the area.

DoD Secret Clearance and DHS Suitability required.

6. Brief plan on how postdoctoral fellows are integrated into the community (both at work and socially) at your facility

Postdoctoral researchers will work closely with federal and contractor staff, sharing laboratories and office space. Postdocs will be knowledgeable of projects on the periphery of their main project, as well as have opportunities to travel and attend all appropriate internal and external meetings. In general, the postdoc will be treated as if they are a permanent member of staff at the TSL. However, particular attention will be paid to the career development of the postdoc to insure that they can move forward with a successful career once their time at the TSL is complete.