



**CTTSO**

Combating Terrorism Technology Support Office

## Chemical, Biological, Radiological, and Nuclear Countermeasures



NIOSH DREAM Workshop

13 Nov. 2008

Dr. Rebecca Blackmon

CBRNC Subgroup



# TSWG Mission

- **Mission:** Conduct the U.S. national interagency research and development program for Combating Terrorism through rapid research, development, and prototyping.
- **Objectives:**
  - Provide interagency forum to coordinate R&D requirements for combating terrorism
  - Sponsor R&D not addressed by individual agencies
  - Promote information transfer



**COORDINATOR FOR  
COUNTERTERRORISM**

**Oversight**  
DOS

**Executive  
Program Direction**  
ASD (SO/LIC & IC)

**Technical Chairs**  
*DoD DOE FBI*

**PROGRAM MANAGEMENT**

**Combating Terrorism Technical Support Office (DoD)**

**MULTI-AGENCY MEMBER SUBGROUPS**

**Blast  
Effects  
& Mitigation**

**DOJ**

**Chemical, Biological  
Radiological,  
& Nuclear  
Countermeasures**

**DoD/FDA**

**Explosives  
Detection**

**TSA**

**Improvised  
Device  
Defeat**

**FBI**

**Investigative  
Support  
& Forensics**

**USSS**

**Physical  
Security**

**DoD/DOE**

**Surveillance,  
Collection &  
Operations Support**

**IC**

**Tactical  
Operations  
Support**

**DOE**

**Training  
Technology  
Development**

**DoD/DHS**

**VIP  
Protection**

**USSS**



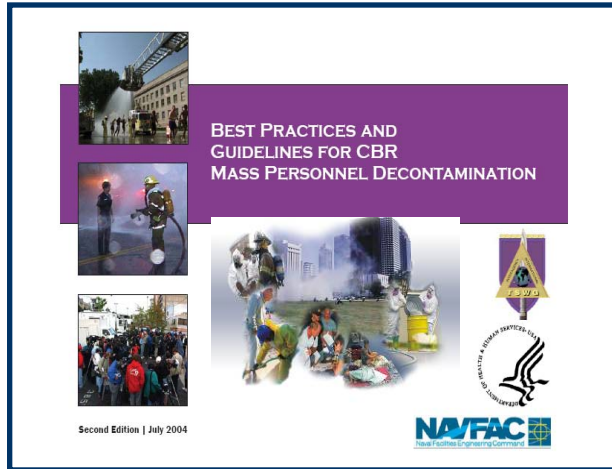
# CBRNC Subgroup Mission

- Identify interagency user requirements related to terrorist-employed chemical, biological, radiological, and nuclear (CBRN) materials
- Rapid research, development, and prototyping
- **Objectives:**
  - Provide interagency forum to coordinate R&D requirements for combating terrorism.
  - Sponsor R&D not addressed by individual agencies.
  - Promote information transfer.
  - Influence basic and applied research.



# CBRNC Focus Areas

## Information Resources



## Detection



## Protection

## Consequence Management





# ChemSight™ TIC and CWA Warning Monitor

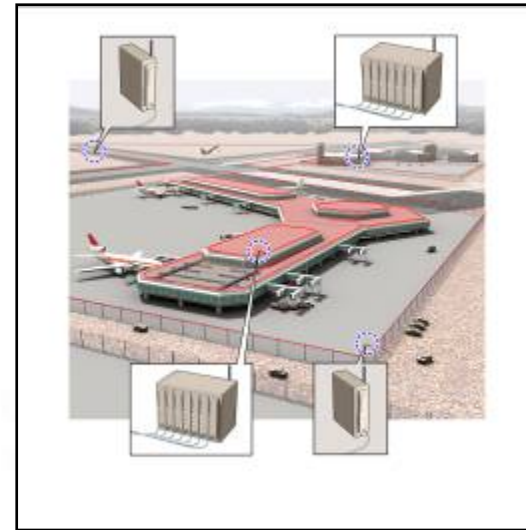


Open-path IR sensor capable of detecting airborne chemicals. Can be installed indoors or along outdoor perimeters.

**Developer: Avir Sensors, LLC**  
**<<http://www.avirsensors.com/>>**



# Distributed Chemical Sensor (DICAST<sup>®</sup>)



Monitor large areas, such as buildings and installation perimeters for chemical warfare agents and toxic industrial chemicals.

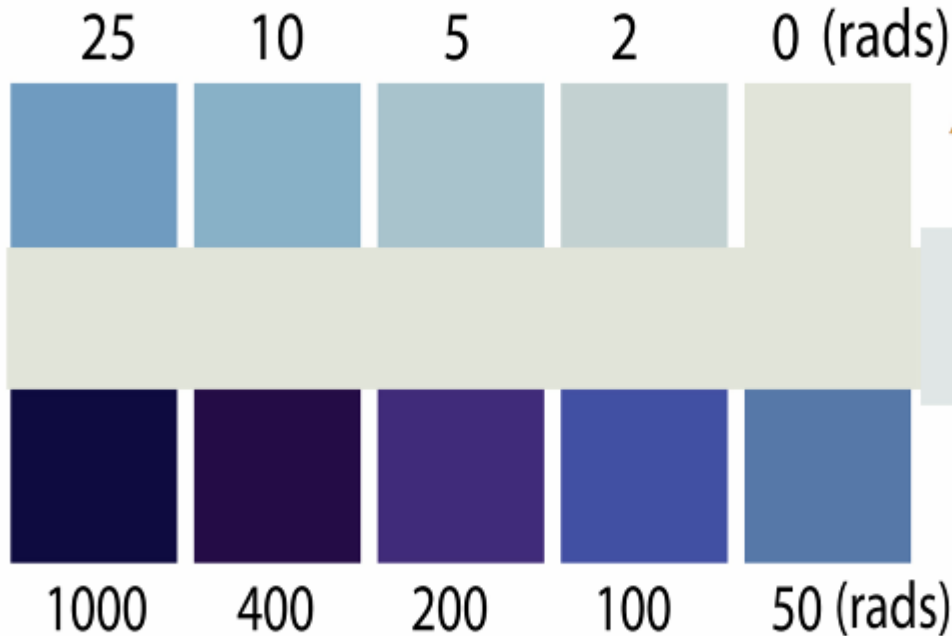
Developer: Intelligent Optical Systems, Inc.  
<<http://www.intopsys.com/index.html>>



# Radiation Detection/Triage for Decon

**RADTriageB™**

Expires  
March 2008



Do not use this badge if the dot of the FIT Indicator is red or the surrounding area is bluer than right hand side bar.

Developer: JP Laboratories, Inc.

<http://www.sirad-usa.com/html/radtriage.html>



# Ocular Scanner



Portable and automated triage tool for non-invasive assessment of exposure.

- Assess exposure in five seconds or less.
- Detects changes in visible light spectrum of arterial and venous blood and iris response.

Developer: EyeMarker Systems, Inc. <<http://eyemarker.com/>>



# Chemical Companion

The screenshots show the following information:

- Top Left Screenshot:** Main menu for Acrolein (107-02-8). Options include: Chemical Properties, Exposure Guidelines, Protective Clothing, Respiratory Protection, Chemical Reactivity, Isolation / Protective Distance, Emergency Response Guide, Emergency Medical Information, and NFPA Guides.
- Top Right Screenshot:** Exposure menu for Acrolein (IDLH 2 PPM (4.5889 mg/m3)). Options include: Military Exposure Guidelines, NIOSH/OSHA/ACGIH Guidelines, Emergency Response Guidelines, Toxicity Guidelines, Acute Exposure Guidelines, and Minimum Risk Guidelines.
- Bottom Left Screenshot:** Isolation / Protective Action Distances for Chlorine (7782-50-5).

(km)	Isolation	Protective
Day - Small	0.03	0.3
Day - Large	0.275	2.7
Night - Small	30	1.1
Night - Large	275	6.8
- Bottom Right Screenshot:** Same as bottom left, but with a 'Convert to miles' button.

An emergency response tool that provides incident-site hazard analysis.

- Exposure guidelines for chemicals
- Identifies suitable PPE
- Establishes failure/breakthrough times of filters & PPE
- Rapidly assesses stay time vs. risk to personnel

Developer: Georgia Tech Research Institute; info at:

<<http://www.chemicalcompanion.org>>



# Summary

- Forum to identify, prioritize, resolve, and fund operational needs/requirements
- Driven by interagency user elements
- Acquisition/dual-use/commercialization



# Contact Information

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<http://www.tswg.gov>