



Chemical and Biological Defense

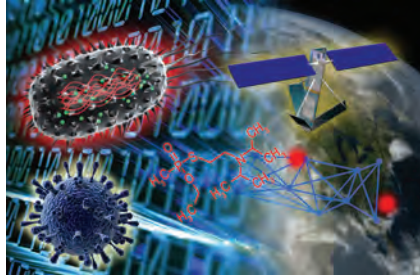
Draper is harnessing new technologies in nano- and microelectromechanical systems, materials science, electronics, physical and biological sciences, bioengineering, and information systems to provide high impact solutions in chemical and biological defense for military and homeland security applications.

Chemical and Biological Defense

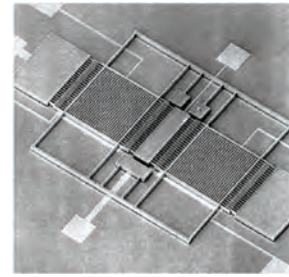
Draper's Chemical and Biological Defense Group works closely with sponsors and end users in the military, intelligence, first responder, public health, and homeland security arenas to design first-of-a-kind solutions to critical problems in defense and security.



Laboratory resources for the development and evaluation of chem-bio sensors and systems



Technologies for agent detection, information processing, sensor networks, and surveillance



Microfabrication of sensors and system components

The Draper team includes a broad range of highly-skilled experts in engineering, physical and biological sciences, and medicine. We offer full-spectrum science and engineering services from basic concept to advanced prototype development, system evaluation and field testing, as well as technology transfer and licensing. Draper supports ongoing collaborations with corporate partners, national laboratories, and universities in relevant fields and welcomes new partnering opportunities. Capabilities include:

Core Sensor Technologies for rapid detection and characterization of threat agents and signatures

- Differential Mobility Spectrometry
- Optical Nanosensors
- Cell-Based Sensors
- Adhesive Stress Sensors
- Plasmonic Components and Sensors
- Molecularly-Engineered Transducer Materials
- Sample Preparation and Concentration Devices

Microsystem Development Tools for customized solutions and implementation of technology-enabled approaches

- Nano/MEMS fabrication
- Microfluidics
- Microscale Components (Pumps, Valves and Other Actuators)
- Vanishingly Small Electronics
- System and Component Packaging
- System Design and Prototyping
- Component Integration
- Component and System Modeling & Simulation

For more information contact:

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Information Management and Decision Systems to provide relevant data, system control, and mission-critical decision making

- Signal Processing
- Data Analysis
- Sensor Data Fusion
- Data Mining
- Real-Time Data Extraction
- Closed-Loop Decision Systems
- Fault Tolerant Systems
- Mission Management Automation and Software

Sensor and System Test and Evaluation to assess performance, specifications, and technical readiness

- Mission Modeling & Simulation
- Sensor Testbeds
- Reference Systems
- Field Testing Execution & Support
- CDC Select Agent Program Access*
- Extensive Bioagent Library (>1300 Cryostocked Strains)[†]
- Biosafety Level 2 & Biosafety Level 3 Laboratories*
- Classified Workspace

* Available through affiliates at the USF Center for Biodefense and Global Health Infectious Disease Research Program, Tampa, FL.

[†] Available through affiliates at the Florida Dept. of Health, Tampa Bureau of Laboratories