

Apply your  
technical  
expertise at  
the cutting  
edge of  
technology.



## Conceptualize. Synthesize. Actualize.

Problem-solving is a group activity at MIT Lincoln Laboratory. Our technical experts work in cross-disciplinary collaboration to apply rigorous research to complex problems of national interest. Then they pool their discoveries, painstakingly put them to the test and develop not just a theoretical solution to the problem, but a real-world, working prototype.

Elevated security clearances will be especially desirable for positions in the following areas:

- **Computer Science**
  - Applied research for distributed sensing communications and decision making systems
  - Service Oriented Architecture and User Interface design
- **Computer Communications and Information Security**
  - Network Security and Visualizations
  - Prototype new, efficient cryptography protocols
- **Mission Assurance**
  - Space and Missile Defense Projects
  - Critical Quality and Engineering Processes
- **Digital Signal Processing**
  - Develop novel adaptive signal processing algorithms
  - Satellite-based signal processing
- **Radar Systems Development**
  - Define laser radar optical system requirements
  - Development of techniques to improve radar capability

Please visit our website at [www.ll.mit.edu](http://www.ll.mit.edu) for more information on these and our many other opportunities.

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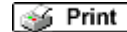


Theoretical and algorithm development in detection and parameter estimation theory.

[www.LL.MIT.EDU](http://www.LL.MIT.EDU)

 **LINCOLN LABORATORY**  
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

TECHNOLOGY IN SUPPORT OF NATIONAL SECURITY



## Lincoln Laboratory-MIT



### Highlights

<b>Location:</b>	Lexington, Massachusetts
<b>Industry:</b>	Research & Development
<b>Benefits:</b>	<ul style="list-style-type: none"> <li>• Comprehensive healthcare, life insurance, and retirement plans</li> <li>• Liberal vacation and holiday plans</li> <li>• Relocation assistance</li> <li>• Fitness center</li> <li>• Child care</li> <li>• MIT Federal Credit Union</li> <li>• On-Site library and information services</li> <li>• Flexible workday</li> <li>• Work/life balance</li> </ul>
<b>Contact:</b>	<p>To be considered for an on-campus interview, please submit your resume to your Career Center's online recruiting system AND MIT Lincoln Laboratory's website <a href="http://www.ll.mit.edu/careers/careers.html">http://www.ll.mit.edu/careers/careers.html</a> (Click on College Recruitment). If it is more convenient for you, please feel free to email your resume in Word format to <a href="mailto:collegerecr@ll.mit.edu">collegerecr@ll.mit.edu</a>.</p> <p>Experienced professionals are also encouraged to apply to the above website (Click on Employment Opportunities).</p> <p><b>Due to the unique nature of our work, we require U.S. Citizenship.</b></p>
<b>More information:</b>	<a href="http://www.ll.mit.edu">www.ll.mit.edu</a>
<b>Jobs at Lincoln Laboratory:</b>	Engineering, Physics, Mathematics, Computer Science, Molecular Biology/Biochemistry, Aeronautics/Astronautics.
<b>You should</b>	Lincoln Laboratory stands as a driving force behind the nation's

**consider our company because:** most exciting and challenging technological advances. The multi-disciplinary nature of our employment opportunities provides staff with outstanding developmental experiences and career foundations. We offer the competitive salary and benefits you'd expect from a premier technology employer hiring first-tier scientific thinkers. Get in touch with us today.



**Lincoln Laboratory**  
**Massachusetts Institute of Technology**

**Description of Organization:** Federally Funded Research and Development Center (FFRDC) operated by the Massachusetts Institute of Technology for research in advanced electronics and related fields.

**Number of Employees:** Approximately 2,500

**Headquarters Location:** Lexington, Massachusetts

**Academic Fields of Recruitment Interest:** Primarily electrical engineering, applied physics, mathematics, computer science. To a lesser degree, mechanical engineering, aeronautics/astronautics, molecular biology, materials science and comparable majors.

**Major Entry-Level Opportunities for New Graduates:** Immediate working assignments on large-scale projects, using the skills you acquired in academia, without the product-cycle pressures so often imposed by industry.

## BACKGROUND AND OPERATIONS

Lincoln Laboratory, a Federally Funded Research and Development Center (FFRDC), is part of the Massachusetts Institute of Technology. For more than 50 years Lincoln Laboratory's mission has been to apply science and advanced technology to critical problems of national security, aviation safety, and homeland defense. The character of the problems has broadened from the initial emphasis on air defense to include space surveillance, tactical surveillance systems, communications, air traffic control and weather surveillance systems. Lincoln Laboratory has pioneered advanced electronics technology. Work in the areas of communications, radar, digital data processing, signal processing and air traffic control extends from basic research through the development of devices and components to the design, construction, and operation of complex systems. Projects are followed from the concept stage, through simulation and analysis, to the development of hardware and software and the ultimate test and demonstration of an integrated system. This focus on development of operational prototypes differentiates Lincoln Laboratory from industry and other similar laboratories.

The main Laboratory buildings are located in the town of Lexington, Massachusetts, 14 miles from the center of Boston. Lincoln Laboratory also operates major radar field sites at Westford, Massachusetts, and on Kwajalein Atoll in the Marshall Islands of the central Pacific.

## **EMPLOYMENT OPPORTUNITIES ENTRY-LEVEL AND EXPERIENCED PERSONNEL**

Lincoln Laboratory is interested in scientists and engineers at all degree levels. The professional staff is currently made up of Electrical Engineers (36%), Physicists (21%), Mathematicians (9%), Computer Scientists (9%), and Mechanical Engineers (4%). Other degrees, such as Aeronautical/Astronautical Engineering, Materials Science, Molecular Biology, and Biochemistry are represented in smaller proportions. Overall, approximately 70 percent of the professional staff have earned advanced degrees in their areas of specialty. A large portion of these advanced degrees have been earned while employed at the Lincoln Laboratory through active tuition assistance and other formal programs.

The following research program descriptions are representative of the type of work that might be performed.

### **Electrical Engineers, Physicists, Mathematicians, Computer Scientists.**

Many programs at Lincoln Laboratory involve digital data processing, either for more efficient data reduction and analysis or in the form of improved algorithms for signal processing and analysis or executive systems for real-time computation and control. Computer technology projects include: recognition of vehicles using laser and synthetic aperture millimeter-wave radar sensors and recognition of space objects by means of high-resolution millimeter-wave radar images; development of a technology for wafer-scale integration called Restructurable VSLI; and development of robust speech recognition algorithms.

In the radar measurements program, projects involve system analysis, the design and construction of sensors using state-of-the-art technology, and the phenomenology of clutter modeling and target signature characterization. A major focus of this work is on the applications of sensors in systems that are intended to accomplish an operational goal, such as defense against missile attacks.

Lincoln Laboratory has been developing advanced air traffic control technology for the Federal Aviation Administration since the early 70s. Current activities are focused on aircraft and weather surveillance and automation tools. Lincoln Laboratory has developed updated processors and software for existing air traffic control radars that eliminate false targets and significantly improve operations at airports. The Terminal Doppler Weather Radar and the Integrated Terminal Weather System (ITWS) provide improved aviation weather information in areas surrounding airports. Lincoln Laboratory has built and currently operates prototype ITWS test beds at seven major airports to demonstrate safety and delay-reduction benefits of the technology.

Lincoln Laboratory develops and operates the prototype Corridor Integrated Weather System that provides air traffic controllers with current and predicted positions of thunderstorms in the busiest U.S. air traffic regions. Lincoln Laboratory has initiated new work to incorporate advanced weather products into terminal arrival- and departure-flow automation tools.

A major portion of Lincoln Laboratory's work over the years has been in the area of surveillance. Radar and electro-optical sensors, either ground, airborne, or space-based, have been investigated for their application in systems for detection, tracking, and identification of objects in space, in the atmosphere, and on the ground.

Programs in space surveillance, namely, satellite tracking, space object identification, and advanced electro-optical deep space surveillance, are involved with the surveillance and identification of satellites from ground-based sensors. Satellite

surveillance and tracking techniques for objects located in the deep-space environment have been developed using radar at the Millstone Hill Field Site in Westford, Massachusetts, and the Reagan Test Site on Kwajalein Atoll in the Marshall Islands of the central Pacific.

In the area of surface surveillance, Lincoln Laboratory works on problems of detection and identification of moving and stationary objects. Extensive field measurements programs coupled with simulations have established a broad database. Current problems include the imaging of objects under foliage, phenomenology, and measurements involving radar and infrared instruments for evaluating air vehicle survivability in threatening environments and air defense.

Engineering programs at Lincoln Laboratory may involve mechanical engineering, including structural analysis and finite element modeling; aerospace engineering, including data analysis, laboratory and wind-tunnel testing, and flight testing; optical systems engineering that specializes in the design, analysis, testing, and packaging of terrestrial, airborne, and spaceborne optical systems; and control systems engineering that designs and implements state-of-the-art feedback control systems for a variety of demanding applications on the ground, in aircraft and in space.

For more information about our recruiting activities at your campus, please contact your Career Center or visit our website.

To be considered for an on-campus interview, please apply to:

1. Your Career Center's online recruiting system AND
2. Lincoln Laboratory's website <http://www.ll.mit.edu/careers/careers.html> (Click on College Recruitment). If it is more convenient for you, please feel free to email your resume in Word format to [collegerecr@ll.mit.edu](mailto:collegerecr@ll.mit.edu).

Experienced professionals are also encouraged to apply to the above website. Click on Employment Opportunities.

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