

GTRI

Lab Overview

The Georgia Tech Research Institute (GTRI) is the innovation hub for over 2,900 of the industry's award-winning, nationally renowned researchers, engineers, and industry professionals who are dedicated to solving some of the nation's most complex problems.

As the highly-regarded, applied research and development division of the Georgia Institute of Technology — one of the nation's top-ranked research universities — GTRI leverages the science and engineering base of Georgia Tech to enhance the impact of our collective research output. Collaboratively, we advance technology and provide innovative solutions to enhance State of Georgia economic development, serve national security, improve the human condition, and educate future technology leaders.

Through innovative and sponsor-focused research and education, GTRI takes the next best step in modernizing our armed forces and progressing our local and regional footprint. Our “what's next” perspective remains the driving force behind the groundbreaking technology, applied research, and advanced prototyping systems that we develop.

OUR LOCATIONS

Aberdeen (MD) Field Office
Atlanta (GA) Headquarters
Cobb County (GA) Research Facility
Colorado Springs (CO) Field Office
Dayton (OH) Field Office
Huntsville (AL) Field Office
New England (MA) Field Office
Orlando (FL) Field Office
Panama City (FL) Field Office
Patuxent River (MD) Field Office
Phoenix (AZ) Field Office
Quantico (VA) Field Office
San Diego (CA) Field Office
Shalimar (FL) Field Office
Tucson (AZ) Field Office
Utah (UT) Field Office
Warner Robins (GA) Field Office
Washington, D.C. Field Office

CONTACT US

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OUR RESEARCH LABORATORIES

ELECTRONICS, OPTICS & SYSTEMS

Tommer Ender, GTRI Deputy Director

ASL | Applied Systems Laboratory

Laboratory Director: Linda Viney
www.GTRI.gatech.edu/asl



ASL conducts research supporting sponsors across the Department of Defense and focuses on air and missile defense, command and control, battle management, systems (including open) architectures, systems integration, human-centered engineering, test and evaluation, virtual and constructive training, mission planning, and hardware- and software-in-the-loop development

ELSYS | Electronic Systems Laboratory

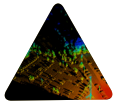
Laboratory Director: David Zurn (Interim)
www.GTRI.gatech.edu/elsys



ELSYS is an applied R&D laboratory focused on end-user solutions with product life-cycle in mind. The prototypes, tools, education, and analysis delivered by ELSYS ensure that mission-critical systems and the people who procure, operate, and sustain them are equipped with an optimal mix of technology, planning, and consideration for total cost-of-ownership. ELSYS tackles big problems, from the real-time DSP, RF analysis, and electrical engineering of fielded Electronic Warfare systems to the Model-based Systems Engineering methods to optimize defense investment strategy. From keeping early warning radars operational with the latest technology for homeland defense, to enabling executive national security leadership to plan their strategic portfolio, the work that ELSYS pursues upholds GTRI's goal to keep our U.S. armed forces the most technically dominant fighting force on Earth.

EOSL | Electro-Optical Systems Laboratory

Laboratory Director: Terence Haran
www.GTRI.gatech.edu/eosl



The Electro-Optical Systems Laboratory (EOSL) is a leader in EO and RF signal and information processing, with expertise covering materials and devices; system design; algorithm development; and modeling, simulation, and analysis (MS&A) of complex systems operating across the electromagnetic spectrum from RF through UV. Major research areas include optical and photonic systems for ISR, EW, directed energy (DE), and related applications; optical and electronic materials and devices; aircraft survivability equipment system analysis and optimization; and AI/ML applied to these activities.

INFORMATION & CYBER SCIENCES

William H. Robinson, GTRI Deputy Director

CIPHER | Cybersecurity, Information Protection, and Hardware Evaluation Research Laboratory

Laboratory Director: Alexa Harter
www.GTRI.gatech.edu/cipher



CIPHER is a leader in developing the capabilities that secure, defend, and respond to threats within our country's computing systems, critical infrastructure, information, and networks. CIPHER provides high-impact solutions to some of today's most challenging cybersecurity problems, while also turning revolutionary concepts and breakthrough technologies into practical capabilities to address future threats. CIPHER engineers and scientists develop and deploy cutting-edge research in computing systems, infrastructure resilience, network architectures, signal and protocol analysis, hardware security and trust, assured software and algorithms, network forensics, malware analysis, hardware and software reverse engineering, advanced analytics, AI/ML for cyber applications, quantum computing and sensing, and energy storage and distribution. CIPHER researchers collaborate extensively with Georgia Tech faculty and students and CIPHER employs and trains numerous Georgia Tech students on real-world problems.

ICL | Information and Communications Laboratory

Laboratory Director: Danny Browne
www.GTRI.gatech.edu/icl



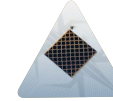
ICL is a fundamental and applied research laboratory focused on transdisciplinary research across the entire information science hierarchy. The key areas of research focus on systems that adapt to their operational environment, as well as scalable enterprise system modernization and transformation. Core research areas include software defined radio frequency systems, communications electronic warfare, 5G, spectrum analytics, RF propagation modeling, embedded software, high performance computing, interoperable data infrastructure, trust, analytics, artificial intelligence and machine learning, information science, decision support systems, and enterprise applications. ICL conducts research that solves complex problems for range of sponsors, including defense, health, intelligence, justice and the state of Georgia.

SENSORS & INTELLIGENT SYSTEMS

Bill Melvin, GTRI Deputy Director

ACL | Advanced Concepts Laboratory

Laboratory Director: Doug Denison
www.GTRI.gatech.edu/acl



ACL develops tailored solutions for a broad range of national security challenges through disciplined application of physics-and effects-based modeling to realizable systems, augmented with prototype development and testing. ACL's research thrusts extend across domains, and include bio, chemical, RF, optical-sensor physics; materials science and engineering; electromagnetic theory, computation, structures, and measurements; electronic warfare techniques and applications; operational scenario modeling and simulation; traditional and asymmetric threat analysis; and ground maneuver warfare.

ATAS | Aerospace, Transportation and Advanced Systems

Laboratory Director: Rusty Roberts
www.GTRI.gatech.edu/atas



From concept development to full prototype builds, ATAS develops systems vital to the Department of Defense and to the State of Georgia. Systems include threat radar replicas, missile simulations, air and ground vehicles, unmanned and autonomous systems, power and energy systems, and food processing technologies.

SEAL | Sensors and Electromagnetic Applications Laboratory

Laboratory Director: Ryan Hersey
www.GTRI.gatech.edu/seal



SEAL performs expert analyses, develops technologies, and builds state-of-the-art prototypes of sensor systems for military applications including: intelligence, surveillance, and reconnaissance (ISR); air and missile defense; electronic attack / electronic protection (EA/EP); communications, command, and control (C3); foreign material exploitation (FME) applications; and undersea systems. SEAL has subject matter experts in phased-array antennas, radio frequency hardware, digital hardware, systems engineering, open system architectures, software development, algorithm development, digital signal processing, and artificial intelligence.