GTRI OVERVIEW
OUR RESEARCH LABORATORIES

GTRI is headquartered on the Georgia Tech campus in Midtown Atlanta, Georgia. In Fiscal Year 2016, we performed more than $370 million of problem-solving research in our eight dynamic laboratories organized into three directorates: Electronics, Optics and Systems (EOS), Information and Cyber Sciences (ICS), and Sensors and Intelligent Systems (SIS). These laboratories are found on and off the main campus, and more than 20 field offices located around the nation.

ELECTRONICS, OPTICS & SYSTEMS | Joe Brooks, GTRI Deputy Director

ASL | Applied Systems Laboratory
Laboratory Director: Barry Bullard, Ph.D. | www.GTRI.gatech.edu/asl
ASL conducts applied research, development, test and evaluation (RDT&E) of ground-based air and missile defense (GBAMD) and rotary-wing aviation systems. Activities include hardware-in-the-loop (HWIL) and software-in-the-loop (SWIL) RDT&E, system modeling and simulation, system-of-systems and family-of-systems interoperability for integrated air and missile defense (IAMD), GBAMD fire control and command & control (C2), and critical safety software development & engineering.

ELSYS | Electronic Systems Laboratory
Laboratory Director: Joe Brooks, Interim | www.GTRI.gatech.edu/elsys
ELSYS delivers innovative research, prototypes, and education which have positive and lasting impacts on our sponsors. A major focus for ELSYS is electronic warfare analysis, technology development, test and evaluation, and integration to solve complex survivability problems. ELSYS keeps mission critical systems technologically relevant, supportable and affordable over their life cycle. ELSYS also performs systems engineering research programs that provide methodologies, tools, education and leadership to support acquisition and life-cycle sustainment problems. Our systems engineering research includes human systems integration that encompasses human factors engineering, occupational health, safety, manpower, personnel, training, survivability, and habitability.

EOSL | Electro-Optical Systems Laboratory
Laboratory Director: John Pellegrino, Ph.D. | 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 system design, algorithm development, and modeling and simulation for signals across the electromagnetic spectrum. Core research emphasis includes sensor information processing and visualization, optimization and modeling and simulation of self-protection systems, topographic and bathymetric LIDAR. EOSL houses High Performance Computing facilities, which allow the EOSL Center for Optimization to perform modeling and simulation of Electronic Warfare, Infrared Countermeasures, and self-protection techniques. EOSL also houses a unique Medical Device Test Center and provides infrastructure enhancement EW program office support to the Army.
CTISL | Cyber Technology and Information Security Laboratory
Laboratory Director: Alexa Harter | www.GTRI.gatech.edu/ctisl
CTISL is a leader in developing the technologies that secure, defend, and respond to threats within our country’s information, distribution, and network systems. CTISL provides high-impact solutions to some of today’s most challenging cybersecurity problems for both government and industry, while also developing far-reaching high-risk high-payoff cyber technologies to respond to future threats. Research areas include cyber threats and countermeasures, secure multi-level information sharing, resilient command and control network architectures, reverse engineering, information operations and exploitation, quantum computing and sensing, and data analytics.

ICL | Information and Communications Laboratory
Laboratory Director: Jeff Evans | www.GTRI.gatech.edu/icl
ICL conducts research that solves complex problems in areas of computer science, information technology, communications, networking, and socio-technical systems. Research for public and private clients supports national security; ground EW/Communications systems; emergency response; software defined radio development; integration of health care systems and health analytics; smart city and Internet of Things development; interoperability, trustmarks, and security of interconnected systems; software modernization and integration; education and learning; technology strategy, planning, and geospatial decision support for C2; development of public policy; and commercial product realization.

SENSORS & INTELLIGENT SYSTEMS | William Melvin, Ph.D., GTRI Deputy Director

ACL | Advanced Concepts Laboratory
Laboratory Director: Mark Mitchell | www.GTRI.gatech.edu/acl
ACL provides innovative, tailored solutions to challenging problems for our customers, including Department of Defense, Intelligence Agencies, and industry. Our laboratory identifies and transitions advances in basic research for use in real-world applications, with particular emphasis on antennas, electromagnetics, counter-proliferation technologies, and integrated analysis of signals and systems. ACL possesses extensive capabilities for numerical modeling, experimentation, and characterization to prove new technologies and concepts.

ATAS | Aerospace, Transportation and Advanced Systems Laboratory
Laboratory Director: Rusty Roberts | www.GTRI.gatech.edu/atas
ATAS develops advanced technologies and systems from concept development to prototypes. Included are system simulations, and test and evaluations related to threat radars, missiles, air and ground vehicles, unmanned and autonomous systems, transportation systems, power and energy systems, acoustics, flow control, and food processing technologies.

SEAL | Sensors and Electromagnetic Applications Laboratory
Laboratory Director: Mel Belcher | www.GTRI.gatech.edu/seal
SEAL research falls into four primary areas: intelligence, surveillance, and reconnaissance (ISR); air and missile defense; foreign material exploitation and electromagnetic systems; and electronic attack/electronic protection (EA/EP). SEAL investigates and develops prototype radio/microwave frequency sensor systems with particular emphasis on radar systems engineering, electronics intelligence (ELINT), communications intelligence (COMINT), measurement and signal intelligence (MASINT), electromagnetic environmental effects, radar system performance modeling and simulation, advanced signal and array processing, sensor fusion, antenna technology, and EA/EP. SEAL develops advanced signal and data processing methods for acoustic sensors and multi-sensor intelligence exploitation architectures and algorithms covering all wavebands.