

2012

ANNUAL REPORT



Environmental Health & Safety
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Message from the Assistant Vice President



Dear Colleagues,

We are pleased to present our first Environmental Health & Safety (EHS) Annual Report, which provides information on key metrics and achievements in our core service areas for the fiscal year 2012, along with some additional data from prior years. The accomplishments highlighted in this report are indicative of Georgia Tech's commitment to creating a safe and healthy learning, living, and working environment and the dedication of the EHS staff in playing a key role in that regard.

We appreciate your continued support, and we look forward to partnering with you for another successful—and safe—year ahead!

Mark Demyanek

Assistant Vice President

Environmental Health & Safety/Facilities Management

Georgia Tech is committed to: providing a safe, secure, and healthy environment for all faculty, staff, students, and visitors; conducting its research and educational programs in compliance with applicable environmental health and safety laws and regulations; and demonstrating leadership in pollution prevention, waste reduction, and the judicious use of resources for protection of human health, safety, and the environment.

The EHS Office guides and assists the Institute community in meeting its public health, safety, environmental protection, and compliance responsibilities.

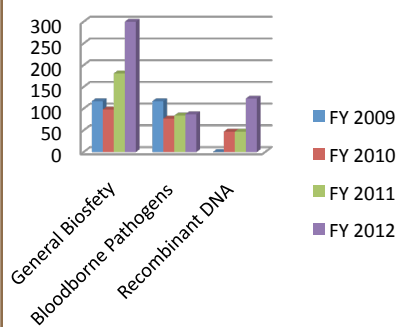


The EHS team (left to right): first row - Christina Tabor, Mark Demyanek, Anna Hawkins, Deborah Wolfe-Lopez; second row - Ryan Lisk, Aleece Foxx, Arlene Smith, Nazia Zakir, Rynne Shadwick, Lisa Broadhurst; third row - Duane Slack, Renee Lee, Shane Gillooly, David Stevenson, Gary Spichiger; fourth row - Larry Labbe, Edward Pozniak, Brian Clemons

Biosafety

The goal of the Biosafety unit is to minimize the risk of injury and illness associated with research involving biological materials. This includes carrying out inspections of biological laboratories and managing Georgia Tech's Occupational Health Program (OHP). Biosafety also handles responsibilities such as mold investigations, biological shipments, and nuisance animal issues, including animal removal. OHP activities encompass conducting risk assessments for all campus researchers to determine appropriate training, personal protective equipment, and medical interventions to prevent or minimize biological exposure.

Biosafety Training Participants



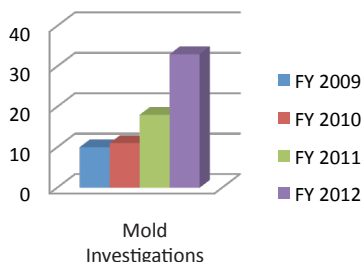
Training

Each month, Biosafety conducts two general biosafety and bloodborne pathogens training sessions, as well as one recombinant DNA training session. In addition, Biosafety conducts private sessions for large groups needing biosafety training. Training participation increases as laboratories increase researcher numbers and new laboratories delve into biological and recombinant DNA research on campus.

Mold Investigations

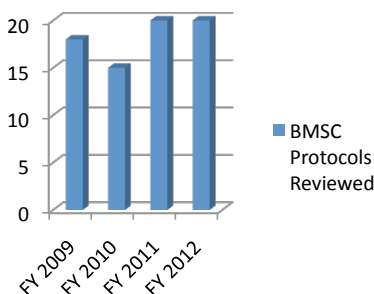
In performing facility mold investigations, which are typically initiated due to moisture intrusion in an area, Biosafety samples the area either via air spore filtering or swabbing of visible mold

Facility Mold Investigations



growth. Biosafety generally evaluates indoor levels of mold in comparison to outdoor levels. Biosafety saw an increase in this service in 2012 as a result of increasing awareness of the program and a rise in the number of moisture issues on campus.

BMSC Protocols Reviewed



BMSC Applications

Additionally, Biosafety coordinates the evaluation of applications submitted to the faculty-led Biological Materials Safeguard Committee (BMSC), which reviews all applications for research, teaching, and training that involve the use of pathogenic organisms, environmental agents, human specimens, animal cell lines, and any other biological materials at Georgia Tech. The BMSC also ensures that the proposed activities comply with the federal regulations governing them. Biosafety reviews the applications and determines if more information is needed



prior to presentation to the BMSC. Biosafety administratively approves applications involving materials similar to those already approved for a laboratory. In 2012, there was a steady stream of applications, with an emphasis on new cell culture lines and human tissues research.

2012 Biosafety Highlights:

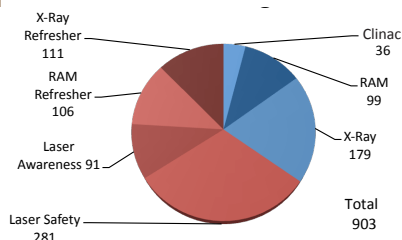
- A new autoclave preventative maintenance program was introduced to ensure the safe operation and upkeep of all campus autoclaves.
- Biosafety has been working with the new Engineered Biosystems Building design team to ensure that the building will have the appropriate safety features suited to a leading research enterprise.
- A new Nuisance Animal Policy was introduced to ensure that the campus understands how to appropriately handle wild animals.
- OHP enrollment has reached over 1,900 researchers.



Radiological Safety

The Office of Radiological Safety (ORS) manages all aspects of the use of radioactive materials (RAM) and radiation-generating devices at Georgia Tech and oversees the Institute's Laser Safety Program for Class 3B and Class 4 lasers. The goal of the ORS is to provide radiological safety and control measures in accordance with the Institute's philosophy of keeping personnel and public exposure as low as reasonably achievable (ALARA), and to comply with federal and state regulations.

FY 2012 Training Record

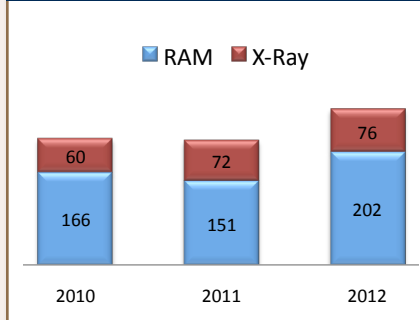


Training

Effective safety training is essential in developing a solid safety culture. The ORS offers both in-person and online training.

In-person training is required for use of RAM, X-Ray and the Varian Clinac Linear Accelerator. RAM and X-Ray Refresher, Laser Safety, and Laser Safety Awareness training sessions are available online for the convenience of Georgia Tech faculty, staff, and students.

Annual Inspections



Inspections

The ORS conducts quarterly inspections of unsealed radioactive material labs located on the Georgia Tech campus. Compliance includes items such as completion of contamination surveys, proper postings, security, and completion of appropriate safety training.



Surveys

All X-ray units are surveyed annually. High intensity X-ray units are surveyed every six months, and the process includes leakage surveys, shielding integrity surveys (if applicable), and operational checks of safety interlocks.

A "Decay-in-Storage (DIS) Program" allows waste generated from short half-life isotopes to be held for ten half-lives and then appropriately surveyed. If survey results meet the state of Georgia's Department of Natural Resources requirements, the waste does not have to be shipped



offsite as radioactive waste. The program requires proper segregation and extensive surveying of radioactive waste. Waste streams include liquids, solids, and scintillation vials. By implementing this program, the ORS saves funds each year. During 2012, the ORS realized a savings of \$9,282.00.

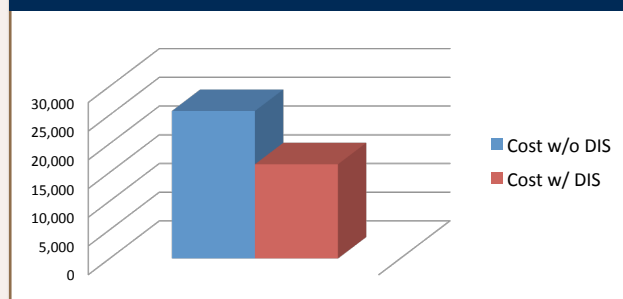
2012 ORS Highlights:

- Provided key input for the construction process for the Radiological & Sciences Engineering Laboratory (RSEL)
- Organized movement of high-activity sources to the RSEL, involving the Georgia Tech Police Department, Office of Emergency Preparedness (OEP), and several other emergency response agencies
- Completed intensive shielding integrity surveys in RSEL
- Developed safety training for the Varian Clinac Linear Accelerator
- Implemented laser safety enhancements throughout campus, including laser-rated table barriers and curtains
- Joined OEP in presenting a tabletop radiation response drill that involved

seven external agencies

- Presented at the Health Physics Society mid-year meeting and at the Campus Safety, Health, and Environmental Management Association (CSHEMA) annual meeting

Shipping Costs



General/Occupational Safety

The General Safety Office oversees planning and implementation of occupational health and safety programs. These programs are consistent with general industry standards, best practices, and other state regulations put in place to reduce accidents and work-related injuries. The office also develops procedures and documents for internal reporting; analyzes accidents and injuries to determine root causes and corrective actions; and designs and delivers safety training courses. Additionally, the General Safety Office prepares, manages, and administers occupational safety programs and provides consultation and safety assessments for the campus community.

Programs and Assessments

The General Safety Office has developed several programs to improve and enhance campus safety.

Automated External Defibrillator (AED) Program

The AED Program has grown tremendously—from approximately forty units to more than 145 within the past five years. AEDs are added to all new and renovated on-campus buildings. In addition, CPR, AED and first aid training sessions are also regularly offered to the campus community.

General Safety conducts inspections of AEDs, machine shops, electrical and mechanical rooms, warehouses, and more.

Ergonomic assessment of workstations is a service provided to the campus community. Ergonomic and repetitive strain injuries continue to be a leading cause of lost time and workers' compensation claims for employers across the country.

Construction Sites

General Safety is also instrumental in campus safety construction site visits and supports Greek Affairs with temporary structure projects led by students.

Injury Reports

Management of injury incidents and trends on campus is another important

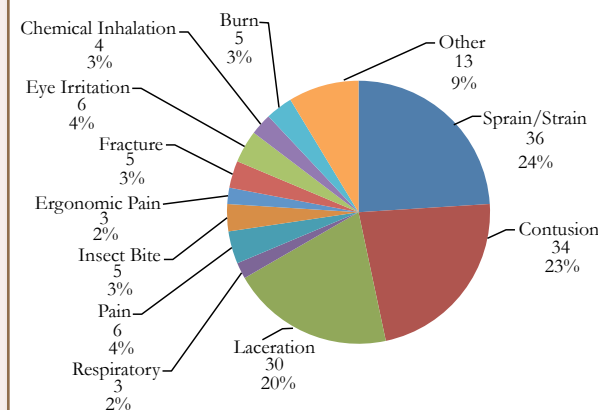


function of the General Safety Office. Tracking injuries and investigating root causes allows for the opportunity to develop corrective actions, suggest recommendations for improvement, and implement training initiatives.

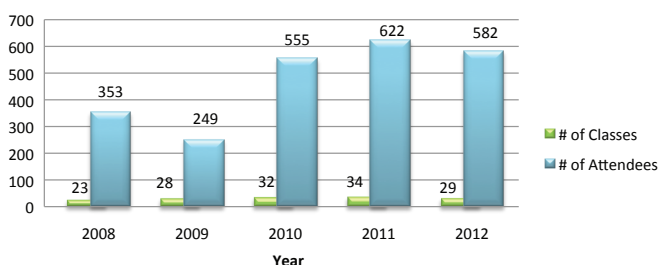
2012 General/Occupational Safety Highlights:

- Developed an online narrative of the New Hire Safety Orientation Program
- Collaborated with Georgia Tech Emergency Preparedness in hosting the first Annual Building Manager Symposium
- Identified and assessed more than 1,000 confined spaces on the Georgia Tech campus, through the Confined Space Program

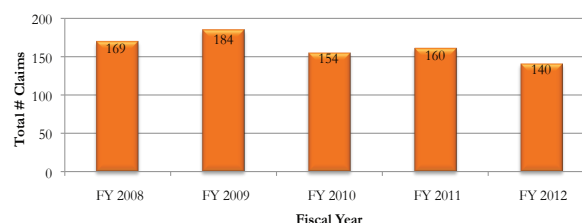
FY 2012 Injuries by Type



Defensive Driving Training



Total Injury Claims



Fire Safety

The Fire Safety Office is responsible for developing, implementing, and overseeing fire safety initiatives and monitoring fire safety conditions in all Georgia Tech facilities. Fire Safety staff conduct regularly scheduled inspections of all Institute buildings and coordinate fire drills and fire safety awareness training programs. In addition, the Fire Safety Office reviews design plans for

New Programs/Initiatives

“Great Escape on Campus” – This training program provides information for residential students, with the target audience being Georgia Tech Housing and Greek Life (38 houses), on how to safely evacuate their buildings during emergencies.

Pre-Event Inspections – Tent, stage, electrical, and general safety inspections identify risks and provide safety information for students, faculty, and visitors.

Expanded Programs/Initiatives

The EHS Fire Safety Office is the designated Atlanta Fire/Rescue

Department liaison for campus. They assist emergency personnel with critical information and in planning mitigation and scene stabilization efforts.

Hot Works Program – Before contractors or Georgia Tech personnel may conduct



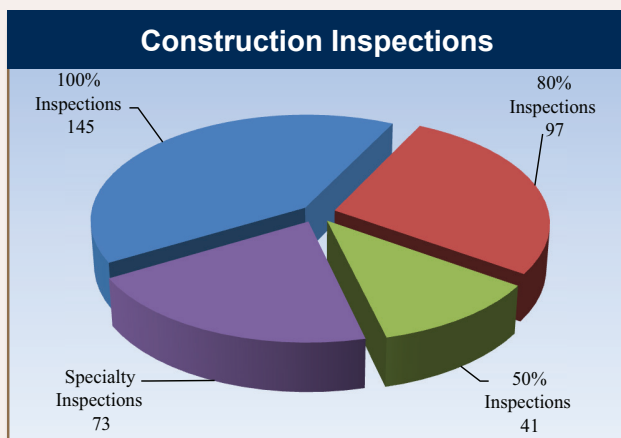
any “hot work” (e.g., welding, torch cutting, etc.), they must receive a “Hot Work Permit” from the Fire Safety Office. Since its implementation in 2011, 338 permits have been issued.

Construction Inspections – Several types of construction inspections are conducted by the Fire Safety Office including 50% reviews, fire protection equipment, and notification systems commissioning. Additionally, the scope of 80% and 100% construction inspections has increased, and system maintenance inspections are also completed.

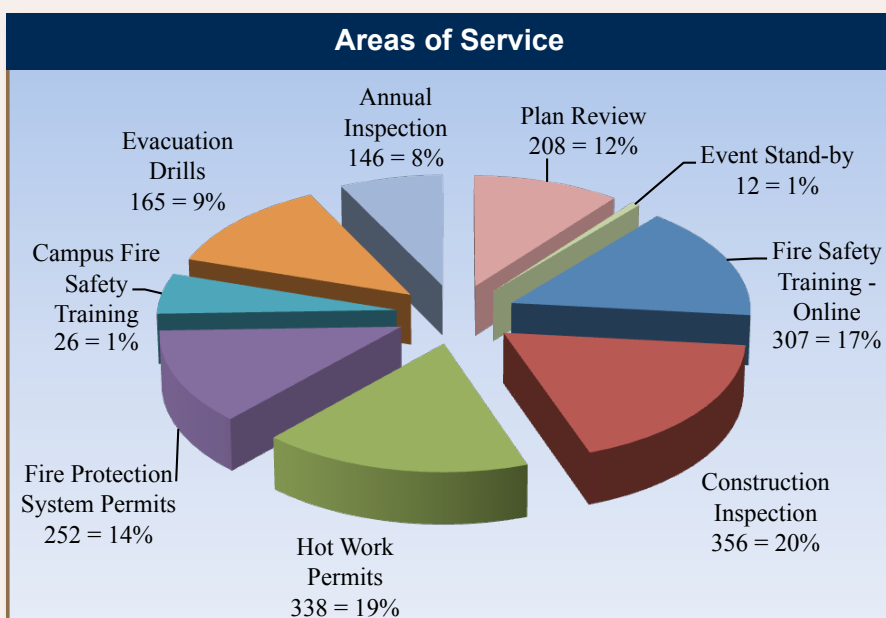
Other/Specialty Inspections – These include underground pipe, aboveground pipe, preconstruction meetings, and any special inspection occurring outside of the normal inspection cycle.

Large Venue/Event Support – This encompasses Georgia Tech Athletics events, concerts, graduations, convocations, movie set(s), and live or taped television broadcasting, etc.

Evacuation Drills – All required evacuation drills for Georgia Tech student housing and on-campus Greek Life facilities are organized, facilitated, and overseen by the Fire Safety Office.



all renovation projects and coordinates closely with the State Fire Marshal's Office on all new construction projects. The Fire Safety Office's website at www.ehs.gatech.edu/fire/ contains Georgia Tech's Fire Safety Policies and Procedures.



Lab and Chemical Safety

The Laboratory and Chemical Safety Office (LCSO) provides consulting, training, lab inspection, and hazard assessment services to the academic and research community for the purpose of evaluating and controlling risks associated with chemical and other laboratory hazards. Additionally, the LCSO provides the Facilities community with support services regarding asbestos, lead, polychlorinated biphenyls (PCBs), and other environmental contaminants.

People Trained

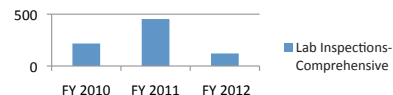


2012 Lab and Chemical Safety Highlights:

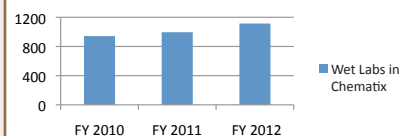
- Delivered chemical safety training to 2,000 faculty, staff, and students, which included Asbestos Hazard Awareness training to over 400 Facilities employees
- Introduced a new Lab Safety Manual and the Personal Protective Equipment and Appropriate Attire Policy, both of which were approved and adopted by the Institute Council for Environmental Health and Safety
- Oversaw two Institute-wide chemical inventories for 1,114 chemical labs and chemical storage areas, each of which totaled more than 140,000 line items
- Provided support and emergency abatement project management for nine asbestos projects

Lab Inspections

Comprehensive



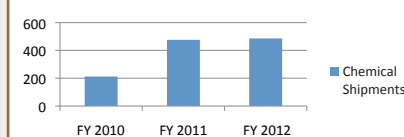
Wet Labs in Chematix



Environmental Samples



Chemical Shipments



Emergency Response Incidents



Lab and Chemical Safety Programs

- Chemical Hygiene
- Chemical Inventory Management
- Dangerous Gas Safety
- Fume Hood Monitoring
- Hearing Conservation
- Respiratory Protection
- Right to Know
- Shipping Hazardous Goods



Hazardous Materials Management

Federal, state, and local regulatory agencies impose strict regulations concerning the management, storage, and disposal of hazardous materials. Compliance with these laws, sound safety practices, and protection of the environment dictate that the Institute must implement appropriate procedures for handling these materials. The EHS

and recycling of these items. It also has primary responsibility within EHS for response to chemical releases and incidents.

Spills/Incidents

In 2012, there were 139 spills/incidents across campus, with thirty-three classified as 'significant,' which includes any of the following criteria:

- Medical attention is required.
- Considerable effort is necessary to remediate, with:
 - outside contractor required or
 - significant in-house assets (more than 24 man hours) required.
- Notification is required by a regulatory agency such as the Environmental

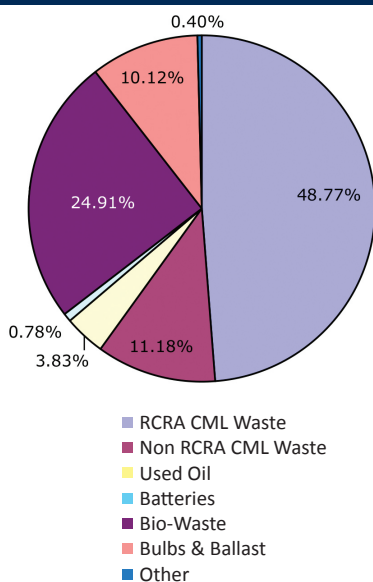


Protection Division or National Response Center.

- Impact is extended past the immediate incident in time, space, or procedure.

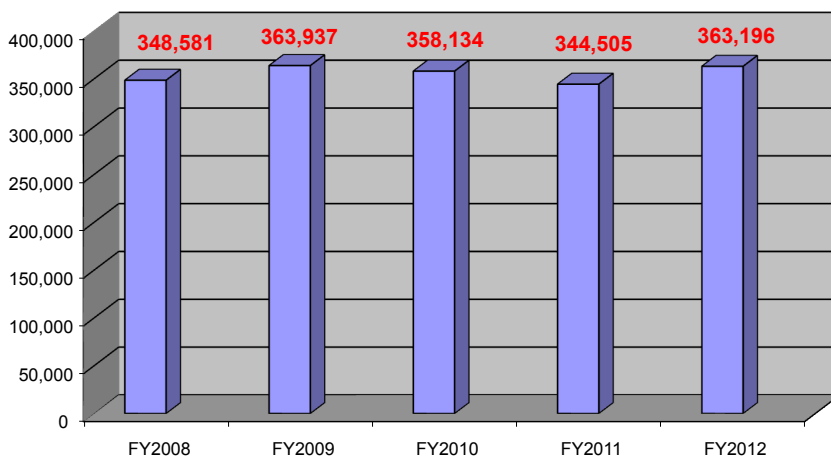
Hazardous waste management procedures are available at www.ehs.gatech.edu/hazardous/hazmat.pdf.

FY 2012: Waste Streams



Hazardous Materials Management Office collects and manages chemical waste, biological waste, used fluorescent bulbs, batteries, and oil and ensures timely and environmentally appropriate disposal

Pounds of Hazardous Waste Managed



Number of Hazardous Materials Pick-Ups

