Introduction

Letter from the Director

Welcome to the tenth annual report of the UNC Department of Environment, Health, and Safety and Risk Management. This report is our mechanism for communicating the activities of the EHS and Risk Management Departments and our support of a safe campus. We continue to generate a culture that is both performance-oriented and one where information is sought. As a service organization, we value communication, collaboration and customer service, which drive the safety culture and support the mission of the University.

Our departments are excited about the launch of The Blueprint for Next, Carolina's strategic framework to guide the university during the next decade. As a team we can contribute greatly to this, and our equation for Safety Culture supports this mission.

Mary Beth Koza,
Executive Director,
Environment, Health and Safety and Risk Management
Accountability is critical to having a proactive safety culture and matches nicely with the new mindset of foresight, courage and accountability. Our University safety committees are instrumental in this endeavor, and their activities and accomplishments can be seen under the committee tab.

The Blueprint for Next’s Pillar of “Innovation Made Fundamental” reflects our commitment to continuous improvement. Our Plan-Do-Check-Act (PDCA) management system provides a framework of policies, processes and procedures. It helps provide the structure of how the people, the information and the technology are integrated, and it provides our students with a unique learning experience.

This year, we launched the “Safety Begins with You” campaign, since providing a safe work environment is the main driver of our work. Without collaboration and communication with all the members of our campus community, it would not be possible. Throughout this report you will see specific examples that demonstrate the diversity of our operations.

I continue to invite every individual to utilize the process of hazard evaluation in all your activities, whether personal or work-related. Approaching every task with self-awareness, deliberation and caution are elements of accident prevention that can provide all of us with safer and healthier lives. Hopefully we will all become Hazard Heroes.
Please take the time to review this report and learn something new. This report would not be possible without the dedication to excellence and collaboration the staff strives for daily. As a team, we take great pride in our accomplishments and in contributing to the health and safety of one of the world’s leading academic and research institutions and the oldest public university.

We also recognize and commend our fellow Tar Heels. It is their commitment to health and safety, their collaborative spirit, and their pride in being part of a great University that makes UNC-Chapel Hill a safe and healthy place to teach, learn and serve.

Mary Beth Koza, Executive Director
Environment, Health and Safety and Risk Management

Who We Are

Administration

Mary Beth Koza
Executive Director, Environment, Health and Safety and Risk Management

Amy Butler
Dosimetry Technician

Nelda Hamlett
Administrative Assistant

Occupational and Environmental Hygiene

David Catalano
Occupational/Environmental Field Hygienist

Kim Haley
Industrial Hygienist

Radiation Safety

Roger Sit PhD, CHP
Radiation Safety Officer

Mark Brueckner
Garry Coulson, Ph.D.
  Biological Safety Officer/Manager

Zach Blanchard
  Biological Safety Specialist

Erika England
  Biological Safety Specialist

Chad Pleasants
  Biological Safety Specialist

Jessica Poole, M.S.
  Associate Biological Safety Officer

Chemical Safety

Catherine Brennan
  Chemical Hygiene Officer

Nick Caligari
  Chemical Safety Specialist

Jim Potts
  Associate Chemical Hygiene Officer

Environmental Affairs

Ray Bond
  Senior Hazardous Materials Specialist

Michael Burton
  Associate Radiation Safety Officer

Montego Fearrington
  Health Physics Technician

Stephen Guarino
  Cyclotron Health Physicist

Aaron Gunsalus
  Lead Health Physics Technologist

Jonathan Moore, M.S.
  Associate Radiation Safety Officer

Mike Soles
  Health Physics Technologist

Bradford Taylor, M.S.
  Associate Radiation Safety Officer

UEOHC

James Hill, M.D., M.P.H.
  Medical Director

Rashad Carlson
  Administrative Support Associate

Suzanne Carr
  Nurse Practitioner

Sherice Love
  Administrative Support Associate
Radioactive Materials Specialist  
Janet Clarke  
Environmental Specialist  
Larry Daw  
Environmental Compliance Officer  
Sharon Myers  
Environmental/Stormwater Compliance Officer  
Mike Novitzky  
Hazardous/Radioactive Materials Specialist  
Steve Parker  
Hazardous Materials Manager  
Kyle Wilson  
Hazardous Materials Specialist  
Travis Wilson  
Hazardous Materials Specialist  

Pam Miner  
Occupational Health Nurse  

Workplace Safety  
Mary Crabtree  
Manager  
Debra Bergman  
Workers' Compensation/Clinical Hygienist  
Cory Kirkland  
Facilities Services Safety Officer  
Tommy Simmons  
Workplace Safety Field Specialist  
Neah Tucker, M.S.  
Occupational Field Hygienist  

Risk Management  
Janet Hoernke  
Insurance & Risk Manager  
Robin Bennington  
Insurance & Risk Manager  
Drew Nicholson  
Risk Management Specialist  

Fire Safety and Emergency Response  
David Guynn  
Fire Safety and Emergency Response Manager  
Kitty Lynn  
Fire Safety Professional  
Emily Powell  
Fire Safety Professional
Adam Swift
Fire Safety Inspector

EHS Organization

Each service section within EHS has unique and specific management duties and responsibilities that are determined by any number of compliance requirements, state and federal regulatory agencies, university policies, industry standards, and a commitment to going beyond compliance, when possible, to ensure a safe and healthy campus, community and state.

Biological Safety

Biological Safety provides guidance, assistance, and surveillance over research activities involving biohazardous agents, recombinant DNA, bloodborne pathogens, and biohazardous waste management. Biological Safety monitors and reviews the performance and maintenance of laboratory containment systems and provides technical support to EHS incident responders.

Chemical Safety

The main function of the Chemical Safety section is to manage the process of improving safety through education, compliance, and the constant task of identifying and evaluating potential safety hazards in order to reach the destination of a safe research laboratory environment. Because the breadth and depth of UNC research is always expanding, the process of safety improvement is ongoing and ever-changing, providing daily challenges to support the research process.

Environmental Affairs

The Environmental Affairs section proactively manages the environmental permitting of the campus and ensures compliance with the increasing number of permits required by state and federal agencies. The section has responsibility for oversight of underground/above ground storage tank management, air quality permits (Title V), water quality (NPDES) permits, surface water quality, storm water management, wetland issues, environmental assessments at inactive waste sites, collection of radioactive and hazardous materials/wastes from campus, and operation of the Hazardous Materials Facility (a fully
permitted Treatment-Storage-Disposal facility), and the storage-for-decay program for short-lived radioactive wastes.

**Fire Safety & Emergency Response**

Fire safety management includes six functions: inspections, enforcement, education, engineering, fire investigation, and response. With 438 buildings on campus and a wide range of potential fire safety risks, EHS personnel are constantly checking fire related equipment, running test alarms, and assessing egress risks. The section provides student and employee fire education so that safety becomes a collaborative effort and a fire safety culture becomes the norm.

**Occupational & Environmental Hygiene (OEH)**

OEH ensures that indoor campus environments are conducive to good health and wellbeing by recognizing evaluating and controlling health and safety hazards, using knowledge and experience in industrial hygiene, asbestos management, air and water quality and safety engineering. OEH assesses potential safety hazards, possible instances of exposure and suitability of protective equipment. Working with facilities engineering and facilities services personnel to keep historical buildings functional, while protecting employee health, and working with planning, construction and startup of new and renovated buildings to anticipate building health issues.

**Radiation Safety**

Radiation Safety integrates education, oversight, compliance, service and consultation to protect students, staff, the general public and the environment from the effects of both ionizing and non-ionizing radiation. Implicit in all aspects of radiation safety is security. Safety and security are accomplished through training, inspection, licensing, registration and controlled access to certain materials.

**University Employee Occupational Health Clinic (UEOHC)**

The University Employee Occupational Health Clinic provides occupational health care services to all part-time, full-time, and temporary employees of the University of North Carolina at Chapel Hill. The UEOHC directs medical care for all workplace injuries/illnesses. The Clinic provides pre-employment screening, annual immunization reviews, and medical surveillance for healthcare and non-healthcare workers.
Workplace Safety

Workplace Safety provides services in the areas of ergonomics, respiratory protection, safety training, industrial maintenance and construction safety, clinical safety, medical surveillance, Workers' Compensation, and the Safety Management Information System. The diversity of services provided by the Workplace Safety section supports the University's overall mission of teaching and research for both academic and non-academic divisions.

Risk Management

Risk Management Services is responsible for overseeing the majority of the University's insurance programs, from purchasing the appropriate coverage to adjusting insurance claims. Some of these programs are state-administered, requiring us to serve as the liaison between the University and the State of North Carolina.
EHS Management System

How We Do It

With the breadth and depth of UNC research always expanding, the process of EHS compliance management is ongoing and ever changing, requiring a robust and adaptive management system. In 2016, the department continued to utilize an integrated management system for the University’s environment, health, and safety compliance programs. This effort was designed to ensure continuous improvements by incorporating a process of ongoing monitoring, reviews, and revisions of procedures and policies through the use of the Plan – Do – Check – Act (PDCA) model. Just as a circle has no end, the Plan – Do – Check – Act cycle is a four-step process model for carrying out change, cycling through each step for continuous improvement.

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<tr>
<th>PDCA</th>
<th>Integrated Management System</th>
<th>UNC EHS Management System</th>
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<td>Strategic planning process</td>
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The EHS organization continues to develop and implement tools and processes to proactively assist the campus in the areas of regulatory compliance for biological safety, chemical safety, radiation safety, controlled substances, export shipping controls, occupational safety, environmental permitting, fire/life safety, and emergency response. Monthly reporting metrics as well as the University’s safety committee structure support this process. A critical component of the management system is having the staff perform compliance verification and utilize this data for planning. Understanding and expertise in the science is essential to the development of a management compliance system.
Why We Do It

Mission Statement

The University of North Carolina at Chapel Hill department of Environment, Health & Safety supports the University's core mission of teaching, research, and service by providing comprehensive environmental, health, and safety services to the University community. This includes education through training and consultation, maintaining a safe environment through recognizing and controlling health and safety hazards, ensuring a process of regulatory compliance, and minimizing future potential liabilities.

Mission of the Organization

- Provide a safe work place.
- Ensure a process of compliance.
- Minimize future potential liabilities.

Values of the EHS Organization

- Use time efficiently.
- Be a resource for new ideas.
- Connect to us relationally.
- Stay with us on the journey through all twists and turns.
- Establish state of the art safety and environmental protocols and procedures.
- Enable us to be all we can be.
EHS Mottos

- Be All You Can Be.
- Strive Towards Excellence.

Core Diversity Values of the University

The University of North Carolina at Chapel Hill, as an educational institution, is committed to the following core values with respect to diversity:

The University supports intellectual freedom, promotes personal integrity and justice, and pursues values that foster enlightened leadership devoted to improving the conditions of human life in the state, the nation, and the world.

The University believes that it can achieve its educational, research, and service mission only by creating and sustaining an environment in which students, faculty, and staff represent diversity, for example, of social backgrounds, economic circumstances, personal characteristics, philosophical outlooks, life experiences, perspectives, beliefs, expectations, and aspirations, to mention some salient factors.

The University will achieve and maintain diversity on the campus through the admission of students and employment of faculty and staff who broadly reflect the ways in which we differ.
The University promotes intellectual growth and derives the educational benefits of diversity by creating opportunities for intense dialogue and rigorous analysis and by fostering mutually beneficial interactions among members of the community.

The University provides an environment that values and respects civility and cordiality of discourse in order that all members of a diverse community feel welcomed and feel free to express their ideas without fear of reprisal.
Testimonials

Biological Safety

“Jessica Poole, Erika England and Garry Coulson have worked tirelessly in support of the University’s high containment labs. This trio supports the Biological Safety Program with a wide knowledge base and much experience. All three remain cool, calm and collected under pressure, are knowledgeable about the high containment lab program as well as CDC and Select Agent regulations. They are committed to and highly supportive of the program. The dedication of these individuals allows the high containment laboratory community to do high caliber research safely. Thank you for all that you do!”

— Sharon Taft-Benz, Senior Scientist, Manager of Heise BSL3 Lab

Chemical Safety

“The Natural Products Research Laboratories (NPRL) within the UNC Eshelman School of Pharmacy is a synthetic medicinal chemistry lab space dedicated to rational drug discovery. NPRL has a very diverse and expansive chemical reagent inventory that was very disorganized and chaotic. EHS gave invaluable assistance in our reorganization and evaluation of our current inventory system. They have helped us implement a streamlined and effective chemical inventory utilizing distinct chemical storage groups for safe storage practices. We truly appreciate their thoughtful input and collaboration throughout the reorganization process and could not have done it without them. Thank you!”

— Katie Musgrove, Program Administrator, Natural Products Research Laboratories

Environmental Affairs
“The UNC Environmental Affairs Office has gone above and beyond expectations in support of the UNC Property Office on a variety of projects. EHS has partnered with our team on a wide range of requests and has provided excellent customer service. Our partnership has included demolishing an old research building, conducting Phase 1 environmental reports on commercial and residential properties, conducting materials testing to confirm whether hazardous materials are present and evaluating entrepreneurial start-up lab safety plans. Our interactions are always professional, educational and enjoyable. We greatly appreciate what they do for us and look forward to continuing our relationship.”

— Theo Sullivan, Property Manager, UNC Property Office

**Fire Safety & Emergency Response**

“Chapel Hill Fire Department continues to appreciate the collaboration with EHS Fire Safety. We use the Knox box system on campus to quickly enter locked portions of campus properties. The design of the system and location of the boxes assists us in providing for a quick resolve to situations we respond to. We would also like to thank EHS Fire Safety for facilitating training for our personnel in the limited access laboratories. Feedback from the crews was that the training was well thought out and realistic and a very positive training experience. We look forward to continued collaboration.”

— Jeff Cabe, Assistant Chief, Operations Division, Fire Department, Town of Chapel Hill

**Radiation Safety**

“The radiation section at the University has always been a great resource, providing prompt response to my questions. Your organization has provided annual calibration services for the past two years that typically consume a half-day of your resources. You have also provided technical consultative services to help with hazard review and management for planning for the use of a new radiation producing device. Thank you!”

— Bruce Crowell, CIH, CSP, LEED AP, Research Safety Manager, UNC-Charlotte

**University Employee Occupational Health Clinic (UEOHC)**

“I am fortunate to have worked with EHS staff from many different sections. From Risk Management, to the nurses and support
staff in the University Employee Occupational Health Clinic, to administrators in Workplace Safety, EHS staff have always gone above and beyond in ensuring that the School of Dentistry’s employees are adequately protected from the risks they may face in a health care setting. I have been especially impressed by EHS's willingness to work with our School on a project to develop a more robust portal to track workplace training requirements. We have struggled to have a platform capable of tracking all our School-level trainings, and EHS was kind enough to offer their resources and IT staff to accommodate our School’s needs using their portal. When the portal is finalized, our employees will be able to track all their workplace training requirements in a single place and receive automated reminders when they are due. We are excited to continue this collaboration and hope to launch soon.”

— Marty Folliard, UNC School of Dentistry, Director of Risk Management

**Risk Management**

“This University is rich in resources for faculty, staff and students. One of those critical resources that is far too often overlooked is the office of Risk Management and Business Continuity. The staff are extremely knowledgeable and skilled in all matters related to risk, insurance and managing both. They are consummate professionals who offer expertise and exemplary customer service. As Assistant Dean for Student Affairs in the School of Nursing, I work closely with two members of this department: Robin Bennington and Janet Hoernke. I cannot imagine attempting to navigate the challenges of professional liability and travel insurance coverage without their guidance. They go above and beyond to assist with both routine coverage processing as well as researching the unusual situations that arise when dealing with students utilizing more than 600 clinical agencies and travelling all over the globe. This department is truly invaluable to the University.”

— Katherine (Kathy) Moore, MSN, RN, Assistant Dean, Student Affairs, Assistant Professor, School of Nursing

**Workplace Safety**

“Workplace Safety provides constant reliable support to our Facilities Services projects. Their knowledge of applicable safety codes and regulations, and their willingness to share it in a constructive way, really elevates the quality of our projects. From bringing a keen eye to scoping and design review, to advocating for safety project funding, to keeping our employees and contractors safe,
Workplace Safety is a huge asset to the University."

— Sarah Millsaps Towles, PE, Assistant Director of Engineering Services, Facilities Engineering
2017 Goals and Performance

Intrapreneurship

- Explore Radio Frequency Identification tag use for chemical inventory management and compliance.
- EHS will support UNC’s Informal Contracting Process to ensure that the best-qualified, responsible, responsive contractors perform the construction work, while building the base of contractors, which UNC pulls from.
- Upgrade the remote monitoring systems for irradiator security under grant from the Department of Energy’s Office of Radiological Security.
- Review the latest standards for mold pertaining to indoor air quality and work environment. Determine the appropriate approach for the different environments encountered at the University.
- Implement an EHS cross-functional team to analyze the reason(s) for the generation of high hazard and unknown chemical waste from University laboratories. Develop an action plan which drives education with the ultimate goal of reducing hazard and unknown laboratory chemical waste generation.
- In collaboration with Facilities Services, EHS will support the updating process of the construction design guidelines to reflect new regulatory drivers and best practices for hazardous materials and permitting requirements.
- Review and make improvements to the biosafety cabinet certification program.
- In collaboration with the School of Dentistry, review and develop educational materials for preventing bloodborne pathogens exposures.
Compliance

- Continue to work with NCDENR on development and implementation of remedial action plan for the Town of Chapel Hill Old Sanitary Landfill at Carolina North.
- Develop and implement training and procedures for ensuring compliance with regulations and University policies related to radiofrequency (RF) emitting equipment on campus roofs. This entails developing safety awareness training for employees accessing campus roofs, access control for campus roofs and developing a process for shutting down RF equipment during roof work.
- Establish a comprehensive radiation safety program for cyclotron facility now that human-use radiopharmaceuticals are being produced.
- Apply for a Manufacturing and Distribution license for BRIC’s cyclotron facility.
- Implement the clinical laboratory inspection program to ensure a safe work environment for employees working in clinical laboratory areas.
- Determine the impact of the updated OSHA standards for crystalline silica (OSHA 29 CFR 1926.1153 and 1910.1053) and beryllium (OSHA 29 CFR 1910.1024 and 1926.1124). Implement a compliance program consisting of a written exposure plan, training program and appropriate work practices.
- Review the University’s Biosafety program for risk group 2+. Create tiers for research labs based on risk assessments.
- Review and implement a new program for compliance with the generation and disposal of hazardous waste.
- Two major reclaimed water permit modifications will be submitted to NC DEQ for the Finley Fields South area and the central athletics area which includes the current Fetzer Field/Field Hockey/Lacrosse Fields and the new indoor Football practice area.
- Preparation and submittal of the Hazardous Materials Facility Storm water permit renewal application.
- Implement the new requirement for electronic submission of Injury and Illness records into OSHA’s Injury Tracking Application.
• Complete the comprehensive revision of the UNC EHS Emergency Response Manual.

• Develop a PCB Management Plan and training for construction sites that integrates both waste management and safety management of PCBs.

**Growth**

• Support the Mary Ellen Jones renovation project including design review and construction activities.

• Support the Medical Education Building project, including permitting, design review, demolition and construction activities.

• Continue the development and implementation of an on-line permitting program for Confined Space and Energized Work.

**Education**

• Develop and implement new fall protection training and design guidelines in accordance to the revised OSHA Walking, Working Surfaces standard.

• Review and update the Biological Safety risk group 2+ online training programs with modules for HIV/SIV, Non-human primates / herpes B and viral amplification.

• Continue to drive the culture of safety across campus. Actively engage and use national awareness events such as “National Safety Stand-Down To Prevent Falls in Construction” and actively use “June is Safety Month” as communication vehicles to enhance the safety culture across campus.

**Key**

• Completed

• In Process

• Stopped
2018 Goals

Intrapreneurship

• Expand emergency response capabilities by examining and prioritizing current functions, increasing training levels, providing equipment and embedding responders on campus for more rapid responses.

• Evaluate the use of social media into lab safety culture communications and explore other marketing avenues in collaboration with the Service Center of Excellence Marketing & Communications staff. Develop an internal EHS standard on social media.

• The EHS -HMP team will identified, developed and implemented enhancements to the Job Safety Analysis including the development of at least one JSA with each assigned inspection.

• Review the latest standards for mold pertaining to indoor air quality and work environment. Determine the appropriate approach for the different environments encountered at the University.

• Undergo a comprehensive review of building systems at the Hazardous Materials Facility to ensure safety, security and business continuity.

• Review, standardize and streamline the lab closeout procedure to ensure researchers do not leave abandoned labs that require time and materials for remediation.

• In collaboration with the School of Dentistry, review and develop educational materials for preventing bloodborne pathogens exposures.

• Review and make improvements to Laboratory Safety Plan (LSP) Schedule F (Biological Safety) to include information on laboratory equipment (such as Freezers and autoclaves).
Compliance

- Implement Business Continuity software across campus which will identify critical functions and support the implementation of resiliency plans. Assist compliance with Finance and Operations Policy 101 – Business Continuity Planning.
- Continue to work with NCDENR on development and implementation of remedial action plan (RAP) for the Town of Chapel Hill Old Sanitary Landfill at Carolina North.
- Develop and implement training and procedures for ensuring compliance with regulations and University policies related to radiofrequency (RF) emitting equipment on campus roofs. This entails developing safety awareness training for employees accessing campus roofs, access control for campus roofs and developing a process for shutting down RF equipment during roof work.
- Establish a comprehensive radiation safety program for cyclotron facility now that human-use radiopharmaceuticals are being produced.
- Apply for a Manufacturing and Distribution license for BRIC’s cyclotron facility.
- Implement the proposed clinical laboratory inspection program to ensure a safe work environment for employees working in clinical laboratory areas.
- WPS and Risk Management Services will develop and implement educational resources to ensure workers’ comp/disability overage for University Departments employing personnel outside the state of North Carolina.
- Review and updated expectations for confined space rescue. Explore options for collaboration with CHFD and other response agencies.
- Renew radioactive materials license for UNC Nutrition Research Institute.
- Review and update the Select Agent program to implement the required regulatory changes.
- Complete the comprehensive revision of the UNC EHS Emergency Response Manual.
- Develop a PCB Management Plan and UNC training for construction sites that integrates both waste management and safety management of PCBs.
• Develop and implement a compliance plan for the effluent limitations guidelines and standards for the Dental school. 40 CFR parts 403 & 441

Growth

• Continue to support the Mary Ellen Jones renovation project including design review and construction activities.
• Continue to support the Medical Education Building project, including permitting, design review, demolition and construction activities.
• Continue the development and implementation of an on-line Permitting program for Confined Space, and Energized Work.
• Support the number of new building/ infrastructure projects across campus, including permitting, design review, demolition and construction activities.

Education

• The EHS mercury project team will developed and implemented an on-line Mercury Awareness training for the Dental School. Review and update the Biological Safety risk group 2+ online training programs with modules for HIV/SIV, Non-human primates / herpes B and viral amplification.
• Continue to drive the Culture of Safety across campus. Actively engage and use national awareness events such as “National Biosafety Stewardship Month” and “June is Safety Month” as communication vehicles to enhance the safety culture across campus.
• Train UNC DPS and UNCH Police Officers on the use of PRDs (Personal Radiation Detectors) supplied by the DOE Office of Radiological Security in support of the UNC and UNCH Enhanced Security Program for Radioactive Materials in Quantities of Concern.
• Review the University’s Bloodborne Pathogens (BBP) program and update as needed.
• Implement the required OSHA Silica training and RCRA HW training across campus.
• Partner with the staff of Continuous Improvement & Staff Development to improve the success of Facilities Services
Compliance Training.
Biological Safety

Supporting Cutting Edge Research at UNC

Animal models are often used in the biomedical field as a proxy for working with humans. Small animals, such as mice, are widely used as mammalian model systems because of the similarities in genetics and physiology with humans. These model systems also have the advantage of being easily manipulated genetically allowing researchers the ability to interrogate the role of specific genes in a number of biological processes, including host-pathogen interactions with infectious agents like, HIV, cancers and inflammatory diseases.

While researchers have learned much about disease pathogenesis using mouse model systems, there are limitations to using these surrogates to investigate the intricate interactions between humans and infectious diseases. Notably, differences in the immune systems between mice and humans complicate their use for many human pathogens that are species-specific and can only infect human cells. One powerful approach to circumvent this restriction is the development of “humanized” mice in which the mouse immune system is effectively replaced by human cells through implantation or more recently, genetic manipulation. Mice that are reconstituted with human cells offer a unique model for studying infectious disease pathogenesis, transmission, and persistence in vivo and are now widely used in the biomedical field for studying diseases such as HIV.

Dr. J. Victor Garcia-Martinez
In ground-breaking research at UNC, Dr. J. Victor Garcia-Martinez and colleagues have been working on expanding the animal model toolkit available to pre-clinical researchers by developing a novel mouse model system which would allow researchers to better understand the function of the immune system and its role in mediating protection against infectious diseases. In support of this cutting-edge research, the Biological Safety Section in the Department of Environment, Health & Safety worked closely with Dr. Garcia-Martinez to assess the biological risks associated with working with macaque primate tissue, and establish standard operating procedures and containment practices for working safely with this potentially biohazardous model thus paving the way to approval of this research by the Institutional Biosafety Committee (IBC).
Performance Chart

Performance measurement is a critical part of the EHS management system. Education, customer service and internal processes are the three most essential components of our work. The chart below indicates the performance in these areas over a five-year period with Level Four representing optimum performance. The adjacent tab shows the specific performance activities and the level of that performance for 2016.

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<th>Level</th>
<th>Education</th>
<th>Customer Service</th>
<th>Internal Processes</th>
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Compliance
Performance Activities

Education

- Trained 8637 healthcare workers, facilities services employees, researchers and childcare providers in bloodborne pathogens annual requirement through online and in-class sessions.
- Trained 1086 researchers in basic principles of conducting research at BSL-2, such as proper technique and waste handling and trained 191 researchers in enhanced BSL-2 procedures.
- Trained 670 researchers and other campus personnel in proper requirements for shipping with dry ice.
- Trained 541 campus researchers, staff and administrators about federal and international shipping, importing and exporting regulations through online and in-class sessions.
- Trained 332 researchers and other campus personnel on essential awareness and biological safety in BSL-3 laboratories.
- Conducted 299 online training in DCM Orientation, DCM BSL-2 and Zoonotic/Lab Animal Allergy for DCM employees.
- Trained 243 researchers on policies about Dual Use Research of Concern through online training.
- Trained 229 researchers and staff members on proper use of autoclaves through online training.
- Trained 133 researchers in identifying and registering projects meeting NIH Guidelines for Research Involving Recombinant DNA Molecules.
- Trained 21 Facilities Services employees on how to respond to potentially infectious sewage spills.

Customer Service

- Investigated 42 incidents of laboratory spills, accidents, and procedural problem involving potentially infectious materials with no laboratory-acquired infections resulting from accidents.
- Submitted 24 registration updates to the CDC in reference to laboratory operation changes.
- Certified 437 campus biological safety cabinets ensuring safety of product, personnel and environmental protection.
- Reviewed 146 I-129 visa applications.
- Reviewed and approved 502 Laboratory Safety Plans’ Schedule F (Biological Hazards).
• Reviewed and approved 223 Laboratory Safety Plans’ Schedule G (Recombinant or Synthetic DNA).
• Reviewed and approved 232 Laboratory Safety Plans’ Schedule H (Transgenic Animals/Plants).
• Reviewed and approved 261 Laboratory Safety Plans’ Schedule I (Shipping).
• Reviewed 919 IACUC Protocols.

**Internal Processes**

• Implemented new secure Federal Select Agent Portal information system (eFSAP) for managing Select Agent program information and changes to the entity registration.
• Updated Select Agent Inventory System for more comprehensive data capture.
• Updated HASMIS database to capture biosafety cabinet usage on campus for BSL-2+ laboratories and track annual performance verification.
• Updated HASMIS database to record and generate reports on baseline serum samples for individuals enrolled in medical surveillance program.
• Upgraded the non-destructive emergency access systems for BSL-3 labs across campus.
• Updated Standards and Facility Descriptions for all BSL-3 facilities on campus.
• Coordinated 2018 training schedule for BSL-3 Awareness Training and Bloodborne Pathogen courses to improve participation and compliance.
Chemical Safety

The EHS Chemical Safety staff worked with the Environmental Affairs and Fire Safety staff to create and produce the inaugural UNC-Chapel Hill Laboratory Safety Fair. The goal of the fair was to enhance the safety culture at the University by focusing on the many facets of laboratory safety.

The fair highlighted emerging safety technologies, facilitated hands-on training and distributed information on frequently asked safety questions through exhibits and professional presentations. Eight seminar speakers addressed pressing safety issues on chemical inventory, lab safety planning, chemical waste, DEA controlled substances, shipping hazardous materials and radioactive materials. A hands-on fire extinguisher training for attendees also took place outside the main entrance to the fair.

Fair invitations were sent to all laboratory principal investigators and safety supervisors and printed advertisements were posted across campus by members of the fair’s planning committee. In this first year, more than 300 lab personnel attended the fair. The high number of attendees suggests that the inaugural Laboratory Safety Fair was a great success in enhancing safety culture. It also demonstrated the Environment, Health and Safety department’s commitment to providing a safe and healthful environment for all persons associated with the University, including faculty, staff, students, visitors and members of the Chapel Hill community. Based on the success of this first fair, EHS is planning to provide annual lab safety fairs.
**Performance Chart**

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Compliance
Performance Activities

Education

- Trained 1971 new laboratory employees on laboratory environment through online self-study.
- Trained 827 employees on formaldehyde to comply with OSHA requirements.
- Trained 179 employees on nanotechnology safety through online self-study.
- Trained 173 employees on chemical fume hoods through online self-study.
- Trained 283 employees on compressed gas safety through online self-study.
- Trained 120 employees on DEA controlled substances through online self-study.
- Conducted in-person chemical fume hood training for Facilities’ Building Services personnel.
- Conducted chemical safety training for incoming department of Chemistry teaching assistants, Chemistry 550L undergraduates and Chemistry 701 graduate class.
- Conducted safety trainings for department of Comparative Medicine and Network of Laboratory Animal Coordinators in preparation for July AAALAC site visit.
- Utilized principal investigator listserv to distribute updates, alerts, laboratory safety news and Lab and Chemical Safety committee meeting minutes.
- Worked with the F&O Service Center of Excellence to upgrade EHS web pages, adding news alerts, and a new Safe Science – Culture of Safety webpage.
- Worked with the F&O Service Center of Excellence to convert all lab safety self-study trainings to Articulate Storyline and post on website.

Customer Service

- Reviewed 663 new and/or updated laboratory safety plans and reviewed deficiencies with principal investigators and safety supervisors, ensuring compliance with the University’s Chemical Hygiene Plan.
- Uploaded 413 chemical inventories into online system and reviewed 380 annual inventory updates as part of Chemical Hygiene
Plan compliance.

- Supported animal care and use in research regulations by participating in satellite facility, semi-annual inspections and July AAALAC site visit.
- Assessed potential chemical exposures by monitoring air concentrations in the breathing zones and laboratory work areas of 11 employees and made suggestions for controls to eliminate/minimize chemical health hazards.
- Assessed six lab employee work environments as part of the Conceptus Protection Program.
- Participated in clean-up of chemical spills in campus laboratories as technical experts and members of Emergency Response Core team.
- Investigated 16 research laboratory accidents/incidents, evaluated root causes and provided recommendations for modifications of work operations to prevent future incidents.
- Generated and delivered lab entrance signs for 568 laboratory rooms.

**Internal Processes**

- Performed 158 CLIP/Radiation/HazWaste inspections, assessing campus laboratory safety and compliance.
- Reviewed all IACUC applications including reviewing and approving Chemical Hazard forms, ensuring research compliance for animal care and use.
- Verified 28 lab closeouts to ensure lab spaces had been left clean, decontaminated and free of waste.
- Inspected 1103 chemical fume hoods and submitted 50 Facilities Services’ repair requests for fume hoods.
- Calibrated EHS Departmental thermo-anemometers for use in chemical fume hood face velocity checks during inspections.
- Participated in and supported EOC activations for OWASA “Do Not Use” incident, Halloween event, McCorkle Place rally, McCorkle place incident and athletic events.
- Participated as member of organizing committee for the inaugural lab safety fair at Koury Oral Health Sciences building.
- Purchased RFID software and implemented beta-test for department of Chemistry undergraduate teaching labs.
Environmental Affairs

The New Generator Improvements Rule Implementation

The Environmental Affairs section had previously analyzed the impending Generator Improvements Rule and how it would affect the University, and formulated teams to work on specific tasks relevant to the changes. The staff determined that our campus would utilize Subpart K rules for our approximately 2,900 main campus academic/teaching areas, UNC Hospital laboratories and various off-site research locations, and utilize the new Generator Improvements Rule for our non-teaching areas on and off-campus. EHS:

- opted all our research and academic facilities into Subpart K;
- generated new online waste labels for academic/teaching areas, and labels for non-academic areas that were then pre-approved for our use by DWM;
- purchased new printers to label containers delivered to non-teaching areas;
- generated new required online laboratory and non-laboratory training classes;
- generated a GIS-based quick reference guide using five years of historical waste generation data; and
- automated new online reports for waste generation that would email principle investigators if they have not submitted waste in a given time frame.

The hard work of the Environmental Affairs staff paid off with a positive EPA Region IV/Division of Waste Management site
inspection on the first day of the implementation of the new rules.

**Performance Chart**

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**Compliance**
Performance Activities

Education

- Trained 1971 employees on Managing Laboratory Generated Hazardous Waste through orientation safety online training.
- Trained 674 employees on Laboratory Chemical Waste Management through online training.
- Trained 173 employees on Universal Waste Handling through online training.
- Trained 435 employees from Facilities Services in stormwater awareness.
- Trained five Service Station employees, four RDU Airport Medical Air Operations employees and seven EHS employees on stormwater permit requirements and pollution prevention.
- Participated in a Three Zeros sustainability outreach and education event at the Carolina Student Union.

Customer Service

- Conducted 11,427 waste pickups of 51,534 kg of hazardous waste and 40,152 kg of non-hazardous solid waste from University generators.
- Conducted 678 pickups of radioactive waste and shipped 139,6624 mCi of radioactive waste offsite for treatment and disposal.
- Completed 39 hazardous waste manifests for transport of hazardous waste and solid waste to an offsite vendor TSDF for treatment and disposal.
- Shipped 114,424 kg of waste from the University TSDF to an offsite vendor TSDF for treatment and disposal.
- Created 49 waste manifests associated with the direct shipment of solid and hazardous waste from UNC-CH laboratories to offsite vendor TSDFs for treatment and disposal.
- Shipped 27,278 kg of solid and hazardous waste directly to offsite vendor TSDFs.
- Shipped 7,542 kg of scrap metal (ferrous and non-ferrous) offsite for reclamation and recycle.
- Shipped 973 regulated medical waste boxes to Stericycle for incineration.
- Aided with controlled substances drug disposal on campus which included 17 visits by NC DHHS Drug Control Unit for 28 lab visits/inspections.
• Conducted 88 NPDES sediment and erosion control inspections of NPDES permitted land disturbance projects.
• Conducted Phase 1 ESAs for six properties in coordination with the UNC Property Office.
• Conducted sampling and demolition activities at the ESE air site in Pittsboro in support of the UNC Property Office.

Internal Processes

• Defined and began the implementation of Subpart K for laboratory hazardous waste management and the new Hazardous Waste Generator Rules for non-laboratory hazardous waste management. Created a GIS map book of all UNC-CH hazardous waste generators for this compliance activity.
• Prepared and submitted the Low-Level Radioactive Waste Surveys to the division of Radiation Protection for the Institute of Marine Sciences, the Nutrition Research Institute, UNC Hospital and the UNC storage facility.
• Submitted semi-annual and annual reports for the UNC Title V air permit. Prepared the annual Air Emission Inventory and completed a revised Startup/Shutdown/Malfunction Plan. Prepared the annual Greenhouse Gas submittal.
• Conducted air permitting for a new emergency generator at FOBRL and a new fire pump at Davis Library. Renewed the Landfill Gas to Energy air permit.
• Conducted monthly maintenance and sampling at the Mason Farm low-level radioactive waste site and Airport Road waste disposal area and prepared an annual report documenting conditions at the sites.
• Conducted permit required sampling at the Bingham Facility wastewater system. Submitted monthly and annual reports to regulators.
• Applied for and received a buffer authorization permit from NC DEQ for the Finley Fields North Project.
• Completed an Environmental Assessment/Finding of No significant Impact document for the Central Campus Athletic project.
• Received Finley Fields South Project’s reclaimed water permit modification from NC DEQ.
• Applied for and received erosion and sedimentation control permits from NC DEQ for the Finley Fields North project, the Airport Solar project and the Central Campus Athletic project.
• Submitted the HMF stormwater permit renewal application to NC DEQ.
• Submitted the campus-wide NPDES Phase II annual stormwater permit report and the campus-wide NPDES Phase II stormwater permit renewal application to NC DEQ.
Modern hallways are engineered to be protected corridors in the event of an emergency. Their width is calculated for the building’s use and occupant load and their construction is designed to withstand fire and prevent the spread of smoke. However, as there is always a demand for space a variety of items get placed in the hallways reducing their effectiveness as safe passageways.

In 2017, Fire Safety rolled out an ambitious initiative to clear the hallways on campus. As Fire Safety completed building inspections on campus, one of the most glaring issues was the amount of storage in hallways. Whether the items were abandoned, being stored in the hallway, or the hallways were makeshift work or break spaces, the items in place created a life safety issue.

The University has a policy addressing clear hallways, but an effective educational program and customer-focused enforcement was needed. With that goal in mind, Fire Safety began promoting a “Clear Hallways for Life Safety” program: Social media, posters and flyers, mailings, emails, an outreach table, and a public safety announcement video were all created, and a pilot program was tested later in the academic year in collaboration with the Lineberger Cancer Research Center. The program received excellent feedback about the process and the results.

The “Clear Hallways for Life Safety” initiative is a multistep process. Fire Safety announces a date early each month and Fire Safety team members canvass the hallways on that date looking for unsafe practices. Items are flagged, contact with the owners is
attempted, and there is a documentation procedure. Thirty days later, the building is re-inspected, and items that have not been removed are sent to the University’s surplus store.

The “Clear Hallways for Life Safety” program will be promoted across campus in 2018 to keep UNC- Chapel Hill students, staff and faculty safe and healthy.
Performance Chart

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Compliance
Performance Activities

Education

- Held annual fire safety fair in collaboration with UNC-CH Police, Chapel Hill Fire Department, Carolina Dining Services and Orange County Emergency Services to develop on-going fire safety relationships with students and provide hands-on training.
- Performed more than 300 fire drills for UNC-CH buildings.
- Trained 1,226 students and staff on fire safety and fire extinguisher use.
- In partnership with Chapel Hill Fire Department, hosted a Fire and Life Safety Educator Level Two course for internal and external candidates.
- Participated in training for new officers at the Chapel Hill Fire Department.
- Presented a seminar at the 2017 Campus Fire Safety Forum on the benefits of an accreditation process for campus fire safety authorities.
- Provided more than 24 hours of training to members of the UNC-CH Emergency Response Team.
- Provided eight hours of hazardous materials response training to EHS employees to fulfill annual refresher requirements.

Customer Service

- Provided fire safety coverage to seven home football games, 15 home men's basketball games, and the men's basketball national semifinal and championship game events at the Smith Center.
- Provided fire safety coverage for performances at Memorial Hall, special events with the Chancellor and numerous other campus events.
- Inspected 35 dining facilities cooking hoods.
- Provided life safety recommendations and monitored the annual Fall Festival.
- Participated in pre-planning committee meetings for the Chapel Hill Fire Department.
- Inspected 7,000 campus fire extinguishers.
- Entered into an agreement to provide fire safety services to the North Carolina State Educational Assistance Authority.
• Responded to 37 reports of gas or burning odors in University buildings.
• Installed 11 emergency Knox boxes and worked with Facilities Services to include at least seven additional Knox Boxes on 2018 capital construction projects.

**Internal Processes**

• Investigated an elevator motor fire (Carmichael Resident Hall), several cooking fires (Taylor Resident Hall, Ram Village 3) and a roofing construction fire (Cheek Clark).
• Provided two work-study students an opportunity to learn about fire safety and how to operate fire extinguishers, while freeing staff for other critical responsibilities.
• Investigated and documented 231 false fire alarms during calendar year 2017, a decrease of 2% from 2016.
• Tested fire alarms in 265 buildings.
• Surveyed 285 buildings to designate emergency evacuation points in support of the Emergency Action Plan Project.
Occupational and Environmental Hygiene

Collaboration at Its Best

The UNC-Chapel Hill School of Dentistry value statement proclaims “passionately serving our people, our community, our field through inclusiveness and beyond excellence.” The School meets this statement through more than 117,000 annual patient visits in the three clinic settings. To meet the patient demand and move beyond excellence, the school replaced components of the vacuum system used to provide suction during dental procedures. The new equipment requires specific preventative maintenance procedures, which is the responsibility of Facilities Services. Additionally, the EPA “Dental Rule” outlines proper handling of mercury amalgam waste from dental procedures, and in 2020 will require the installation of mercury amalgam separators in the vacuum system. To meet the new challenges, the department of Environment, Health and Safety (EHS) initiated the development of a multifunctional team to address the preventative maintenance and mercury handling concerns.

The first goal was to develop a charter to provide the framework for the team’s objective and deliverables. The objective of the group is to review the use of mercury amalgams and maintenance work on the vacuum system at the School of Dentistry to ensure safe handling and proper disposal of amalgam waste and provide a safe working environment for employees. The team consists of members from Occupational and Environmental Hygiene, Workplace Safety, Chemical Safety, Facilities Services Maintenance and
Facilities Services Engineering Services. The formation of the team will result in a safe work environment for employees working on the vacuum system and will ensure regulatory compliance.

To ensure a safe work environment, EHS conducted a personal protective equipment (PPE) assessment for vacuum system work to protect employees from mercury exposure until monitoring results were available. EHS adjusted the PPE requirements as monitoring results were obtained for various tasks. EHS also implemented a job safety briefing form to be completed prior to working on the vacuum system. This proactive tool provides the opportunity to discuss safety concerns and procedures, outline PPE requirements and identify hazards and controls prior to performing a specific task. EHS and Facilities Services Maintenance also collaborate on the development of job safety analyses (JSAs) for preventative maintenance activities and fine tune the JSAs once the activities are performed.

Facilities Services’ Maintenance team members provide valuable hands-on insight about the system, as they are the ones that work with the system daily. They provide feedback on the status of the system and the action items required to maintain the system for short and term goals. Engineering Services’ team members provide the technical expertise on how the system operates and improvements required for the system to function as designed.

The ultimate deliverable of the EHS and Facilities Services collaborative effort is a system description of the School of Dentistry’s vacuum system. The document will describe how the system works along with piping and instrumentation diagrams and include preventative maintenance JSAs with the proper PPE and waste disposal procedures required for the tasks. The team hopes this approach sets the precedent for establishing multifunctional teams to proactively tackle the challenges of maintaining a new system after the equipment becomes the responsibility of the University.
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**Compliance**

Performance Activities

Education

- Trained 586 employees from Maintenance, Housekeeping and Design and Construction Services on asbestos awareness through online and in-class training.
- Trained 146 employees from Maintenance and Design/Construction Services on OSHA Lead-in Construction Standard through in-class and online training.
- Trained 514 employees enrolled in the Hearing Conservation Program on Occupational Noise Safety through in-class and online training.
- Developed and implemented online confined space awareness training for employees from Facilities Services and Energy Services.
- Trained 10 employees from Facilities Services on confined space awareness via online training.
- Trained 269 employees from Facilities Services, Energy Services and UNC Police on confined space via in-class and online training.
- Trained 27 employees from Facilities Services, Energy Services and EHS on confined space job-specific protocols.
- Trained 150 employees from Facilities Services and Energy Services on lockout/tagout through online training.
- Trained 10 UNC-TV safety supervisors on the online Hazards Management Plan system.
- Outlined the implementation of NFPA 70E requirements on UNC-CH’s campus with safety consultant from the North Carolina Office of State Human Resources and other UNC campus safety representatives.
- Presented mercury cleanup procedures to 20 members of the EHS Emergency Response team to limit contamination during a response.

Customer Service

- Conducted 80 lead and asbestos inspections, including building and material testing to support in-house maintenance and construction activity.
• Conducted monitoring for asbestos during 10 internal small-scale removal and clean-up projects performed by the Insulation Shop.
• Performed personal and area noise-monitoring assessments for Morehead Labs, Michael Hooker Research Center, Service Center of Excellence, and Dental School ME rooms during noise generating work activities or in response to noise concerns.
• Coordinated mobile hearing tests for 227 employees enrolled in the Hearing Conservation Program, saving $5.5K for the tested departments.
• Participated in the planning, review and implementation of 39 environmental remediation projects involving asbestos, lead, and mercury abatement. Multiple projects involved mold remediation. As CIP representatives of EHS, several projects included the selection of architectural and engineering firms.
• Provided support to the confined space program by auditing entry forms, recommending confined space entry equipment, reviewing the confined space response contract with South Orange Rescue Squad and planning the annual confined space drill.
• Conducted heat stress monitoring for worker in utilities tunnel at Woollen Gym in response to employee visit to the UEOHC.
• Assisted UNC-TV with the development of their health and safety program by training employees on the online Hazards Management Plan (HMP) system, reviewing submitted HMPs, conducting HMP inspections at two sites and attending two safety committee meetings.
• Met with IT employees in support of the Neutral Hosting/Distributed Antenna System (DAS) initiative to discuss revised RF assessments, card reader access to DAS building roofs and construction documents for the next phase.
• Performed 29 indoor air-quality investigations within various campus buildings and responded to 24 odor complaints and recommended response actions.
• Responded to 148 flood events, two of which were black water events. Assisted Building Services in determining the extent of the water damage.
• Investigated 19 instances of mold contamination and recommended remediation protocols.

**Internal Processes**
• Provided four mercury and asbestos abatement design specifications, including provision of a written scope of work, contractor pricing and hiring of the abatement contractor and consultant for Facilities Services, saving $65,000 for Facilities Services’ clients.
• Provided mercury assessments and mercury cleanup guidance for five laboratory renovation projects and spill responses.
• Conducted 47 Hazard Management Plan inspections for Facilities Services, Energy Services and departmental shops throughout campus. Many inspections included the development of JSAs.
• Prepared 2017 assessment of spray-applied ceiling material at Carrington Hall.
• Participated in OSHA inspection at Cogen and assisted in implementing corrective actions.
• Developed JSA for PCB program to ensure environmental compliance.
• Participated as a member of the Dental School Mercury committee to address concerns associated with maintenance of the vacuum system. The committee developed a charter and scheduled weekly meetings.
• Developed PPE Assessment, Job Safety Briefing and conducted monitoring for mercury during work on the Dental School vacuum system.
• Developed action plan for implementing OSHA crystalline silica requirements, presented requirements to FS management and sent out a questionnaire to determine use on campus.
Radiation Safety

Supporting UNC Institutions

The Radiation Safety section provides radiation safety services to other University of North Carolina system institutions that do not have the expertise to handle some program requirements or the budget to hire consultants. This benefits the UNC system with cost-savings realized by smaller campuses, as well as helping the smaller campuses maintain compliance with regulatory requirements. The ability to provide radiation safety services is requested for and approved by the regulatory agency through radioactive materials licenses. Additionally, the Radiation Safety staff provide expertise and support for issues regarding potential exposure to non-ionizing radiation.

In 2017, services were provided to Gateway University Research Park (UNC-G and NC A&T), Western Carolina, Appalachian State, UNC-Greensboro, UNC-Charlotte, NC A&T, UNC Pembroke, NCCU, UNC-TV and WUNC Public Radio. Services included radiation detector calibrations, X-ray machine surveys, radiation protection program reviews, laser safety program and training, radioactive materials disposal recommendations and risk communications to a childcare facility near a radio transmission tower.

Radiation detector calibration services covered as many as 38 survey meters, while program reviews require full audits of programs resulting in a report providing non-compliance items and recommendations for improvements. These types of reports are required of the other campuses by the North Carolina Radiation Protection Section. The UNC-Chapel Hill Radiation Safety staff is dedicated
to supporting the University of North Carolina system.

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**Compliance**
**Performance Activities**

**Education**

- Administered radiation safety training courses to 2082 persons and non-ionizing radiation safety training to 631 persons.
- Taught Radiologic Health Physics course (RADI-585) for UNC Allied Health Sciences.
- Provided lectures for the Chemistry Department’s (CHEM-073) Nuclear Chemistry Class.
- Provided a lecture for the Epidemiology Class (EPID-785) on Radiation Dose Assessment.
- Provided a lecture for the Health Effects of Environmental Agents (ENVR-430) course.
- Provided a lecture for the Health Hazards of Industrial Operations (ENVR-433) course.
- Hosted eight Nuclear Medicine Technology students for two-week rotations through radiation safety as part of the NMT didactic program.
- Annual radiation safety class was given in August to incoming Biological and Biomedical Sciences Program PhD students.
- Annual radiation safety class was given in May to incoming Summer Undergraduate Research Experience Program students.

**Customer Service**

- Services were provided to the hospital and patients for 177 radiation-related procedures.
- Radiation instrument calibration services were provided for 249 instruments.
- Inspected and tested 206 X-ray tubes.
- Monitored 1,181 persons for external radiation exposure.
- Conducted 68 bioassays for potential internal radiation exposure.
- Provided 593 collaborative laboratory inspections.
- Conducted 485 radiation safety laboratory inspections.
- Coordinated with DLAM, SOM administration, researchers, and vendors to repair a gamma irradiator that was out of service interrupting time-sensitive research.
- Provided radiation safety services (including instrument calibration and/or annual program reviews) to sister campuses in the
UNC system (Appalachian State, UNC Greensboro, Gateway University Research Park, Western Carolina, NC A&T, and North Carolina Central).

- Provided free materials to PI's including lead sheets and bricks, Geiger counters or parts, and multiple pieces of plexiglass shielding.

**Internal Processes**

- Received, processed, and delivered 385 containers of radioactive materials for principal investigator research.
- Processed four applications for new source licenses for new faculty members.
- Processed 18 applications for license modifications for faculty members.
- Reviewed 26 Institutional Review Board research protocols utilizing radioactive materials for human use.
- Administered eight quarterly hospital and campus radiation safety committee meetings to review and approve research and clinical use of radioactive materials and to review employee radiation dose information.
- Amended the UNC-CH and UNC Healthcare radioactive material licenses three to accommodate research and clinical use of radiation and radioactive materials.
- Participated in planning and design activities for Cryo-electron microscope facility.
- Conducted required annual radiation protection program review for eight licenses and 21 X-ray registrations, including all off-site locations.
University Employee Occupational Health Clinic

UEOHC and School of Dentistry Collaborate to Improve Compliance

Compliance with medical surveillance and incident investigation are integral to providing a safe workplace not only for employees but patients. To facilitate those efforts, the School of Dentistry asked the UEOHC to partner with them to evaluate their internal protocols and procedures and enhance compliance efforts.

Under the University’s medical surveillance program, employees working in or entering a healthcare environment are required to have a complete immunization review in accordance with CDC/HICPAC Guideline for Infection Control in Health Care Personnel. The main purpose behind the University’s medical surveillance program is to reduce and/or eliminate employee susceptibility to occupational hazards in a healthcare environment. The School of Dentistry (SOD) and UEOHC identified some inconsistencies in internal communication guidance to employees. As a result, communication clarifications were implemented and disseminated to new faculty and staff and those currently out of compliance with University procedures.

The second compliance collaboration project involved exposures-reporting education for employees. Incident investigation of an exposure is critical to post-exposure prophylaxis (PEP) treatment plans and future mitigation of hazards. If an employee is involved in an exposure, it is crucial that the employee take immediate steps to care for the exposure site. The second priority is the
timeliness of reporting the exposure incident to the UEOHC. For all parties involved in the exposure incident it is imperative to appropriately evaluate the exposure to determine the risk associated with the exposure. There are four key characteristics the UEOHC examines: type of exposure; infection status of source; substances posing risk; and susceptibility of employee exposed.

This collaborative review process was extremely fruitful and identified several educational gaps to which further materials were developed. Additionally, the SOD created a new position, Director of Clinical Compliance, to not only strengthen internal protocols but solidify an on-going partnership with UEOHC to enhance continuous compliance.
Performance Chart

Performance measurement is a critical part of the EHS management system. Education, customer service and internal processes are the three most essential components of our work. The chart below indicates the performance in these areas over a five-year period with Level Four representing optimum performance. The adjacent tab shows the specific performance activities and the level of that performance for 2016.

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Compliance
Performance Activities

Education

• Provided education to 37 faculty and staff traveling abroad for University business.
• Precepted senior nursing student from the Accelerated BSN program.

Customer Service

• Fit-tested and provided consultative services for 555 individuals under the University’s Respiratory Protection program.
• Provided occupational health medical services for 4,284 employees.
• Provided on-site flu shots for Carolina Living and Learning, Chancellor’s office, Internal Medicine, and various other off-site medical locations.
• Conducted medical surveillance and fit-testing for incoming School of Medicine new Clinical Fellows.

Internal Processes

• Reviewed 1107 IACUC Animal Handler Symptom reviews.
• Reviewed and updated clinical Bloodborne Pathogen, Tuberculosis, and Infection Control training materials.
Workplace Safety

OSHA Revises Walking-Working Surface and Fall Protection Standards

Falls from heights and on a working surface continue to rank third in workplace fatal incidents in the state of North Carolina. To better protect workers, OSHA has revised the Walking, Working Surface Standard by providing clarification and updating to current technology and industry best practices. The main benefit to the general industry is that it provides employers with the flexibility of selecting the best fall protection system versus the mandate for guardrails systems which may not be the most appropriate in all situations. Additionally, there is better alignment of 1910 General Industry and 1926 Construction Industry standards when some employers, like UNC, perform both types of work activities.

EHS developed a new training program and trained more than 500 employees including some staff from UNC-TV. The training consisted of a side-by-side comparison of the old language to the updated version of the standard, which emphasized clarification, flexibility and prevention. An important example is the revised standard for parapet walls. To eliminate confusion on how to calculate if a parapet wall met compliance, OSHA has now standardized parapets to be 42 inches, plus or minus three inches. This aligns with any guard rail safety requirements. OSHA flexibility was introduced with terms on temporary or infrequent requirements for designated areas on low or flat slope roof access. The revised standard now allows employees to access the area if six feet to 15 feet is maintained from the roof’s leading edge. The most significant change that will heighten prevention is the
requirement that a hazard assessment must be performed by the supervisor prior to the job task. This hazard assessment will assist supervisors in pre-job briefings and to formulate a more in-depth Rescue Plan versus just a statement to call 911. Although fall protection has been a priority for the University, EHS believes the revision to the Walking-Working Surface and Fall Protection standards will not only facilitate clearer communications regarding regulations but improve prevention by other campus units.
**Performance Chart**

Performance measurement is a critical part of the EHS management system. Education, customer service and internal processes are the three most essential components of our work. The chart below indicates the performance in these areas over a five-year period with Level Four representing optimum performance. The adjacent tab shows the specific performance activities and the level of that performance for 2016.

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**Compliance**
Performance Activities

Education

- Trained/Number of Employees:
  - Respiratory Protection: 1,323
  - EHS Office, Clinic, IMAC, SS, Student Affairs: 4,516
  - Joint Commission: 4,233
  - Clinical Tuberculosis Infection Control: 6,425
  - Clinical Bloodborne Pathogens: 6,205
  - Ergonomic Self-Evaluations: 44.

- Provided the following training: CPR/AED, PPE, Machine Guarding, Ladder Safety, HMP plans, Bloodborne Pathogen, Scissor Lift, Hazardous Materials.

- Provided Manual Propelled Lift training for 51 “For the Kids” Dance Marathon student fundraising, 50 for Memorial Hall, 6 for Student Union.

- Provided UNC Electrical Safety/NFPA 70 E compliance initiatives to OSHR, NCCU and Pembroke University.

- Developed and provided training on OSHA’s revised Fall Protection standard.

- Provided ergonomic training for department of Comparative Medicine seminar.

- Provided Fall Protection training for UNC-TV staff.

- Created the following JSAs: HMF Can Crusher; SOD Changing Hg Container, SOD Clearing Hg Contaminated Lines; Motor Scrubber Operation; Hydraulic Press, Hilt K-12 Concrete Saw; General use of Power Tools.

- Provided healthcare compliance training to FS/BS, Nephrology, SOD, Emergency Medicine, Neurosurgery, Allied Health and Ortho.

- Provided training regarding various compliance items for SOM and UNC Healthcare medical providers.

Customer Service
• Processed and managed 492 workers’ compensation claims with medical treatment, return to work, hearings/mediations and monthly expenditures.
• Conducted on-site inspections of 164 Hazards Management Plan (HMP) for numerous campus units and entered HMPs for work unit in the online HMP system.
• Evaluated and reviewed the following construction projects: Med Wing E&F Project, Eddie Smith Field House, Wilson Library, Morehead Planetarium, Hamilton Hall, McColl, Morehead Chemistry, Hanes Art and New East.
• Evaluated and prepared report on dust collection system for carpentry shop.
• Assisted Campus Health Services regarding coding of healthcare personnel, respiratory protections and UEOHC billing for staff.
• Provided consultative services regarding the following projects/events: EHS Hazardous Waste Facility, Bowman Gray Pool, Davie Hall, Facilities Construction shops, ROTC, ITS Franklin; Cadaver Lab, Koury Dental, Memorial Hall, Wilson Library and Friday Center.
• Investigated the following Hazard Hero submissions: Broken steps by Thurston Bowles, slippery storm drain at Hamilton Hall, broken steps by Fordham Hall; and damaged signs at Cardinal Deck.
• Prepared and distributed safety alert for Powdered Medical Glove Alert.
• Assisted Archeology department with safety questions and development of Hazards Management Plan.
• Assisted payroll with out of State Workers’ Compensation coverage.

**Internal Processes**

• Investigated 77 incidents: falls, equipment, PPE, materials handling, strains, and stuck in/between objects, etc.
• Implemented modifications to training requirements for the School of Dentistry project.
• Consulted with UNC General Administration regarding workers’ compensation and safety questions.
• Continued consultation with UNC Healthcare LMS course designer regarding content of courses that affect School of Medicine employees, requirements, and database sharing to improve customer services.
• Prepared and submitted OSHA 300A and other various OSHA random surveys.
• Consulted with UNC-TV on the development of the Tower Climbing policy.
• Prepared trending analysis based on injuries/near misses for Facilities Services.
• Developed an action plan for the implementation OSHA's new Crystalline Silica standard. Evaluated tools currently used that may be impacted by the standard.
• Prepared Job Safety Analysis development and internal approval process flow procedure.
• Prepared injury/illness/near miss investigation process flow procedure.
Risk Management

Are you traveling internationally under the auspices of UNC? If so, did you know that there are two mandatory travel requirements for faculty, staff and students?

1. Enter your itinerary in the Global Travel Registry, a site that is maintained by the Provost’s office for emergency communications.
2. Obtain GeoBlue insurance coverage through the Risk Management Office.

The GeoBlue policy provides accident and sickness coverage, including pre-existing conditions, along with medical evacuation and repatriation of remains. It is primary coverage with a no deductible. Political, security and natural disaster evacuation coverage is also included.

There is no trip cancellation or lost baggage coverage keeping the daily rates low for the group, and personal effects are not insured under this policy.

Accessing the insurance: Once the coverage has been requested, you will receive an email from GeoBlue with instructions for registering and accessing the website for printing you own ID card. This ID card will be required for any medical assistance while you are abroad. A mobile app is also available for downloading after registering on the GeoBlue website.
GeoBlue’s Global Health Team and Customer Service are available 24/7. Contact information is provided on the ID card.

**Performance Activities**

**Education**

- Presented at the Study Abroad Pre-Departure Conference for spring semester students.
- Provided study abroad coverage training for the new Kenan-Flagler STAR Program Assistant.
- Hosted a risk management Lunch and Learn conference call with School of Dentistry, agents, Department of Insurance and Broker and Fortress Insurance Company.
- Trained Friday Center employees on contracts and certificates related to risk management.
- Participated in the University Business Managers Lunch and Learn pertaining to the changes of new employee orientation: “Welcome to Carolina Blue, Your Journey Starts Here.”

**Customer Service**

- Renewed automobile liability and other optional physical damage coverage for 1,333 vehicles, which includes self-propelled mobile equipment.
- Managed 74 automobile claims.
- Uploaded 1,485 rosters of approximately 4,922 participants in the Study Abroad/Business Travel Program – Outbound group.
- Uploaded 68 rosters of approximately 176 J1 participants and dependents in the International Scholars Program – Inbound group.
- Renewed Property Insurance Coverage, which includes $6,579,905,024 in building and content values.
- Renewed All Risk coverage which includes $14,175,208 in values.
- Renewed Professional Liability coverage for 14 Schools and various individuals.
- Implemented the first Cyber Liability Policy for the University.
• Settled or managed various property claims:
  ○ Property Damage caused by vehicle (22)
  ○ Camper Accident (4)
  ○ Vandalism (5)
  ○ Employee Dishonesty (1)
  ○ Fire (8)
  ○ Wind (1)
  ○ Water Damage (7)
  ○ Sprinkler (2)
  ○ Theft (2)
  ○ Tort Claim (1)
  ○ Student Blanket Professional Liability Med Pay (1)

• Onsite inspection with AIG Loss Control of University contents located at Duke Library Center Storage Facility.

Internal Processes

• Met with University Human Resources and Workers' Compensation representatives to discuss developing procedures confirming the purchase of Workers' Compensation for out-of-state employees.

• Discussed insurance programs offered with the new director of the University Office of Diversity and Inclusion.

• Discussed insurance programs offered with the new director of the Carolina Center for Public Service.

• The Facility Use stakeholder met with new the director of the Property Office to explain our specific roles in the facility-use agreement process.

• Attended quarterly meetings with the Hazards Management Committee.

• Met with Carolina Performing Arts representatives to discuss adding property insurance coverage for their move to Carolina Square.

• Met with department of Computer Science representatives to discuss the University property insurance program.

• Met with Student Affairs and University Counsel representatives to discuss the future of SHAC liability coverage and other liability options available to our students.
University Safety and Security Committee (USSC)

State regulations require each state agency (including universities) to create health and safety committees to perform workplace inspections, review injury and illness records, make advisory recommendations to the administration, and perform other functions determined by the State Personnel Commission to be necessary for the effective implementation of the State Workplace Requirement Program.

The USSC is responsible for reviewing and approving each of the workplace safety committee’s recommended safety policy and procedures. Once approved, the recommendations are forwarded to the Chancellor for approval before implementation.
Jonathan Pruitt
Chair, Safety and Security Committee; Vice Chancellor, Finance and Operations

Derek Kemp
Assistant Chair, Safety and Security Committee; Associate Vice Chancellor, Campus Safety and Risk Management

Lorraine Alexander
Chair, Laboratory and Chemical Safety Committee; Clinical Associate Professor, Department of Epidemiology

Linc Butler
Associate Vice Chancellor, Office of Human Resources

Winston Crisp (delegated to Chris Payne)
Vice Chancellor, Student Affairs

Doug Cyr
Chair, Institutional Biosafety Committee; Professor, Cell & Development Biology

Beverly J. Errede
Co-Chair, Radiation Safety Committee; Professor, Department of Biochemistry and Biophysics

Judy Faubert
Assistant University Counsel

Craig Fletcher
Director, Laboratory Animal Medicine

Matthew Hawkins
Chair, Occupational Health and Clinical Safety Committee; HR Data & Reporting Manager

David Kaufman
Co-Chair, Radiation Safety Committee; Professor & Vice Chair, Research Development

Mary Beth Koza
Director, Environment, Health and Safety

**Terry Magnuson (delegated to Craig Fletcher)**
Vice Chancellor, Research & Economic Development

**Jeff McCracken**
Chair, Campus Personal Safety Committee; Director, Public Safety

**Chris Payne**
Associate Vice Chancellor, Student Affairs

**Mitchell Picker**
Chair, Institutional Animal Care and Use Committee; Professor, Department of Psychology

**Paul Pogge**
Associate Athletics Director

**Michael Rolleri**
Chair, Hazards Management Committee; Associate Professor, Center for Dramatic Art

**Dalton Sawyer**
Business Resiliency Leader, UNC Health Care

**Anna Wu**
Associate Vice Chancellor, Facilities Services

**Committees**

**Laboratory and Chemical Safety Committee**

This committee focuses on the receipt, usage, storage, and disposal of chemicals along with the emerging issues of health and safety.
in the laboratory environment. The laboratory work environment consists of those work units that are subject to the OSHA Laboratory Standard and laboratory EHS issues not pertaining to biological safety or radiation safety. The Lab Safety Committee is responsible for reviewing safety and health policies and procedures, reviewing incidents involving work-related fatalities, injuries, illnesses or near misses related to laboratory and chemical safety, reviewing employee complaints regarding safety and health hazards, analyzing work injury and illness statistical records related to laboratory and chemical safety, conducting inspections of laboratories and worksites utilizing chemicals at least annually and in response to complaints regarding safety or health hazards, reviewing training records related to laboratory and chemical safety, conducting meetings at least once every three months, and maintaining written minutes of such meetings.

2017 Accomplishments

- Implement Safety Supervisors subcommittee recommendations: training, annual meeting, FAQ, and/or incentives. (Continue in 2018.)

- Examine historical injury data for cut/puncture and needle stick to target injury reduction and disseminate information using various modes of communication (updating trainings, safety fairs, posters, newsletters, etc.) (Continue in 2018 - look for other universities and how they have dealt with or decreased)

- LCSC definition of lab safety culture and logo. (Completed)

2018 Goals

- Distribute lab safety info by providing opt-in as part of LSP certification so all researchers receive info.

- Participate in Lab Safety Fair, demos to address cut/puncture, vendors, Chem Safety class involvement.

Committee Members

Lorraine Alexander
Clinical Associate Professor, Epidemiology; Chair, Laboratory and Chemical Safety Committee

**Pat Boone**
Assistant Director, UNC Healthcare Environmental, Health and Safety

**Cathy Brennan**
Chemical Hygiene Officer, Environment, Health and Safety

**Nita Eskew**
Director of Undergraduate Labs, Chemistry

**Anthony Hackney**
Professor, Physiology and Nutrition, Exercise and Sport Science

**Michael Liang**
Graduate Student, Chemistry

**Rihe Liu**
Associate Professor, Medicinal Chemistry & Natural Products, Pharmacy

**Todd O'Buckley**
Research Specialist, Alcohol Studies Center

**Jim Potts**
Associate Chemical Hygiene Officer, Environment, Health and Safety

**Kathryn Reissner**
Assistant Professor, Psychology

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Institutional Biological Safety Committee
The IBC is responsible for the oversight, administration, and review of UNC-CH Lab policies and projects involving research with rDNA and hazardous biological materials that may pose safety, health, or environmental risks. To this end, the IBC assists and advises Principal Investigators and other researchers in meeting their responsibilities to ensure that the biological aspects of the research are conducted in a safe manner using established biosafety standards, principles and work authorization. Safe research includes worker safety, public health, agricultural and environmental protection, ethics, and compliance with applicable biosafety standards and UNC-CH policies.

2017 Accomplishments

- Continue the review of the IBC policies and procedures for compliance and efficiency. (Completed)
- Work with UNC-CH IT to improve the IBC form submittal and approval process. (Completed)

2018 Goals

- Perform a comprehensive IBC self-assessment using the “Self-Assessment Tool for Institutional Biosafety Committees and Programs of Oversight of Recombinant or Synthetic Nucleic Acid Research” provided by the NIH.

Committee Members

Doug Cyr
Chair, Institutional Biosafety Committee; Professor, Cell & Development Biology

Victoria Baxter
Assistant Professor, Division of Laboratory Animal Medicine

Sandra Bradshaw
Laboratory Manager, Orange Water & Sewer Authority

Peggy Cotter
Professor, Medicine, Microbiology and Immunology

Garry Coulson
Biological Safety Officer, Environment, Health and Safety

Aravinda Desilva
Professor, Medicine, Microbiology and Immunology

Craig Fletcher
Director, Division of Laboratory Animal Medicine

Mary Beth Koza
Director, Environment, Health and Safety

Stanley M. Lemon
Professor, Medicine, Microbiology and Immunology

Ann Matthysse
Professor, Biology

Barry McLamb
Emergency Management Coordinator, Town of Chapel Hill

Judith Nielsen
Professor, Laboratory Animal Medicine

Barbara Savoldo
Research Professor, Pediatrics, Hematology and Oncology

Amy Sims
Research Assistant Professor, Epidemiology
Occupational Health and Clinical Safety Committee

This committee focuses on Occupational Health services for University personnel and the emerging issues of health and safety for employees working in the clinic environment. The clinic work environment is primarily characterized by activities involving patient contact and exposure to blood or other potentially infectious materials. The clinical work environment frequently has additional health and safety requirements imposed by accreditation organizations, such as the Joint Commission.

2017 Accomplishments

- Reduction of OSHA recordable incidents through education, out-reach and training. (Ongoing)
- Increase awareness of reporting of incident and the reporting process. (Ongoing)
- Standardize the EHS/UEOHC on-boarding of HC Faculty. (Ongoing)
- Decrease noncompliance of New Employee Orientation training for HC employees. (Removed)

2018 Goals

- Improve onboarding of clinical employees across all professional schools within the University.
- Reduction of OSHA recordable by 10 percent through education, outreach and training in select schools.
- Review training requirements for New Employee Orientation–Clinic, identifying areas of improvement.

Committee Members

James Hawkins

HR Date/Reporting Manager, Medicine Administration; Chair, Occupational Health and Clinical Safety Committee

Deb Bergman

Worker’s Compensation/Clinical Hygienist, Environment, Health and Safety

Faith Burks
Human Resources, School of Nursing

**Benny Burton, Sr.**
Facility Maintenance Technician, Facilities Services, Building Services

**Mary Crabtree**
Workplace Safety Manager, Environment, Health and Safety

**Abby Fisher**
Business Manager, Obstetrics and Gynecology

**Martin Folliard**
Director of Risk Management and Compliance, School of Dentistry

**Cheryl Henderson**
Nurse Manager, Family Medicine

**James Hill**
Clinical Assistant Professor, Physical Medicine/Rehabilitation, Medical Director-UEOHC

**Ryan Meehan**
Environment of Care Manager, Campus Health Services

**Jennifer Rees**
Nurse Supervisor, TraCS Institute

**John Sledge**
Human Resources, Pediatrics

**Annetta Streater**
Director of Patient Relations, Clinical Affairs

**Charlene Womble**
Administrative Specialist, School of Nursing
Clinical Occupational Exposure Subcommittee

The mission of the Clinical Exposure Subcommittee is to identify and address clinical occupational hazards that undergraduate and professional students are exposed to as part of their clinical training. This subcommittee reports to the Occupational Health and Clinical Safety Committee.

Subcommittee Members

Meg Beal
   Physician’s Assistant Program

Susan Beck
   Allied Health Sciences

Jennie Brame
   Dental Ecology

Alan Brown
   AHEC

Michelle Camarena
   Campus Health Services

Thevy Chai
   Campus Health Services

Ann Chelmski
   Campus Health Services

Andrew Clapper
Pharmacy

Kayla Conley
Allied Health Sciences

Susan Coppola
Occupational Therapy

Georgette Dent
Medicine

Marty Folliard
Dentistry

Melody Gibson
Campus Health Services

James Hill
Medicine

Jane Kerwin
Nursing

Mary Beth Koza
Environment, Health and Safety

Carol Kozel
Campus Health Services

Bernice Mayo
Medicine

Dana McCarty
Physical Therapy
Kathy Moore  
Nursing

Martha Mundy  
Audiology

Andrew Murrell  
Nursing

Joy Renner  
Radiologic Science

Wendy Ross  
Allied Health Sciences

John Schimmelfing  
Campus Health Services

Judy Schmidt  
Rehab & Mental Health Counseling

Hannah Siburt  
Audiology

Elizabeth Steadman  
Medicine

Laine Stewart  
Allied Health Sciences

Annetta Streater  
Dentistry

Mercedes Tolbert
Pharmacy (Asheville)

Sandra Void
Laboratory Science

Jessica Ward
Nursing

David Weber
UNC Hospitals

Tracy Williams
Dentistry

Peggy Wilmoth
Nursing

Brad Wingo
Pharmacy

Hazards Management Safety Committee

This committee focuses on the emerging issues of health and safety for employees working in the office, support services, and industrial, maintenance/construction work environments. The support services work environment consists of activities that are conducted outside of the office environment, usually involve public contact and may involve hazardous materials. These environments can include the Department of Public Safety, Department of Environment, Health and Safety, Material Support, and Housekeeping. The industrial, maintenance and construction work environment consists of those work units whose primary activities are performed at various locations around campus and at fixed locations, using industrial-type machines and equipment. These units include Facilities
Services, Electrical, Plumbing, HVAC Shops, Grounds, Athletics, Finley Golf Course operations, and Electronics Office Service Center and some academic shops.

2017 Accomplishments

- Successfully implemented safety suggestion boxes throughout the campus community. (Completed)

2018 Goals

- Promote continuous awareness on the importance of proper PPE use.
- Increase awareness on ways to prevent slips, trips and falls with handouts and at UNC safety fairs.

Committee Members

Michael Rolleri
Chair, Hazards Management Committee; Associate Professor of Dramatic Art

Brad Barnes
Energy Services

Robin Bennington
Risk Management Services

Christine Bhirdo
Assistant Operations Director, Laboratory Animal Medicine

Mary Crabtree
Workplace Safety Manager, Environment, Health and Safety

Lisa Daley
Human Resources Manager, Energy Services
Todd Going
Life Safety Services

Richie Grimsley
Athletics

Deborah Hawkins
Transportation and Parking

Mary Beth Koza
Director, Environment, Health and Safety

Tonya Miller
Laboratory Animal Medicine

Phillip Spangler
Law School

Neah Tucker
Environment, Health and Safety

Shawn Womack
Housekeeping Services

Radiation Safety Committee

The Radiation Safety Committee is responsible for establishing policies governing the procurement, use, storage and disposal of radioactive materials and radiation-producing devices. The Committee includes individuals experienced in the use or application of radioactive materials and radiation devices and provides a peer review of these uses among researchers at the University. The
Committee meets at least quarterly to review reports on the receipt and disposal of radioactive materials/radiation-producing devices, and to act on applications for authorization to use these sources. The Committee, along with its Chairman, is appointed by the Chancellor. It makes an annual report of activities to the Vice Chancellor for Finance and Administration.

2017 Accomplishments

- Monitor the design and startup of a new FDA-approved clean room at the Cyclotron facility for the production of human-use radiopharmaceuticals. (In process)
- Develop and apply for a Manufacturing and Distribution license for use at the Cyclotron facility. (In process)
- Monitor upgrade of RMS systems for irradiator facilities. (Completed)

2018 Goals

- Acquire a Manufacturing & Distribution License for Cyclotron facility.
- Renew radioactive materials license for UNC-Chapel Hill Nutrition Research Institute.
- Train UNC-CH police officers and UNCH Police officers on the use of personal radiation detectors.

Committee Members

David Kaufman
Co-Chair, Radiation Safety Committee; Professor & Vice Chair for Research Development

Beverly Errede
Co-Chair, Radiation Safety Committee; Professor, Biochemistry & Biophysics

Louise M. Ball
Professor, Environmental Science & Engineering

Marija Ivanovic
Clinical Associate Professor, Radiology

**Mary Beth Koza**
Director, Environment, Health and Safety

**Jian Liu**
Associate Professor, Medicinal Chemistry/Natural Products

**Jeff Sekelsky**
Associate Professor, Biology

**Roger Sit**
University Radiation Safety Officer, Environment, Health and Safety

**Rita Tamayo**
Assistant Professor, Microbiology and Immunology

**Mahesh Varia**
Professor, Vice Chair Department of Radiation Oncology

**Hong Yuan**
Director, BRIC Small Animal Imaging Facility
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Awards

2017 EHS Employee of the Year

David Catalano

David Catalano has been selected as the 2017 Employee of the Year for his dedication to the department and his role as Indoor Air Quality (IAQ) Expert. David works effortlessly with all groups across campus and takes pride in his work. Responding to IAQ concerns and working with Facilities Services to determine the best corrective actions can be challenging and rewarding at the same time. Identifying corrective actions that are timely and economically viable is David’s main objective for every IAQ report. David accepts new assignments with willingness and pride and does not hesitate to support or volunteer. He consistently offers his support and time to department activities and can always be counted on. He emulates the mission and values of the organization every day and seeks to provide high customer service. He is a perfect example of the EHS mottos “Be All You Can Be” and “Strive Towards Excellence.”

History of the Award

The Employee of the Year of Award was started in 2000 in recognition of an employee who met the mission of the organization and whose performance went above the norm. Former director Peter Reinhardt initiated the award. Beginning that first year, a traveling trophy was created and represents the past and future as the base of the trophy is the base of a lamp in the office of the first director of the department, Don Willhoit. The recipient is chosen by the director and emulates the values of the organization.

Core Values of the Department
• Be a safe haven of trust, respect and open communication.
• Foster constructive debate when appropriate.
• Be a resource for new ideas and innovation.
• Establish state of the art EHS protocols & procedures.

• Utilize time and resources efficiently.
• Value and encourage individual growth and development.
• Collaborate and support each other through the twists and turns.

2017 Innovation Award

Twitter Handle

Emily Powell implemented and moderates the UNC Fire Safety Twitter handle (@UNCFireSafety). This is intended to reach a different audience and launch Fire Safety into the future.

Fluoroscopy Training Requirement as Part of Credentialing

Bradford Taylor worked with Dr. Matthew Mauro, chair of the Department of Radiology, to incorporate Fluoroscopy Training as a credentialing requirement. This requirement will go a long way in bringing patient dose up to par with patient care, implementing best-management practices in the imaging industry and elevating UNC’s respect with the Joint Commission.

Innovation Award

In 2010, the department instituted an Innovation Award in order to emphasize the department’s core values and to support innovation in environment, health and safety processes, education and customer service.

• Utilize time and resources efficiently.
• Be a resource for new ideas and innovation.
• Establish state of the art EHS protocols & procedures.

Qualifications for the Award

• Contribute to the improvement of the environment, health, or safety at UNC.
• Be in the form of process, education, customer service, communication, policy, structure, or method.
• Be applied.
• Be in some stage of the process of activation, but does not necessarily have to be completed.
• Have been identified and approved by EHS management before implementation can begin.

2017 Collaboration Award

62nd Annual National Health Physics Society Meeting in Raleigh

Jonathan Moore, Mark Brueckner, Bradford Taylor, Steve Guarino, and Roger Sit

The EHS Radiation Safety office supported the North Carolina Health Physics Society’s local arrangement committee to host the 62nd Annual National Health Physics Society meeting in Raleigh. The team served on the program committee and the local arrangements committee to organize the technical program as well as the meeting at the Raleigh Convention Center. During the meeting, they served as proctors for multiple sessions and planned events.

Laboratory Safety Fair

Michael Burton, Steve Parker, Adam Swift, Jim Potts, Travis Wilson, Mike Novitsky

As a group, the team planned and implemented the Oct. 19, 2017, Laboratory Safety Fair. The goal of the fair was to enhance the safety culture at the University of North Carolina by focusing on UNC laboratory safety. This goal was accomplished by highlighting emerging safety technologies, facilitating hands-on training, and distributing information through exhibition tables and professional presentations. In addition, frequently asked questions were addressed to a large targeted audience.

High Containment Laboratory Shutdown

Environment, Health & Safety

• Jessica Poole
• Erika England
• Mary Beth Koza
• Chad Pleasants  
• Zach Blanchard  

Department of Epidemiology

• Amy Sims, Associate Professor  
• Ralph Baric, Professor  

Facilities

• William Robertson  
• Artie Neese  
• Lane Adams  
• Rod Rabold  
• Kyle Shelley

EHS, the Baric Lab and Facilities Services worked collaboratively in a highly orchestrated process to successfully perform decontamination procedures, shutdown, necessary maintenance while returning the lab online in two weeks. Strong teamwork by all parties allowed the lab to return to full operational activities with minimal disruption.

Collaboration Award

In 2010, the department instituted a Collaborataton Award in order to emphasize the department’s core values and to support the attribute of collaboration among EHS employees and between EHS employees and other University employees (or other groups or organizations).

EHS Core Values & Collaboration

• Value and encourage individual growth and development.  
• Collaborate and support each other through the twists and turns.
• Be a safe haven of trust, respect, and open communication.
• Foster constructive debate when appropriate.

Qualifications for the Award

The recipient must exhibit outstanding contribution to collaboration by fulfilling one or more of the following attributes:

• Agreement about objectives;
• Respect for specialist expertise of another person;
• Joint working, shared effort, shared responsibilities;
• Blurring of professional boundaries (no use of rank in process);
• Open and transparent lines of communication within groups and between people;
• Behavior that instills confidence and respect for others;
• Open and full discussions of all issues (no shortchanging of another person's idea); and,
• Empathy for others.
Appointments, Achievements and Presentations

Appointments

- Garry Coulson was named Biosafety Officer.
- Chad Pleasants was named Biosafety Specialist.
- Travis Wilson was named Hazardous Materials Specialist.
- Rashad Carlson was appointed UEOHC Administrative Assistant.
- Sarah Olejar was appointed UEOHC Occupational Health Nurse.
- Mary Beth Koza was appointed Executive Director - EHS/Risk Management.
- Roger Sit received a rank promotion to adjunct associate professor in the department of Environmental Science and Engineering, School of Public Health.

Achievements

- Jessica Poole was elected Secretary of the Carolina Biological Safety Association.
- Dr. Jim Hill completed his re-certification in Occupational Medicine from the American Board of Preventive Medicine.
- Dr. Jim Hill was named one of the 2018 Best Doctors in America.
- David Guynn received the Certified Emergency Manager designation from the International Association of Emergency Managers.
- David Guynn received the Certified Fire Marshal designation from the International Code Council.
• David Guynn was accepted to the Executive Fire Officer program at the National Fire Academy.
• Kitty Lynn completed Level II Fire and Life Safety Educator Course.
• Adam Swift completed Level II Fire and Life Safety Educator Course. Emily Powell completed the National Fire Academy Course: Hot Topics in Fire and Life Safety.
• Mary Crabtree was elected to the Campus Safety Health Environmental Management Association (CSHEMA) executive board of trustees. She is CSHEMA’s past president.

Presentations

• Mary Crabtree was keynote speaker and presented “Safety in the Video Workplace” at the Annual Collegiate Sports Video Association conference in Atlanta.
• Cory Kirkland presented “Careers in Facilities/Maintenance” at Hillside high school on careers after high school and college.
• Emily Powell presented “Fire Safety for High Risk Campus Populations” at the Center for Campus Fire Safety Conference.
• Jim Hill presented “Occupational Health Update,” at the Statewide Program for Infection Control & Epidemiology.
• Jim Hill presented “Public Safety Medicine” at the Southeastern Atlantic COE.
• Roger Sit presented “Non-Traditional Roles of a Health Physicist in a University EHS Program” at the 62nd Annual National Health Physics Society Professional Development School.
• Mary Beth Koza presented “Why EHS is Important!” at the Safety and Environmental Leadership Seminar for the NC Department of Agriculture & Consumer Service.
• Mary Beth Koza presented “How Does an EHS Professional Engage Their Audience?” at the American Chemical Society Regional Meeting Southeastern.
• Mary Beth Koza presented “The Role of the EHS Professional in Laboratory Design” at the 253rd American Chemical Society National Meeting.
• Mary Beth Koza presented “Workplace Safety Site Visit” to the UNC System Office Human Resource Professinals OSHR Outreach Program.
EHS Performance Highlights

Biological Safety

- Trained 1,086 researchers in basic principles of conducting research at BSL-2, such as proper technique and waste handling and trained 191 researchers in enhanced BSL-2 procedures.
- Certified 437 campus biological safety cabinets ensuring safety of product, personnel and environmental protection.
- Reviewed and approved 502 Laboratory Safety Plans’ Schedule F (Biological Hazards).
- Reviewed and approved 223 Laboratory Safety Plans’ Schedule G (Recombinant or Synthetic DNA).

Chemical and Laboratory Safety

- Trained 1,971 new laboratory employees on Laboratory Environment through online self-study.
- Reviewed 663 new and/or updated laboratory safety plans and reviewed deficiencies with principal investigators and safety supervisors, ensuring compliance with the University’s Chemical Hygiene Plan.
- Inspected 1,103 chemical fume hoods and submitted 50 Facilities Services repair requests for fume hoods.
- Uploaded 413 chemical inventories into online system and reviewed 380 annual inventory updates as part of Chemical Hygiene Plan compliance.

Environmental Affairs

- Trained 1,971 employees on Managing Laboratory Generated Hazardous Waste through orientation safety online training.
- Conducted 11,427 waste pickups of 51,534 kg of hazardous waste and 40,152 kg of non-hazardous solid waste from University generators.
• Shipped 114,424 kg of waste from the UNC-CH TSDF to an offsite vendor TSDF for treatment and disposal.
• Aided with controlled substances drug disposal on campus which included 17 visits by DHHS Drug Control Unit for 28 lab visits/inspections.

**Fire Safety & Emergency Response**

• Trained 1,226 students and staff on fire safety and fire extinguisher use.
• Provided fire safety coverage to seven home football games, 15 home men’s basketball games and the men’s basketball national semifinal and championship game events at the Smith Center.
• Inspected 7,000 campus fire extinguishers.
• Investigated and documented 231 false fire alarms during calendar year 2017, a decrease of 2% from 2016.

**Occupational and Environmental Hygiene**

• Trained 586 Maintenance, Housekeeping, and Design and Construction Services employees in asbestos awareness through online and in-class training.
• Coordinated mobile hearing tests for 227 employees enrolled in the Hearing Conservation Program, saving $5.5K for the tested departments.
• Trained 514 employees enrolled in the Hearing Conservation Program on Occupational Noise Safety through in-class and online training.
• Trained 269 employees from Facilities Services, Energy Services and UNC-CH Police on confined space via in-class and online training.

**Radiation Safety**

• Administered radiation safety training courses to 2,082 persons and non-ionizing radiation safety training to 631 persons.
• Provided 593 collaborative laboratory inspections.
• Inspected and tested 206 X-ray tubes.
• Hosted eight Nuclear Medicine Technology students for two-week rotations through radiation safety as part of the NMT didactic program.

**University Employee Occupational Health Clinic**

• Provided occupational health medical services for 4,284 employees.
• Fit-tested and provided consultative services for 555 individuals under the University’s Respiratory Protection program.
• Reviewed 1,107 IACUC Animal Handler Symptom reviews.
• Precepted senior nursing student from the Accelerated BSN program.

**Workplace Safety**

• Trained/Number of Employees: Respiratory Protection/1,323; EHS Office, Clinic, IMAC, SS, Student Affairs/4,516; Joint Commission/4,233; Clinical Tuberculosis Infection Control/6,425; Clinical Bloodborne Pathogens/6,205; Ergonomic Self-Evaluations/44.
• Processed and managed 492 workers’ compensation claims with medical treatment, return to work, hearings/mediations and monthly expenditures.
• Conducted on-site inspections of 164 Hazards Management Plan (HMP) for numerous campus units and entered HMPs for work unit in the on-line HMP system.
• Investigated 77 incidents on campus for falls, equipment, PPE, materials handling, strains and stuck in/between objects.