

Berkeley EH&S



2017 Annual Report

Directors' Corner

My tenure as the Executive Director of UC Berkeley's Office of Environment, Health & Safety (EH&S) concluded with the end of the 2016-17 academic year. It has been an honor and a privilege to work alongside such creative and collaborative people. I am proud of the progress and achievements we have delivered over the years, and the past year has been no exception.

EH&S continues to focus on advancing our mission to ensure campus workplace safety and environmental protection, utilizing new tools and creative approaches, while maintaining a level of stability in this dynamic campus environment.

Our new alignment within the VC Research portfolio stimulated much creative thinking, with the best ideas captured in a new set of multi-year strategic initiatives. Soon we'll be launching a new video Workplace Safety Program orientation for all campus employees.

EH&S streamlined our system for providing lab coats and other personal protective equipment to laboratory researchers, and began providing safety "action item" reports to campus executives.

Outside the research environment, EH&S formed important new collaborations with both Residential and Student Service Programs and Facilities Services to help these higher-risk units prevent injuries and reduce associated costs, and to ensure fire safety systems are regularly tested and maintained.

In support of other UC campuses, we have shared our expertise in field safety, radiation safety, and other disciplines to help create a system-wide technical standard. We have also provided direct assistance, with appropriate cost recovery, in highly specialized areas so that some of our sister campuses could meet regulatory obligations.

- *Mark Freiberg*
Executive Director, EH&S

As our organization enters a year of transition, we remain dedicated to the EH&S foundational mission cited by my predecessor. We will build on the excellence we have established, and continue to be open to opportunities that help us advance our support to the campus community and contribute to the mission of the university.

- *Brandon DeFrancisci*
Interim Director, EH&S

Highlights

New Campuswide Workplace Safety Program

Prior to fall of this year, each department at UC Berkeley was responsible for having its own Injury and Illness Prevention Program. These programs shared a common set of practices for maintaining a safe and healthful work environment. Now, to improve access, consistency, and usability across all departments, the campus is adopting a campuswide policy and program: the Workplace Safety Program. The policy establishes responsibilities and guiding principles, while the program is the “how to” document that enables health and safety performance down to the individual level. The goal of the new policy is to “prevent work-related injuries and illnesses...through inclusive and collaborative efforts among all levels of the campus community.” EH&S spearheaded formulation of the policy, and this fall will launch the new Workplace Safety Program which will be introduced with an exciting new multimedia training course.



Highlights



New UC Center of Excellence: Field Safety

Last year, Sara Souza was appointed as the UC Field Safety Center of Excellence (CoE). Sara provides expertise and support to the entire UC system to develop and implement best practices in field research, such as the use of field safety plans and trip registration via UC Away.

As the Field Safety CoE, Sara coordinates wilderness first aid training, heat illness prevention training, and specialized trainings as needed, such as a recent tower climbing training at Sagehen Creek Field Station. In addition, Sara promotes first aid kits and use of emergency satellite communication devices for work in remote areas. In her first year, Sara coordinated and published the first draft of the UC Field Operations Manual, available on the Berkeley EH&S Field Safety website.

Highlights

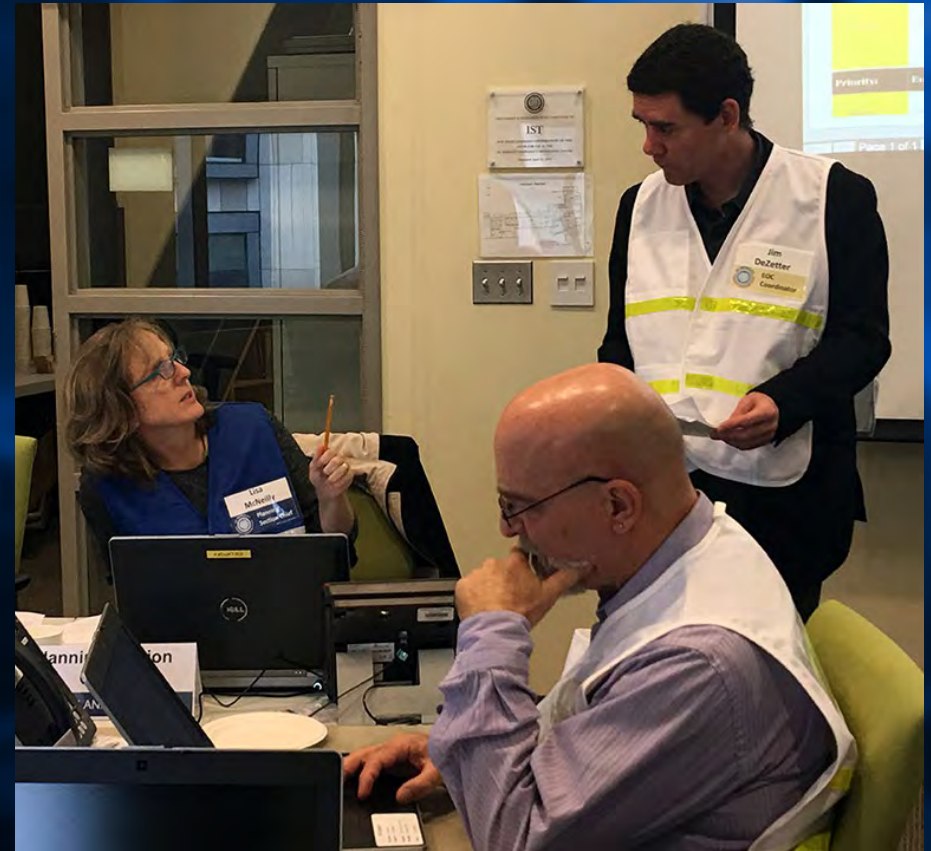
Office of Emergency Management

Blue Horizon

In December 2016, OEM sponsored a real time functional exercise to practice and evaluate the campus' response to a major storm that caused flooding and severely impacted campus utilities. "Blue Horizon" included the activation of the Emergency Operations Center (EOC) and provided an opportunity for nearly 50 campus staff to practice their roles. Staff gained experience conducting EOC briefings, managing information, and identifying and communicating response related policy questions to the Crisis Management Team.

Emergency Management & Continuity of Operations Policy

OEM led the development of the first campus policy addressing emergency management and continuity of operations. The policy establishes the underlying authorities to support the campus organizational structure for responding to and recovering from emergencies. It also establishes the responsibility of certain campus units to develop and maintain up-to-date continuity plans. This policy is an important step forward in protecting the campus mission from any type of disruption.



In January 2017, OEM transitioned from EH&S to UC Berkeley Police Department.

Working Together



2017 EH&S Strategic Plan

This past February, four years after the successful implementation of many 2013 Strategic Plan initiatives, EH&S staff gathered together for an all day workshop to update its strategic focus. The resulting 2017 Strategic Plan set objectives in the areas of client service, processes, staff, and resources.

EH&S identified 21 initiatives to meet these objectives, and several of these are currently underway. These initiatives include improvements and expansion of the Laboratory Safety Culture Change program, a renewed focus on reducing workplace injuries, and several smaller projects to improve EH&S web services. We look forward to sharing the progress on these initiatives and others in our next annual report!

Our Objectives:

- Continually improve safety culture in our labs
- Improve access to EH&S self-service tools
- Streamline internal processes
- Ensure safe and compliant operation of the cogeneration plant
- Retain our high level of subject matter expertise
- Reduce costs associated with workplace injuries
- Develop new sources of revenue, and facilitate collections to recover costs

Working Together

Supporting New Construction

Last summer and fall, the EH&S Fire Prevention Division oversaw the completion and opening of the Legends Aquatic Center, Moffitt Library Levels 4 and 5 Renovations, and the Bowles Hall Residential Renovations. This required coordination with other EH&S teams, review of various phases of design drawings, site inspections, and work with the project manager and clients to ensure these high-profile projects were finished on time, and to code.

The Bowles Hall renovation is a product of the public-private partnership between the Bowles Hall Foundation, UC Berkeley, and a private-sector developer to create a residential college, a live-learn community for undergraduates. The entire historic building was sprinklered as part of the renovations — a standing goal of both EH&S and Residential and Student Service Programs.

*In September 2016,
183 students
moved into the
newly renovated
Bowles Hall.*



Working Together

Special Decontamination Projects

When campus departments wish to resell, dispose, or recycle unwanted research equipment, chemical decontamination may be required. EH&S Hazardous Materials Management (HMM) manages several decontamination projects each year by either providing the service directly, or overseeing the work of qualified vendors.



In early 2017, Electrical Engineering and Computer Sciences (EECS) wanted to dispose of a molecular beam epitaxy (MBE) system, which was suspected to be contaminated with arsenic. Due to the complexity of the decontamination, vendors priced it at \$25,000. EECS and HMM divided the labor instead, saving the university \$23,000. EECS agreed to handle the initial disassembly, and HMM decontaminated the equipment at Hazardous Materials Facility. Parts were cleaned and sent to UC Berkeley Surplus. Those parts too difficult to clean were sent to contracted hazardous materials vendors for disposal.

*EH&S HMM conducted
44 special decontaminations
of equipment and labs on
campus in the past fiscal year.*

Building Partnerships

Irradiator Security and Response Training

In the spring, members of the EH&S Radiation Safety Team along with officers from UC Berkeley Police Department (UCPD) attended the Office of Radiological Security's (ORS) Alarm Response Training. ORS, previously known as the Global Threat Reduction Initiative, offers a voluntary program to enhance the security of high risk radioactive sources. The three-day course is designed to train the trainers following the on-site physical protection upgrades provided by ORS in 2016. The course covered the coordination required to prepare for and respond to a threat against the university's radioactive materials. This is accomplished through exercises, both live and table-top, covering attempted theft, sabotage, and routine use of radioactive materials in mock research settings. The goal is to develop and practice procedures, techniques, and best practices that can be integrated into existing UCPD and EH&S policies to better protect the local UC Berkeley community.

The training included live practice of four scenarios based on known events.



Building Partnerships



Laboratory Hazard Training for First Responders

UC Berkeley relies on local public safety agencies to provide medical, fire, and emergency response. Due to the unique hazards on campus and at Richmond Field Station, the EH&S Fire Prevention Division (FPD) works hard to build relationships with local fire departments. This relationship is building a two-way exchange of information: to inform our first responders on the hazardous materials they may encounter and how to deal with them, and for FPD to understand responding units' capabilities to address certain hazards. FPD hosts a Laboratory Hazard Training for first responders. The training includes classroom time with EH&S chemical, biosafety, and radiation specialists, and a facility tour.

32 first responders completed the January 2017 UC Berkeley Laboratory Hazard Training.

Building Partnerships

Pharmaceutical Waste Bin

As UC Berkeley's wastewater regulator and treatment provider, East Bay Municipal Utility District (EBMUD) approached the campus to host a local pharmaceutical drop-off bin. These bins accept most unused, unwanted, or expired prescription medicines. Frequently, unused medication is tossed down the drain or into the toilet. Wastewater treatment plants are unable to fully remove many of these compounds, and they end up polluting the waterways of San Francisco Bay. In February, EH&S partnered with University Health Services (UHS) and EBMUD to install a bin at the Tang Center pharmacy. The campus bin is one of ten drop-off stations in the EBMUD East Bay service area. The EH&S outreach team worked closely with UHS staff to develop community flyers and PSAs that ran on UC Berkeley's radio station to promote the new waste bin.

*From February to June 2017,
186 pounds of
pharmaceutical waste was
collected at the disposal bin.*



Sharing Knowledge



New Standard Operating Procedure Generator

This year, during lab safety inspections, EH&S implemented new standard operating procedure (SOP) templates across campus. Researchers follow SOPs to safely perform tasks that require the use of hazardous chemicals. These can be very difficult and time consuming to create.

Recognizing an opportunity to save researchers valuable time, EH&S lab safety inspectors developed software to generate lab-specific SOPs. *SOP Genie* scans a lab's chemical inventory and generates SOP templates for that lab.

EH&S lab safety inspectors bring the pre-populated templates to their annual lab safety inspections. With these templates in hand, lab personnel can amend or modify different sections of the SOPs to further specify their lab-specific procedures.

Over 500 labs will have implemented new SOP templates by the end of the year.

Sharing Knowledge

Laboratory Safety Culture Change Program Improvements

In 2012, EH&S launched an initiative to change the way campus researchers think about laboratory safety. This initiative included enhancements to existing programs, as well as new programs to improve the laboratory safety culture. In the last year, EH&S focused on improvements to three programs.

Excellence in Laboratory Safety Awards

The second annual **Excellence in Laboratory Safety Awards** program was co-sponsored with the Vice Chancellor for Research. An award ceremony was held at the Faculty Club recognizing the eight winning labs and one core facility. The winners of this year's grand prize, Professor David Schaffer and his lab safety coordinator Noem Ramey, are pictured here.



New PI Orientation

EH&S used feedback from faculty to streamline the orientation process for new principal investigators, as well as to provide customized coordination of safety services as an introduction to lab safety on campus.

Personal Protective Equipment

Lastly, EH&S updated the personal protective equipment (PPE) program. Today, the PPE program fits researchers for lab coats throughout the year, and has seen a doubling in the laundry use after switching to a new vendor.

“This service seems very well put together now, and very helpful to the PI. I appreciate it!”

- Department Safety Coordinator Thom Opal, on the New PI Orientation program

Sharing Knowledge



Radiation Safety Support to UC Santa Cruz

To ensure compliance with the UC Santa Cruz (UCSC) radioactive materials license, UC Berkeley EH&S is providing a Radiation Safety Officer and other expertise to the radiation safety program at UCSC. This temporary service for a sister campus has full cost recovery, and includes performing radiation safety surveys, updating the radioactive materials inventory records, and providing dosimetry and radioactive waste guidance. UC Berkeley radiation safety professionals are not only lending their expertise, but also providing support to the Radiation Safety Committee, and forms and procedures developed by Berkeley EH&S. In addition to these services, an online radiation safety training, developed at Berkeley EH&S, is being offered to the UCSC community to offer more convenient training than instructor-led options.

*EH&S radiation safety professionals are supporting **21 PIs** who use radiation at UC Santa Cruz.*

By the Numbers

