

# ANNUAL REPORT

Stanford Environmental Health & Safety



2023

# Director's Letter

Dear Stanford Community Members,

In this year's annual report, we are delighted to highlight some of the achievements and milestones of Environmental Health and Safety (EH&S) in 2023. Central to fulfilling our mission is a commitment to serving as facilitators, adaptive problem solvers, and leaders dedicated to fostering a safe and inclusive environment for all members of the Stanford community. At the same time, we recognize the challenges faced by our stakeholders in the pursuit of success, and the importance of focusing our efforts with purpose. To achieve this, we aim to extend beyond conventional safety measures, fostering operational excellence, and empowering researchers to tackle some of the world's most complex challenges. Safety improvements not only enable continuous research and teaching, but also contribute to preserving our institution's legacy.

Our staff are champions for injury prevention, responders who answer the call in times of disaster, and innovators in medical support for injured employees. Naturally, our overarching objective is to prevent every injury. Through the expansion of our occupational health and safety offerings, we aim to provide comprehensive care for our workers. We understand that a healthy and safe workforce is not only more productive, but also more fulfilled.

As much as we can plan ahead, as a department, we embrace the reality that sometimes plans change. Our first hand experience with climate change and a surge in campus disruptions over the last few years makes it clear that an adaptive approach and a focus on community resilience are equally crucial in navigating and mitigating the impact of unforeseen disruptions. Many of the lessons learned from the pandemic are continuing to propel our progress in elevating Stanford's response and recovery capabilities.

I also want to share how proud I am of our department's dedication to diversity, equity and inclusion. Alongside ongoing IDEAL Learning Journey engagement, EH&S staff have come together for events over the last year to share our unique cultures and stories. This has fostered a more inclusive and understanding community, enriching our collective experience. Our staff has helped to foster a connected community by celebrating our diverse tapestry of backgrounds, and that makes our department truly remarkable.

Finally, I want to express my gratitude to our campus partners for their support as we collaborate to adapt to our evolving environment. The programs and work detailed in this annual report are just a snapshot of the work our incredible staff achieves every day. At the heart of our work is an unwavering commitment to support campus emergency readiness, enable research, and nurture the health and wellbeing of campus faculty, staff, students, and visitors.

In good health,



Russell Furr, MPH, CIH

Associate Vice Provost, Environmental Health and Safety







## Supporting Research

**High Hazard Research Policy:** Research activities involving physical safety high hazards, such as confined space entry, work from heights, and certain electrical voltages and equipment, carry the potential to pose serious risks to researchers. In September, EH&S launched the new High Hazard Research Policy and program registration, after a pilot earlier in the year. This policy aims to reduce the likelihood and severity of serious injury/fatality (SIF) incidents, ensure work is taking place safely, and establish a formal assessment for continuous improvement. Principal Investigators (PIs) who conduct high-hazard operations will need to register such work. Through program participation, EH&S will be able to provide an increased level of support to researchers whose work involves high hazard activities.

**Research Space Decommissioning:** Two pairs of Cs137 irradiators that Stanford, the VA Palo Alto, and Stanford clinics have used for research and blood irradiation were successfully decommissioned and disposed of, thanks to the help of the Los Alamos National Laboratories Off-Site Recovery program. The units and their containers were approximately the size of a semi truck cab. This project marked a significant effort, several years in the making.

**Biosafety Level Three Support:** Stanford's Biosafety and Biosecurity (B&B) team supports biosafety level 3 (BSL3) operations at Stanford's BSL3 Service Center and at the Veterans Administration Palo Alto BSL3 facility. The team supported the design and construction of a new BSL3 facility which will be operated by SoM, expected to open in the spring of 2024. B&B provides guidance, training, and program oversight for the Administrative Panel on Biosafety (APB) for all of these activities. Research requiring BSL3 programs and facilities is becoming increasingly important with the emergence of infectious disease challenges, highlighted by the COVID pandemic.

**Hazardous Waste Management:** The management of hazardous waste requires careful attention to how containers are labeled, closed, and where they are stored. EH&S's Hazardous Waste Program launched an initiative to collect data at the time of waste pickup from 44 lab buildings regarding five hazardous waste compliance issues. This information was shared with local safety partners and will help inform strategies for improved compliance.

# Resiliency & Mission Continuity

**Wildfire Management:** This year the Bay Area saw record levels of rain, however the threat of wildfire to our community is constant. Stanford owns nearly 8,200 acres of undeveloped natural land with mixed vegetation types, adjacent to the main campus. The Stanford University Fire Marshal's Office (SUFMO) worked with stakeholders on the Wildfire Management Implementation team to help ensure the probability of wildfire on these lands is minimized. Improvements to technology, such as AI in cameras installed throughout California wildland urban interface areas, has improved our ability to identify fires sooner.

**Active Threat Readiness Drill:** The Office of Emergency Management (OEM) designed an active threat tabletop exercise this past spring, that explored our capabilities to establish medical triage and treatment locations on campus after a disaster event. This exercise allowed us to identify strengths, weaknesses, and gaps in our emergency plans and procedures. Through these simulations, emergency management can enhance communication, coordination, and decision-making skills, fostering a more prepared and resilient response when faced with actual emergencies.

**Fire Safety Prevention in Dorms:** Fire education is of the utmost importance on a university campus. In the event of a building fire, the rapid evacuation and protection of individuals is essential. Every Fall, SUFMO supports Residential & Dining Enterprises soon after the return of students to dormitories. This includes conducting fire evacuation drills in all residential buildings and training residential staff on proper fire extinguisher use and evacuation plans. In addition, SUFMO maintains fire alarms and panels and administers fire and life safety inspections.



# Campus Health & Wellbeing

**Holistic Approach to Care:** The Occupational Health Center (OHC) works to improve the health and safety of university employees by providing outstanding clinical care with a multidisciplinary and evidence-based approach to total worker health. OHC has leveraged their holistic understanding of injury treatment to include a wide variety of treatment modalities. Employees now have easier access to physical therapy in a dedicated space, acupuncture on-site, and an expanded panel of physicians with musculoskeletal expertise, allowing for therapeutic intervention and instruction early in the treatment course. As a result of these improvements, OHC has seen improved patient outcomes, more rapid recovery, and strengthened patient/provider relationships.

**Data Driven Wellness:** EH&S oversees a wide range of medical surveillance programs, including lab animal allergy, hearing and respiratory protection, and infectious agent work. Through automation of feeds from research protocol and exposure databases, combined with medical compliance data from OHC, EH&S has

built a Smartsheet interface to enhance departmental oversight of employees' medical surveillance status. This represents a commitment to using digital tools to modernize processes, streamline communication, and reduce administrative burden.

**Field Safety Program:** EH&S's Field Safety Program continued building its foundation, strengthening relationships and enhancing resources to support research and academic programs to adequately plan, prepare, train for and execute safe field work. Researchers and academic programs traveling all over the globe utilized our program's resources, including our template field safety plan, hazard-specific field safety fact sheets, pre-trip safety consultations, wilderness first aid training and loaner satellite communication devices. Researchers utilizing our resources traveled to a wide variety of locations, including but not limited to Palau, Mexico, Antarctica, Costa Rica, Canada, Ecuador, Kenya, Turkey, India, Greenland, Senegal, Tanzania, Rwanda and the Marshall Islands.

## Positioning the Campus for the Future

**IT Enterprise Modernization:** With support from University IT (UIT), EH&S has embarked on a multi-year effort to review and enhance software applications that manage health and safety for the Stanford community. In addition to bringing EH&S systems in line with university security and technology best practices, the project will help improve user experience, integrate with campus enterprise databases, and provide more comprehensive service through a centralized system. Improved reporting capabilities will inform future risk reduction decisions. Following the implementation of the Radiation module in June, modules for Incident Management, Permits Authorizations, Compliance Calendar are slated for deployment by the fall of 2024.

**EHS Data Sources and Processes:** The department completed a comprehensive project to account for and assess the maturity of each unit's processes and subprocesses; this exercise helped identify important areas to strengthen through automation and ensuring backup staffing. Related, EH&S is building an inventory of data sources that are managed or used by the department

to support an array of campus needs. This effort will help us identify business continuity needs around our datasets and prioritize data for sharing with campus partners.

**Streamlining Ergonomics:** Utilizing the campus web utility, ServiceNow, EH&S was able to streamline the ergonomic services request process to an online process flow. This new tool allows EH&S to more efficiently manage ergonomic related services such as training and consults while improving the customer experience. Requestors are now able to get on-demand status updates for requested services.



# Yearly Timeline

## Fall Graduate Safety Training

EH&S staff, with local safety partners, trained 171 incoming graduate research students. The lessons are intended to provide hands-on training covering a range of topics, such as risk assessments, spill response procedures, how to use an emergency safety shower, fire extinguishers, and fume hoods.

SEP

2022

## Flu Clinics

OHC in partnership with Vaden, staffed over a dozen free flu vaccine clinics around campus. The clinics provide our community with easily accessible opportunities for vaccination and gave out over 5000 vaccinations!

OCT

## Handling Library Collections

Occupational Health and Safety developed updated procedures for Stanford Libraries for safe handling of older collections and materials that may contain hazardous contaminants such as pesticides, mold, or chemicals.

NOV

## California Radiologic Health Branch Audit

Stanford's radioactive material license underwent an audit, the inspections included review of thousands of documents and two days of in-person visits with regulators. No violations or citations were issued.

DEC

## Flooding Due to Weather

The Bay Area saw historic amounts of rainfall, and as a result, Stanford Redwood City Campus experienced substantial flooding in buildings and parking garages. The storms also brought major wind events and the main campus lost a total of 223 trees.

JAN

2023

## Toxic Gas Ordinance Exercise in Chemistry

Environmental Protections conducted an exercise in the Chemistry Department as mandated by the Toxic Gas Ordinance. This was coupled with a successful review of response and decontamination procedures for biological hazards.

FEB

## End of Color Testing for Staff and Faculty

The COVID-19 COLOR testing program for staff and faculty was discontinued. The conclusion of the program marked the end of most COVID-related university policies.

MAR

## Wilderness First Aid Safety

Each spring EH&S instructs groups of field researchers on the first aid and emergency skills necessary for trips into the wilderness to complete their research.

APR

## Active Threat Response Plan

OEM developed a new Active Threat Response Plan for the University which coordinates the university's overall response to an emergency on or near a Stanford campus or property.

MAY

## DoR Business Continuity Planning

During the project kickoff, EH&S identified key services and processes for delivery to our campus community that would be needed in the first 12 hours after an event. This work represents an expansion of EH&S DOC resiliency efforts.

JUN

## Major Building Renovation and Demolition Projects Support

SOM undertook laboratory decommissioning and renovation efforts in Alway, Lane, and Edwards. OSH supported these projects with ensuring necessary permitting, inspections, and waste characterization on an ongoing basis.

JUL

## 2023 Stanford Safety Community Conference

EH&S collaborated with USPs and the School of Engineering for the annual Stanford Safety Conference. Partners shared best practices, new programs, and stories, fostering conversation and collaboration.

AUG

# EH&S SNAPSHOT

Here are snapshots of the operational work which the department carries out day-in and day-out. These efforts support the campus emergency readiness, enable research, and foster the health and wellbeing of campus staff, faculty, staff and visitors.

## Support of the Built Environment

Fire/life safety building inspections • Plans reviews • Laboratory decommissioning • Management of hazardous materials in construction • Indoor air quality evaluations • Hazardous waste pickups • Surplus chemical management • Underground tank remediation

## Safety Device Management

Fire alarm/extinguisher inspections and testing • Biosafety cabinet management • Calibration and readiness of EH&S monitoring equipment

## Urgent Response

Hazardous materials spill/release response • Regulatory reporting • Incident investigations/root cause evaluation • Business continuity consultations

## EH&S Operations

Leadership in panels, committees, and safety meetings • Submissions of HMMPs to county • Management of permits, licenses, registrations, matching fund programs, MOU/SLAs • Management of EH&S IT systems and infrastructure

## Medical Care

Delivery of occupational injury/illness care • Medical surveillance services • Travel consultations • PT, acupuncture, chiropractic care • COVID medical management

## Worker Health & Safety

Ergonomics assessments • Exposure assessments • Respirator fit testing • SU-17 follow-ups • Field safety consultations • Shop/makerspace consultations

## Administration of Safety Programs

Updates of institutional safety programs • Authorizations (e.g., toxic gas, hot work, use of controlled substances, lasers) • Development of EH&S online trainings • Delivery of EH&S trainings • Activation of STAT Team/DOCs

## Research & Clinical Support

Biosafety protocol reviews • SOP reviews • Research animal administration • Radioisotope and x-ray safety oversight • Radiation surveys • Dosimetry management • HP clinical support of patient spaces



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