

UNIVERSITY
OF
CALIFORNIA



University of California Centers of Excellence

ANNUAL REPORT FY20/21

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OVERVIEW

CoE	Lead	Host Location	Sponsoring Program	Established	Status
BSL-3 Biosafety Training Program	Gary Landucci	UCI	EH&S	2/1/15	<i>Current</i>
Center for Laboratory Safety	Imke Schroeder	UCLA	EH&S	2/1/15	<i>Current</i>
Field Research Safety	Sara Souza	UCB	EH&S	7/1/16	<i>Current</i>
Pesticide Safety	Lisa Blecker	UC ANR	EH&S General Liability	4/1/20	<i>Current</i>
Radiation Safety	Cathleen Edmunds	UCSF	EH&S	12/1/17	<i>Current</i>
Risk & Safety Training	Janette Ducut	UCR	EH&S	4/15/15	<i>Current</i>
Unmanned Aircraft System Safety (UAS)	Brandon Stark	UCM	Risk Management - General Liability	3/1/16	<i>Current</i>
WorkStrong	Alison Frink	UCLA	Workers' Compensation	4/1/16	<i>Current</i>

Shared Services	Lead	Host Location	Sponsoring Program	Established	Status
Dive and Boat Safety Consortium	Jim Hayward	UCSB	EH&S	7/1/19	<i>Current</i>
Fire and Life Safety	Dana Johnson	UCLA	Risk Management - General Liability	7/1/20	<i>Current</i>

The Centers of Excellence (CoEs) are funded by the Office of Risk Services while Shared Service programs are funded by participating locations.

ENVIRONMENTAL HEALTH & SAFETY (EH&S)

CENTERS OF EXCELLENCE

BSL-3 Biosafety Training Program

Center for Laboratory Safety

Field Research Safety

Pesticide Safety

Radiation Safety

Risk & Safety Training

BSL-3 BIOSAFETY TRAINING PROGRAM

The Biosafety Level-3 (BSL-3) Biosafety Training CoE develops and delivers high-containment laboratory safety training for personnel groups, including laboratory staff, biosafety professionals, first responders and operations & maintenance personnel. The CoE is integral in supporting the systemwide High-Containment Laboratory Oversight Committee by conducting BSL-3 lab evaluations, plan reviews and on-site training.

- Provided biosafety and biosecurity in-person training at UC Irvine's BSL-3 National Training Center
- Conducted general and site-specific BSL-3 laboratory training remotely for first responders at UC Merced
- Consulted with UCLA regarding the retrofit of an Animal Biosafety Level-2 (ABSL-2) facility for conversion to an ABSL-3 to support campus-approved SARS-CoV-2 research
- Consulted with UC San Diego regarding the retrofit of an ABSL-2 facility for conversion to an ABSL-3
- Conducted BSL-3 facility site testing at UC Riverside School of Medicine Research (SOMR) Laboratory

Metrics

- UC campus participants trained at UC Irvine's BSL-3 National Training Center (39 participants):
 - UC Davis
 - UC Irvine
 - UC Riverside
 - UCLA
 - UC San Diego
 - UC San Francisco
- 153 individuals trained in 2020-2021
 - 66 UC personnel

153

Individuals trained
in 2020-2021

66

UC Personnel
Trained

BSL-3 Trainings Conducted

Participating Entity	Researcher	First Responders	On Site/ Practical Training
UC Schools	27	27	12
Public Health	0	0	0
Other Academic Institutions	45	0	0
Government/Military Organizations	10	0	0
Corporate	32	0	0

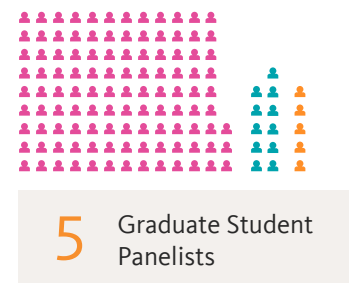
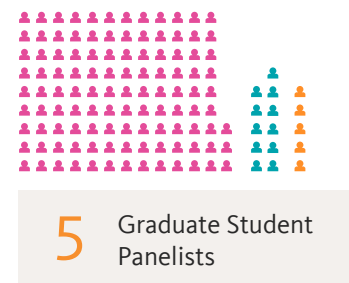
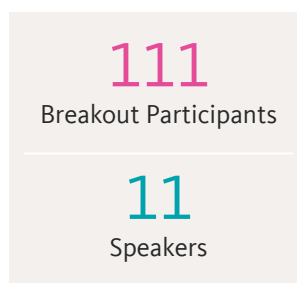
CENTER FOR LABORATORY SAFETY

The Center for Laboratory Safety CoE sponsors and supports research on laboratory safety practices with the goal of identifying, developing and applying best practices in laboratories. The Center for Laboratory Safety (UCCLS) is a founding member of the national Safety Training Consortium (STC), which focuses on developing impactful online training courses for academic institutions and researchers.

- Conducted UC-related projects:
 - Supported UC Riverside EH&S department on campuswide efforts to improve laboratory safety culture
 - Conducted accident investigation at UC San Diego
 - Consulted for UC Irvine EH&S department on administrative restructuring, program metrics, laboratory inspections and researcher communications
- Managed the Safety Training Consortium, which recruited three new members (Total: 52):
 - Stanford University
 - North Carolina State University
 - University of Florida, Gainesville
- Collaborated with Risk & Safety Training CoE and systemwide subject matter experts (SMEs) from 4 UC campuses and Berkeley Lab on STC course development
 - STC Courses released to UC campuses:
 - Waste Anesthetic Gas (WAG), [released December 2020]
 - Aerosol Transmissible Disease (ATD), [released December 2020]
- Published one paper:
 - Merlic, C.A. and I. Schröder “Lessons Learned – Aluminum Waste Container Rupture” ACS Chemical Health Safety 2021, 28, 1, 34-37. <https://pubs.acs.org/doi/10.1021/acs.chas.0c00079>
- Organized the 2021 Virtual Workshop on Laboratory Safety; Advancing Safety in Teaching and Research

Metrics

- 2021 STC Virtual Workshop on Laboratory Safety:
 - 174 Attendees (55 from UC)
 - 111 Breakout group participants
 - 11 Speakers, 5 Graduate Student panelists



Safety Training Consortium Virtual Workshop on Laboratory Safety



FIELD RESEARCH SAFETY

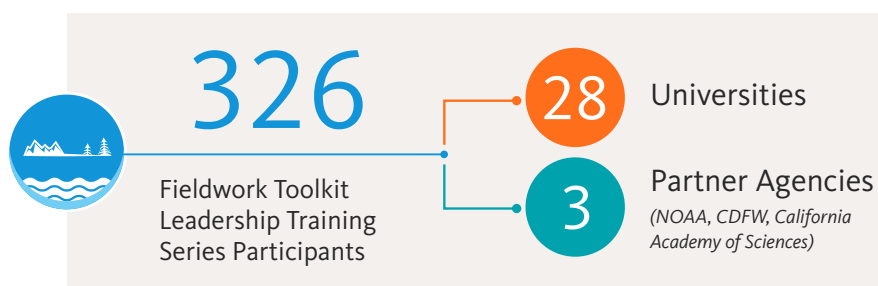
The Field Research Safety CoE facilitates the sharing of lessons learned and best practices in field work, while promoting risk management through the development of safety planning tools and resources.

- Received national Wilderness Risk Management Conference Reb Gregg Award
- Hosted the 2021 Fieldwork Toolkit Leadership Training Series detailing topics such as:
 - Trip Planning
 - Promoting Safe Fieldwork Culture
 - Mental Health in the Field
 - Building a Better Fieldwork Future
- Supported installation/maintenance of 66 PM2.5 sensors systemwide, along with wildfire smoke training and guidance
- Managed Garmin inReach satellite device program for UC Reserve Managers:
 - UC Berkeley (loaner program for field researchers)
 - UC Merced
 - UC Riverside
 - UC Santa Barbara
 - UC Irvine
- Utilized the systemwide newsletter to share updates on COVID-19, wildfires, extreme weather, policies, training opportunities, and resources
- Developed a COVID-19 Field Protocol: Worksite Planning Checklist
- Supported wilderness first aid training for 126 researchers and students from:
 - UC Berkeley
 - UC Davis
 - UC Riverside's Boyd Deep Canyon Desert Research Station
 - UC Santa Barbara's Valentine Reserve



Metrics

- 2021 Fieldwork Toolkit Leadership Training Series
 - 326 participants
 - 28 universities
 - 3 partner agencies (NOAA, CDFW, California Academy of Sciences)
- Newsletter open rate 60-70% and 1000+ readers per month



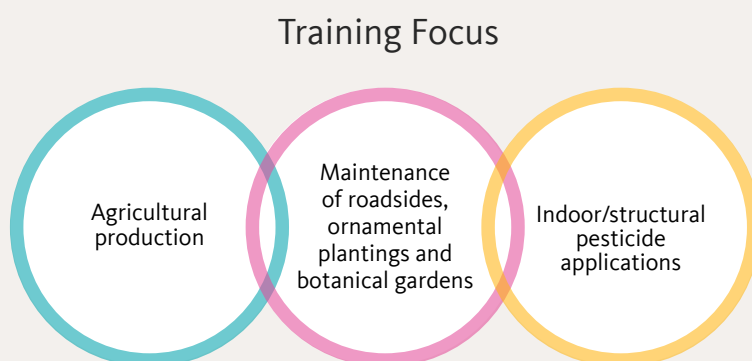
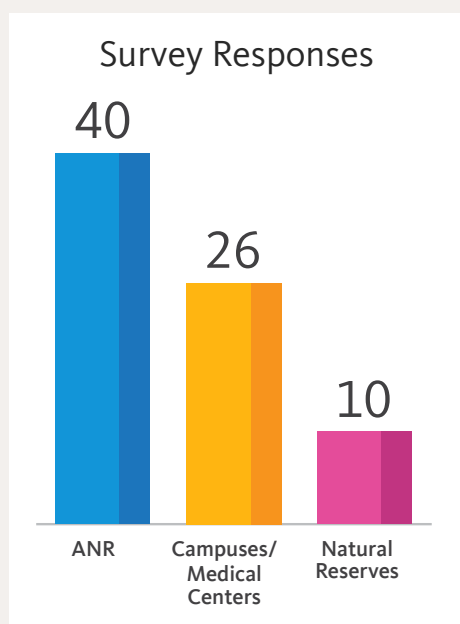
PESTICIDE SAFETY

The Pesticide Safety Center of Excellence provides technical support to the UC Office of the President, Office of Risk Services (OPRS) to implement the recommendations of the UC Herbicide Taskforce, including acting in an advisory role to the UC Systemwide Pesticide Oversight Committee (SPOC).

- Assessed pesticide use and training needs for UC all locations through a systemwide survey distributed by the SPOC in the fall of 2020
 - The survey provided feedback on the total number of UC employees who apply pesticides and identified what types of applications are occurring
 - The survey results support development of pesticide applicator training programs and the creation of a pesticide use management software
- The CoE met regularly with Risk and Safety Solutions to provide pesticide use subject matter expertise to support the development of the pesticide use management software

Metrics

- Survey responses: 76
 - 40 ANR
 - 26 Campuses/Medical Centers
 - 10 Natural Reserves
- Training to be focused on 3 areas:
 - Agricultural production
 - Maintenance of roadsides, ornamental plantings and botanical gardens
 - Indoor/structural pesticide applications



RADIATION SAFETY

The Radiation Safety CoE provides expert guidance on radiation safety concerns within the University of California system. The CoE is supporting development of the UC Radiation software application and is managing the UC Cesium Irradiator Replacement Program (CIRP).

- Provided interim Radiation Safety Officer support for the following campuses:
 - UC Irvine
 - UC Riverside
- Assisted UC locations with X-Ray Irradiators, including determining service contract expirations and contacts to assist in the transition from Cesium
 - Worked with Nu-Tek Bravo regarding Electron Beam Sterilization for N-95 masks
 - Coordinated discussions with C&C, UC San Francisco researchers and Sandia that supported a grant award of \$350,000
- Removed 3 Cesium Irradiators from the following campuses:
 - UC Irvine
 - UC San Francisco
 - UC Davis
- Coordinated installation of enhanced security measures due to Cesium Irradiator removal delays for:
 - UC Merced
 - UC Riverside

Metrics

Removals	#
Total Cesium Irradiators identified for removal	40
Removals completed (FY 20/21)	3
Removals completed (FY 19/20)	9
Removals completed (FY 18/19)	9
Removals planned	19

RISK & SAFETY TRAINING

The Risk & Safety Training CoE develops, distributes and analyzes systemwide training on environmental health and safety topics and risk-related initiatives. The CoE produces training in a variety of blended formats, including online (eLearning), instructor-led, tutorials (video), and webinars.

- Produced approximately 40 resources, including systemwide training courses and materials, presentations, conferences and webinars
- Managed course catalog of 235 courses and resources
 - Addressed 152 requests for accessibility; triaging issues not covered by course design, including course transcripts and assistance with training completions
- Updated the COVID-19 prevention resources website to address changes to Cal/OSHA regulations, UC policies, and location-specific procedures and guidance:
 - 8,965 visits to the site from 7/1/20-6/30/21
 - Peak daily visit: February 3, 2021 with 347 views
- Completed 5 major training initiatives:
 - **CANRA Mandated Reporter** [eLearning]: Defining responsibilities related to child abuse prevention.
 - **COVID-19 Prevention Update** [eLearning and Website]: Resources designed to prevent illness and meet requirements of new Cal/OSHA 8 CCR 3205
 - **Risk Data Management System (RDMS)** [Videos, Website and Handouts]: Resources providing internal training on how to generate event reports, patient experience feedback, and employee injury data for improved reporting, analysis and forecasting.
 - **Safe Patient Handling** [eLearning]: Aims to prevent injuries related to patient handling in healthcare settings.
 - **Workplace Violence Prevention in Healthcare** [eLearning]: Captured lessons learned and prevents injuries related to violence in healthcare settings.

Metrics

- Over 145,644 CoE produced online trainings were completed in the LMS system
- Evaluations received: 35,918 (72% are “good” or “very good”)
- Website Views: 33,133
- YouTube Views: 24,930
 - Top 5 videos:
 - Ergonomics for Facilities (Safe Pushing and Pulling)
 - COVID-19 prevention
 - Ergonomics for Dining (Food Preparation)
 - EH&S Professional Workshop
 - Bloodborne Pathogens Awareness
- 42 Continuing Education Credits Issued

**145,644+**Online Trainings
Completed**33,133**

Website Views

24,930

YouTube Views

ENVIRONMENTAL HEALTH & SAFETY (EH&S)

SHARED SERVICES

Dive and Boat Safety Consortium

Fire and Life Safety

DIVE AND BOAT SAFETY CONSORTIUM

The Dive and Boat Safety Consortium provides support and oversight for diving and boating operations at participating campuses and systemwide resources on behalf of UCOP.

- Consortium member campuses include:
 - UC Berkeley
 - UC Irvine
 - UC Merced
 - UCOP
- Worked with the American Academy of Underwater Sciences to develop an eLearning course for Scientific Divers
- Coordinated the audit of the UC Campus Scientific Diving Programs
- Provided required training, planning and support for researchers conducting dive operations in the field
- Participated in the American Academy of Underwater Sciences, the Scientific Boating Safety Association (SBSA) and Diving Officers of California (DOCal) meetings

Metrics

- Dive locations in 2021
 - Monterey
 - Laguna Beach
 - Smithsonian Tropical Research Institute (STRI) in Panama
- Training and checkout dives for 2 UC Irvine divers were conducted in Spring 2021
- 50 hours of training, planning and support provided
- Checkouts for 2 UC Merced boaters were conducted in January 2021
- Consortium Dive Totals:
 - 6 divers made 70 dives covering approximately 25 hours

**06**

Divers

**70**

Dives

25

Dive Hours

Consortium Dive Totals

**2**

UC Merced Boater
Checkouts Conducted

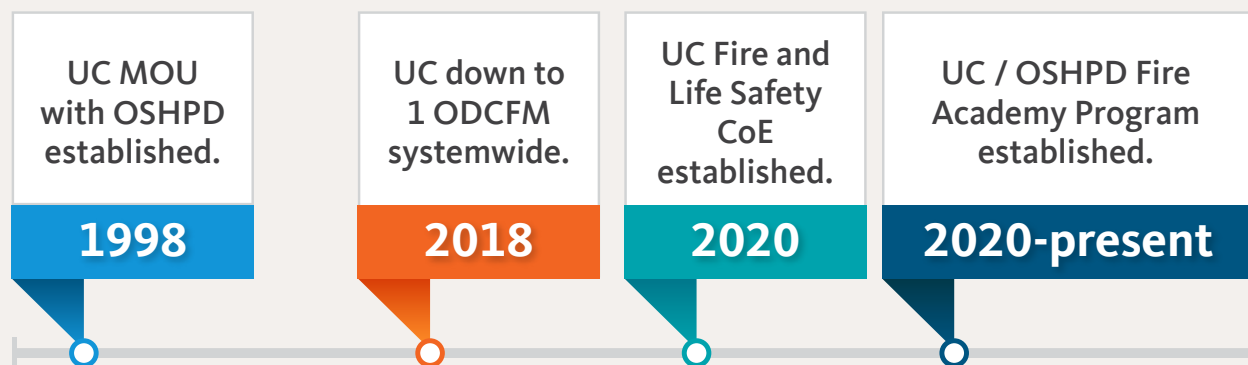
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UC Irvine Divers trained
in Emergency skills

FIRE AND LIFE SAFETY

The Fire and Life Safety CoE collaborated with the Office of Statewide Health Planning & Development (OSHPD) to establish a cadet training program that will allow UC to educate and train individuals to the level of the OSHPD Fire and Life Safety Officer II (FLSO II). This UC program will create a pool of qualified employees that can fulfill the role of OSHPD Designated Campus Fire Marshals (ODCFMs), allowing UC to conduct fire and life safety plan reviews and construction observations in a timely and efficient manner under a continued Memorandum of Understanding (MOU) agreement with OSHPD. This program will remove considerable challenges for UC in the recruitment and retention of qualified OSHPD Designated Campus Fire Marshals within our Health Systems.

- Collaborated with OSHPD to establish the UC participation criteria for the OSHPD Fire Academy
- Teamed with UCOP Design and Construction and UC Legal to begin a formal review of the current OSHPD MOU for renewal in 2023
- Collaborated with Systemwide Human Resources to develop ODCFM job description templates for use by all locations
- Assisted with the submission of two ODCFM candidates to OSHPD for credential review
- Mentored one ODCFM candidate in the process of completing time-on-the-job requirements to meet the OSHPD MOU minimum qualifications



RISK MANAGEMENT

CENTER OF EXCELLENCE

Unmanned Aircraft System Safety

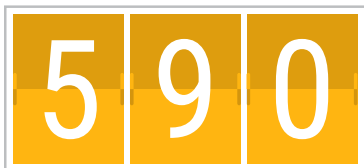
UNMANNED AIRCRAFT SYSTEM SAFETY (UAS)

The Unmanned Aircraft System Safety CoE provides guidance and training in support of the safe operation of Unmanned Aircraft Systems, commonly known as drones. The CoE curates the UC Drones software application that was developed in partnership with Risk and Safety Solutions to manage flight requests and the reporting of flight data. The CoE also created the Presidential Policy that provides the framework and basis for the safe use of drones within the UC system and maintains the related policy guidance document.

- Launched UC Drone Knowledge Portal with resources including:
 - Latest regulatory information and other information on privacy and cybersecurity
 - UC UAS Policy Guidance Manual, New User Guide and Standard Operating Procedures
 - Drone Map of California – FAA airspace information, city/county drone regulations, state parks, federal lands and UC properties
- Created a new User Guide to Drones covering regulations, UC policies and other necessary guidance
- Deployed 6 training modules in the UC Drone Knowledge Portal:
 - Visual Observers
 - Fire Safety
 - Operations in Controlled Airspace
 - Advanced Flying Skills
 - Drone Flight Instruction
- Conducted 120 consultations on various UC drone-related projects and proposals to help drone operators keep up with the latest drone regulations
- Participated in the 2021 UCSF Earthquake Exercise Seminar and presented on the use of drones by first responders and emergency management in natural disasters.

Metrics

- Drones in the UC System: 590 (+30 from FY 19-20)
- 648 drone missions (-9% from FY 19-20)
- Flight Hours: 426 hrs (-20% from FY 19-20)
- 10 Safety Incidents (-50% from FY 19-20)
- UC Drones Portal Analytics: 1000+ visits, 5k+ pageviews



Drones in the
UC System

(+30 from FY19-20)



Drone Missions

(-9% from FY19-20)



Flight Hours

(-20% from FY19-20)

WELLNESS

CENTERS OF EXCELLENCE

WorkStrong

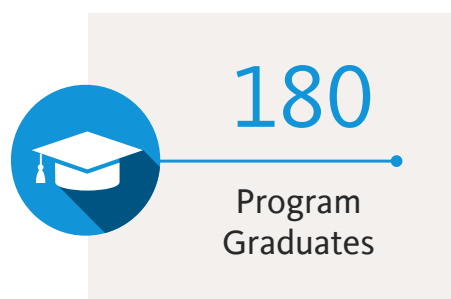
WORKSTRONG

The WorkStrong program is designed to promote recovery from and prevent future workplace injuries with the expertise and collaborative support of UC staff in wellness programs, occupational health and recreational services. Participation in WorkStrong will decrease the likelihood of repeat occupational injuries and result in improved worker health, fitness, and overall well-being. The WorkStrong CoE is a shared resource for all campuses to support increased enrollment in local WorkStrong programs.

- In response to COVID-19, WorkStrong continued remote and virtual sessions with trainers and dietitians, as well as site visits, to maintain program continuity during operation curtailments
- Created and rolled out a WorkStrong Medical Update form, streamlining the process of resuming the program after a break in participation, often bypassing the need for an appointment with their Occupational Health Physician
- Leveraged 225 physician referrals to WorkStrong to increase enrollment and created a monthly report detailing the number of direct referrals from physicians/clinicians by UC location to be shared with the UC Occupational Health Medical Directors
- Developed a WorkStrong partner group at each location to focus on maximizing enrollment

Metrics

- Conducted 6 virtual site visits:
 - UC Davis Medical Center (October)
 - UC San Diego (December)
 - UC Santa Cruz (January)
 - UC San Francisco (February)
 - UC Riverside (April)
 - UC Irvine and Medical Center (June)
- Enrollments in 2020/2021: 283
- Program graduates: 180



Virtual Site Visits

