Graduate Student Orientation

Safety Requirements

Christina Hoddle
Laboratory Safety Officer

“Safety and Science are NOT separate entities. They are one.”
Why is laboratory safety important?

“The facts are unequivocal. Occupational Safety & Health Administration statistics demonstrate that researchers are **11 times** more likely to get hurt in an academic lab than in an industrial lab.

There have been serious accidents in academic labs in recent years—including fatalities—that could have been prevented with the proper use of protective equipment and safer laboratory procedures


http://cen.acs.org/articles/91/i18/Importance-Teaching-Safety.html
Sheri Sangj - UCLA

12/29/2009 - Three months into her job, she was using a plastic syringe to extract a small quantity of t-butyl lithium, as she withdrew the liquid, the syringe came apart in her hands, spewing flaming chemicals. A flash fire set her clothing ablaze and spread second- and third-degree burns over 43% of her body.
Assignment of Responsibilities

• University of California, its campuses, and units are responsible for having the appropriate programs in place and enforced in order to provide a safe working environment.

• The Principle Investigator is responsible for certifying that his/her lab is in compliance with all regulations.

• The PI and all lab workers (staff, students, visitors) must sign lab SOPs & acknowledge the contents, the requirements & responsibilities, in that SOP.

• The PI must approve all SOPs (standard operating procedure) and SOP amendments.

Written records are essential!
Campus Resources – ehs.ucr.edu
https://ehs.ucr.edu/coronavirus
COVID-19 Precautions

• Daily Wellness Check (qualtrics.com)

• Must wear a Face Covering

• Limited lab/vehicle occupancy

• Wash/sanitize hands frequently

• Worksite Specific COVID-19 Prevention Plan
Lab Safety Training

All researchers, including students, are required to COMPLETE their training requirements before they can begin working in a laboratory.

**Mandatory Training Requirements**

Laboratory Safety Fundamentals (2hrs 30min) – online
Hazardous Waste Management (32min) – online
Fire Extinguishers (4.5min) – online
COVID-19 Prevention (10min) - online

http://ehs.ucr.edu/training/

*subject to change
Lab Safety Training “Other Training”

http://ehs.ucr.edu/training/assessment.html
Recommended/required training based on type of laboratory work

1. Biosafety: if working with microbials or molecular techniques.
2. Bloodborne Pathogens – working with potentially infectious tissue, blood etc.
3. Animal Care and Use – any vertebrate animal use
4. Personal Protective Equipment – Chemical and Biosafety
5. Fume Hood Safety
6. Dry Ice Shipping
7. Pesticide Safety
8. Autoclave training – department medical autoclave (Imad Bayoun)
9. Radiation Safety
LHAT
(Laboratory Hazard “Assessment” Tool)

- Certify that you are aware of hazards in your lab
- Obtain PPE
Welcome!
Matt Daugherty
Daugherty's Lab

What would you like to do?
Search Chemicals
Add to Inventory
Share Chemicals
Pending Transfers
Inventory Summary
Waste Accumulation Storage Tracking electronically (WASTe)

http://ehs.ucr.edu/services/waste.html
UCR Laboratory Safety Rules

1. Familiarize yourself with the lab, location and operation of the safety features (exits, fire extinguishers, safety showers, eye wash facility, and first aid and spill kits) and document this.

2. Make sure you have documented training on all aspects of lab safety relevant to your work prior to beginning potentially hazardous activities and when changes are made to the procedures.

3. Use the Integrated Safety and Environmental Management (ISEM) five step process to include safety in your preparation for lab activities.

4. Immediately notify your PI or supervisor of all accidents and incidents (spills, splashes, fires, etc.) and seek medical attention when needed.

5. Wear appropriate protective eyewear (approved goggles or safety glasses) while in a room where anyone is working with hazardous chemicals or biologicals that can splash into your eyes, or around physical hazards (e.g., pressure vessels, lasers, etc.). Wash your hands before you leave the lab.

6. Use appropriate Personal Protective Equipment, such as approved gloves, safety glasses or goggles, apron or lab coat and clothes that cover most of your skin, such as long pants, and close toed shoes, especially when using hazardous materials.

7. Do not eat, drink, smoke, or apply makeup in rooms where chemical, radioactive, or biological hazards are present.

8. Store all chemicals and other hazardous materials according to California State Law and UCR policy. Know your chemical compatibilities/incompatibilities, stability, shelf life and recommended storage conditions.

9. Dispose of all waste in the correct manner in accordance with UCR policy. There are specific protocols for chemicals, contaminated and broken glass and plastic, sharps, radioactive isotopes and biological agents.

10. Know how to respond properly in an emergency. Clean up all spills safely and promptly, and report them to the Lab supervisor. If unsure how to safely clean up a spill, ask supervisor or EH&S for assistance.

For an online version with helpful links see www.ehs.ucr.edu/resources/publications. Please contact EH&S at (951) 827-5528 if you have any questions.
EMERGENCY PROCEDURES

Visit www.campusstatus.ucr.edu for additional emergency information.

**FIRE**
- If your clothing catches fire, use safety shower or STOP, DROP and ROLL to extinguish flames.
- If safe, use fire extinguisher on flame using PASS protocol (Pull, Aim, Squeeze, Sweep).
- Activate nearest fire alarm.
- Close doors to confine fire.
- Evacuate.
- Meet at Emergency Assembly Area.
- Re-enter only when directed by authorities.
- Call UCPD.

**UTILITY FAILURE**
- Steam line failure: Leave the immediate area.
- Plumbing/hydro: If you know source of leak, shut off the water if possible.
- Power failure: Evacuate building as appropriate, use caution.
- Elevator failure: Use the elevator phone to request help; activate the emergency alarm with the elevator. Call using cell phone.
- Ventilation: If smoke and strong burning odor occur, evacuate immediately.
- Notify Facilities Services.

**EXPOSURE RESPONSE**
- Needlestick, sharp injury, or animal bite/scratch: Wash exposed area thoroughly for 15 minutes with warm water and soap.
- Eye exposure: Use eye wash to flush eyes for 15 minutes while holding eyes open.
- Skin exposure: Use nearest safety shower for 15 minutes. Stay under the shower and remove clothing.
- Reference Emergency Flipchart for Medical Treatment.
- Notify PI/Supervisor and report incident to EMS.

**IN AN EMERGENCY CALL**
(951) 827-5222 (cell)
Or 9-1-1 (landline)

Notify Environmental Health & Safety:
Call (951) 827-5528 work hours 8am-5pm
Call UCPD (951) 827-5233 after hrs.

Call Facilities Services (951) 827-4214 8am-5pm
(951) 827-4607 after hrs.

Please also visit www.ets.ucr.edu for more information.

**HAZARDOUS MATERIALS RELEASE**
- Alert people in immediate area of spill.
- If you have training, you may assist in clean-up effort of small scale spills.
- Close doors to contaminated room & post signs indicating the hazard.
- Limit movement of contaminated person.
- Re-enter when directed by authorities.
- Notify Environmental Health & Safety (EH&S)

**FUME HOOD**
- Fire in hood:
  - Do not push emergency button.
  - Use fire extinguisher if possible.
  - Lower sash completely.
- If alarm sounds or hood is not functioning properly:
  - Stop working.
  - Lower sash completely.
  - Wait for alarm to stop. If it continues:
  - Notify Facilities Services.

**SUSPICIOUS BEHAVIOR/OBJECT**
- Do not interfere with people committing a crime, creating a disturbance or behaving in a bizarre manner.
- Take shelter in secure area.
- Report suspicious items (DO NOT TOUCH).
- If phone in threat, get type, location and description of device.
- Evacuate if safe to do so.
- Call UCPD.

**ACTIVE THREAT**
- Run: Have an escape route and plan. Leave belongings behind, keep hands visible.
- Hide: In area out of the threat/shooter's view. Note your location. Barricade from threat, silence cell phone.
- Fight: RIGHT ONLY as a last resort, attempt to incapacitate threat/shooter, act with physical aggression and throw items at the active shooter.
- Call UCPD.

**EVACUATION**
- If safe, secure any hazardous materials or equipment and close fume hoods before leaving.
- Shut down hazardous operations.
- Evacuate the building by the nearest safe exit.
- Follow evacuation routes to your Emergency Assembly Area.
- Notify emergency response if potentially dangerous conditions fall or if people that still remain in building.
- Re-enter only when directed by authorities.
- Do not run or use elevator.
**IN CASE OF AN ACCIDENT**

Ensure first aid is provided, and if necessary, **SEND EMPLOYEE TO:**

**Central Occupational Medicine**

4300 Central Avenue  
Riverside, CA 92505  
Phone: (951) 222-2206  
Hours: Open 24 hours – 7 Days a Week  
Transportation can be requested by calling this facility in advance.

**Parkview Occupational Medicine**

9641 Magnolia Ave., Ste. 107  
Riverside, CA 92503  
(951) 353-1021  
Hours: Weekdays: 8 a.m. to 5 p.m.  
Weekends: 8 a.m. to 8 p.m.  
After hours: call (951) 353-1706

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<th>In Case of Emergency</th>
<th>Other Telephone Numbers and Information</th>
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| Riverside Community Hospital  
4445 Magnolia Ave  
Riverside, CA 92507  
Phone: (951) 736-3000  
Hours: 24 Hour Emergency Care (Follow-up treatment should ordinarily be obtained at Parkview Occupational Medicine or at COMP) | Campus Emergency, 911  
Labor Relations & Workers' Compensation  
- Phone: x2-3041  
- Web site: [http://humanresources.ucr.edu](http://humanresources.ucr.edu)  
Environmental Health and Safety  
- Phone: x2-5528  
- Web site: [http://www.ehs.ucr.edu](http://www.ehs.ucr.edu)  
Cal/OSHA (951) 383-4321 |

Immediately report fatalities or injuries requiring hospitalization for more than 24 hours to EH&S at x2-5528

If you become injured or ill because of your job you will be entitled to benefits under the California Workers' Compensation Law. These benefits include:

- Medical Care: All authorized medical expenses are fully covered.
- Selection of Doctor: If you need medical care, you will be referred to the on-site Medical Facility or to a local doctor. If you still need care after 30 days following your report of your injury, you may select your own physician if you wish.
- Designation of Treating Physician: Prior to an on-the-job injury you may designate your treating physician by providing written notice to the University/Laboratory of the name of the personal physician who has previously treated you and who has your medical records. Contact your Supervisor or Labor Relations & Workers' Compensation Office at x2-3041 for the form and details on physician pre-designation.
- Disability Income: If hospitalized, or unable to work more than three days, and your claim is accepted, you will receive income equal to two-thirds of your average pay, up to a legal maximum per week. If you receive a permanent disability, additional payments will be provided.
- Supplemental Job Displacement Benefit: For injuries which occur on or after 01/01/2004 and result in permanent disability you may receive a non-transferable voucher payable to a state approved school. For details and eligibility, contact Disability Management Coordinator at x2-4785.
- Death Benefit: Should the injury cause death, a benefit will be paid to dependents.
- Submitting claims: Claims for Workers' Compensation benefits, including medical treatment and request for a change of doctor should be made to Labor Relations & Workers' Compensation Office, 1420 University Ave., Suite A, Riverside, CA 92521, (951) 627-3041. (Benefits may not be provided for injuries occurring during voluntary participation in any off-duty recreational, social, or athletic activity not part of an employee's work-related duties).
- Discrimination Protection: Employees are protected against discrimination in accordance with Labor Code section 132(a).
  
The University of California, having complied with the provisions of Section 3370(b) of the California Labor Code, is self-insured for Workers' Compensation. The Third Party Administrator for the University is SEEDWICK, GMS, P.O. Box 650036, San Diego, CA 92163-9208. Phone: (619) 321-1440 or (909) 353-0305. Fax: (619) 321-1436
  
The State of California Division of Workers' Compensation Information & Assistance Office is also available to answer questions and assist you. The nearest office is: 2737 Main St, Room 300, Riverside, CA 92501. (951) 782-3477.

**Important** – Always immediately notify your supervisor of any work-related injury or illness, no matter how small. Any delay in reporting may delay workers’ compensation benefits. The maximum time to report an injury is one year. If you have any questions or would like more details about workers’ compensation benefits, please see your supervisor.
Posted in relevant laboratories

Biohazardous & Medical Waste Disposal Requirements

Biohazardous Waste
Includes any laboratory or research waste that is potentially infectious to humans, plants or animals, or would pose a potential threat to the community or the environment (e.g., organisms with significant environmental impact, or transgenic or recombinant organisms).

1. Label a red biohazard bag with building and room number before filling it.
2. Place the waste in the red biohazard bag (orange bags are illegal in California). Do not place glass pipettes or anything that will puncture the plastic bag. Rigid objects such as transfer pipettes can be decontaminated by exposure to a 10% bleach solution for at least 30 minutes.
3. Place autoclave tape on the bag to ensure the autoclave reached proper decontamination temperature.
4. Waste must be stored in a labeled container with a tight-fitting lid before decontamination and disposal to prevent leaks.
5. When autoclaved, dispose of the red bag directly to the building dumpster or make special arrangements with building services.
6. All waste must be decontaminated and disposed within 7 days of generation if stored at a temperature above 0°C.
7. All waste must be disposed within 90 days if stored at or below 0°C.
8. Place all sharps in a red sharps container that is rigid, leak proof, and has the international biohazard symbol.

Medical Waste
Includes all sharps and any biohazardous waste from research involving the treatment, diagnosis or immunization of humans or animals. Riverside County’s UCR Medical Waste Permit requires anyone generating, treating, or storing medical waste to comply with the following procedures.

1. The door of the medical waste storage area must have a sign indicating the room contains hazardous waste.
2. The doors of the medical waste storage facility must be locked and remain closed to prevent unauthorized access.
3. The autoclave must be spore-tested monthly. For guidance, contact EH&S Biosafety at 951-827-5528.
4. The autoclave must have a chart recorder. All charts must be dated and kept by the department for 3 years.
5. All waste treatment runs must be listed on the autoclave log and the logs must be kept by the department for 3 years.

For more information www.ehs.ucr.edu
Reminders

• Take necessary Health and Safety classes

• Read Chemical Hygiene Plan and sign

• Locate your lab’s first aid kit, safety shower, eyewash, and fire extinguisher

• Locate &/or request PPE

• Learn the hazards of any procedure you undertake and take appropriate safety measures to avoid injury.

• All procedures should have an SOP (standard operating procedure). Make sure you know and FOLLOW them!
Contact Information

• Christina Hoddle, Entomology LSO
  • Chapman108
  • Extension 24360
  • Christina.hoddle@ucr.edu

• Pamela Anne See, Safety Mentor EHS
  • Extension 25878
  • pamela.see@ucr.edu
Splashed with a strongly corrosive liquid
He was wearing his safety glasses at the time.
Although his skin is seriously impacted his eyes are fine.

WEAR YOUR PPE!