

SCIPP Lab Safety Plan

updated and approved May 2018

The SCIPP lab safety documentation is composed of two parts: the UCSC Lab Safety Manual (LSM) and this SCIPP Lab Safety Plan.

The on-line UCSC Laboratory Safety Manual (LSM) provides information regarding protection from health hazards associated with the laboratory environment in accordance with applicable California Occupational Safety and Health Administration (Cal-OSHA) regulations, including the "Chemical Hygiene Plan" requirements specified in 8 CCR 5191. The LSM serves as a resource for identifying and evaluating the nature of potential laboratory hazards, as well as determining appropriate hazard controls. The information in this manual applies to all laboratories that use, store or handle potentially hazardous materials and all personnel who work in these facilities.

The online LSM is revised continuously throughout the year by EH&S staff and can be found at

<https://ehs.ucsc.edu/lab-safety-manual/>

The on-line LSM, in conjunction with the SCIPP Lab Safety Plan, replaces the printed Chemical Hygiene Plan (the former Appendix J of the IIPP "slug" binder). The laboratory Injury & Illness Prevention Program is located in room 383 at the beginning of the "Slug" binder, as well as on the SCIPP Safety website.

http://scipp.ucsc.edu/info/SCIPP_Safety/safety.html

SCIPP Lab-Specific Information

SCIPP labs are multi-user/multi-project facilities. Potential hazards include:

- High voltage electronics
- Radioactive materials and sources
- Lasers
- Flammable chemicals
- Machine shop equipment, hand tools, and sharps
- Liquid nitrogen and nitrogen gas
- Soldering
- Lead

SCIPP Lab spaces and contacts include:

Clean spaces – Nat Sci II labs 358C, 365 and 369 – Forest Martinez-McKinney

Electronics labs – Nat Sci II labs 377, 383 and 389 – Max Wilder

Machine shops – Nat Sci II rms 361 and 387 – Max Wilder

Particle Astrophysics labs – Nat Sci II labs 312, 314 and 316 – David Williams

Neurophysics lab – Nat Sci II lab 320 – Sasha Sher

Johnson lab – Nat Sci II lab 334 – Robert Johnson

Lab Worker and Volunteer Responsibilities

Every laboratory worker or volunteer must complete the SCIPP Safety Orientation and the Training Checklist prior to beginning work in the lab. The Hazard-Specific Training section, on page 3 of the checklist, is to be completed in consultation with the Principal Investigator.

http://scipp.ucsc.edu/info/SCIPP_Safety/SCIPP_2018_Lab_Specific_Checklist.pdf

Lab workers and volunteers must complete hazard-specific safety training as indicated on the Training Checklist prior to working with any lab hazard.

Every lab worker or volunteer is to observe the following guidelines:

1. Know the safety rules and procedures that apply to the work being done and take appropriate safety precautions including using personal protective equipment.
2. Food and beverages are prohibited in SCIPP labs, which are designated as “Radiation Use Areas”. These rooms have a “Radiation Use Area” sign posted at each door and are currently rooms 383 and 377, but this could change as the room use changes. Do not consume or even bring food or beverages in any of the lab rooms designated as Radiation Use Areas.

3. SCIPP labs 358C, 365 and 369 are clean spaces. Lab workers and volunteers must complete clean space training prior to entering these spaces.
4. Wear long pants and closed-toe shoes at all times in SCIPP labs.
5. Confine long hair and loose clothing when working in the lab.
6. Clearly label all chemicals in the lab, including small squeeze bottles.
7. Follow accepted waste disposal procedures.
8. Do not daisy chain electrical cords.
9. Maintain a clutter-free work area. Clutter and garbage can be a safety hazard. Do not leave boxes and packing material on lab benches or on the lab floor.
10. Know the location of emergency equipment; know the emergency evacuation routes, and how to report an emergency.
11. Use lab equipment in a safe manner and only for its designated purpose.
12. Do not work alone in the lab unless approved by the Principal Investigator.

Principal Investigator Responsibilities

SCIPP Principal Investigators have direct responsibility for the safety of laboratory workers and volunteers under their direction. The names of individuals with principal investigator responsibilities are located in appendix A of the SCIPP Injury and Illness Prevention Program binder.

Principal investigator responsibilities include:

1. Implementing policies and procedures described in the online Lab Safety Manual.
2. Ensuring that lab workers and volunteers receive safety training prior to beginning work by:
 - a. Informing Mykell Discipulo prior to a new worker or employee beginning in the lab.
 - b. Identifying the needed safety training for each new worker or volunteer by completing page 3 of the SCIPP Safety Training Checklist.
 - c. Informing Max Wilder if an existing worker or volunteer will begin a new process or needs additional training.
 - d. Inform both Mykell and Max when a volunteer or employee will no longer be working in the lab.

3. Ensuring that training requirements are fulfilled and that records are maintained by reviewing training records, found in room 383, for all people under their direction.
4. Modeling safe lab practices including wearing long pants, closed-toe shoes, and using appropriate personal protective equipment.
5. Seeking ways to improve lab safety at SCIPP.
6. Annually reviewing this SCIPP lab-specific safety document.

Lab Safety Manager Responsibilities

The SCIPP Lab Safety Manager is responsible for managing the day-to-day safety operations of SCIPP labs in collaboration with SCIPP PI's.

Lab Safety Manager responsibilities include:

1. Maintaining training records for lab workers and volunteers.
2. Providing hazard-specific safety training.
3. Conducting quarterly lab safety self-inspections.
4. Monitoring safety compliance of lab workers and volunteers.
5. Identifying and proposing safety improvements.
6. Maintaining supplies of lab safety equipment including secondary containment tubs, PPE and sharps containers.
7. Representing SCIPP at EH&S Lab Safety Representative meetings.
8. Notifying EH&S of changes to the SCIPP Radioactive Use Permit including updates to the radiation worker list and the inventory.
9. Coordinating the SCIPP Chemical Inventory.
10. Coordinating radioactive materials training and compliance.

SCIPP Specific Safety Issues

SCIPP lab workers or employees who work with liquid nitrogen or other hazardous chemicals are expected to complete the online Laboratory Safety Fundamentals training and the SCIPP-specific liquid nitrogen training coordinated by Max.

<http://ehs.ucsc.edu/lab-safety-manual/training.html>

Only authorized SCIPP personnel with specific machine shop training are allowed to enter the machine shop without escort and use these tools. Student workers and volunteers are not allowed to use the machine shop tools without supervision.

SCIPP lab workers or employees who work with lasers are required to complete the campus laser safety training and the SCIPP-specific laser safety training coordinated by Max.

SCIPP labs include high voltage electronics. The International Electrotechnical Commission defines high voltage as voltage above 1,000V for alternating current. All lab workers must complete SCIPP-specific safety training prior to using any high voltage system.

SCIPP uses lead for radioactive materials shielding and also uses lead flux in soldering. All lab workers must complete SCIPP-specific safety training before using either type of lead.

SCIPP lab workers or employees who interact with radioactive materials are required to complete the campus radiation safety training and the appropriate SCIPP-specific training as described below.

SCIPP RADIATION TRAINING REQUIREMENTS

Non-Users are employees, students and volunteers who frequent or work in SCIPP labs. They must review the UCSC Radiation Safety Training for Non-Users and sign off on their Lab Training Checklist

SCIPP Radioactive Materials User, Level 1 users are employees, students and volunteers who work with lab systems that include radioactive sources. They open the systems to exchange samples or make adjustments. They do not directly handle sources and they may not check sources out. These individuals must complete the UCSC EH&S Radiation Safety online course through the UC Learning Center and complete the SCIPP-specific training for Level 1 users.

SCIPP Radioactive Materials User, Level 2 users are employees, students and volunteers who are authorized users of radioactive sources. They are responsible for checking out, moving and securing sources within SCIPP labs. These individuals must complete the UCSC EH&S Radiation Safety online course through the UC Learning Center and complete the SCIPP-specific training for Level 2 users.

This document will be updated as needed.