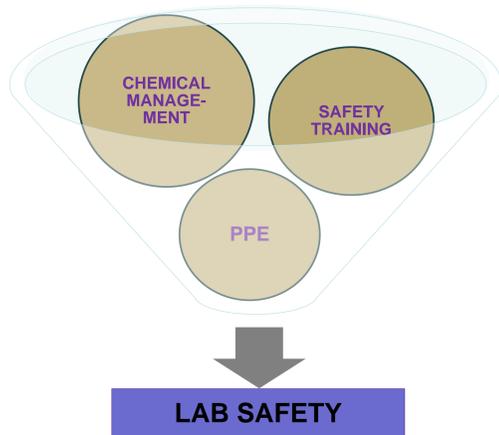


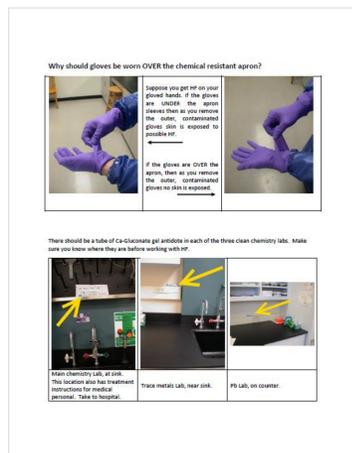
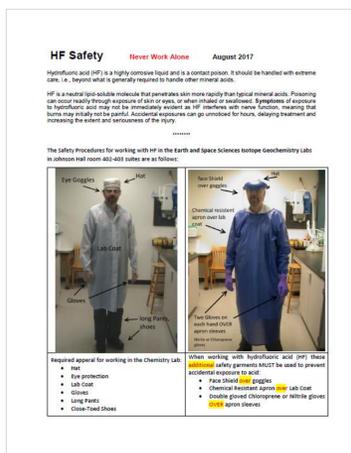
LAB SAFETY INITIATIVE INNOVATION EVENT



INCORPORATING VISUALS INTO STANDARD OPERATING PROTOCOLS (SOPs)

NELSON LAB Earth and Space Science, College of the Environment

Standard operating protocols (SOPs) are required for all chemicals in use. These documents can include information on the hazards of a specific chemical or a process involving multiple chemicals, protective equipment required, waste management procedures and emergency procedures. To improve the efficiency and effectiveness of delivering this information, the lab of Dr. Bruce Nelson decided to incorporate photographs into their SOPs.



PPE & SAFETY EQUIPMENT KIOSKS

HAUNREITER LAB Environmental and Forest Sciences, College of the Environment

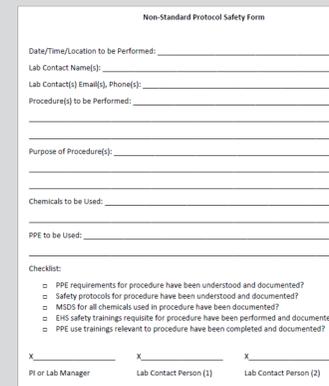
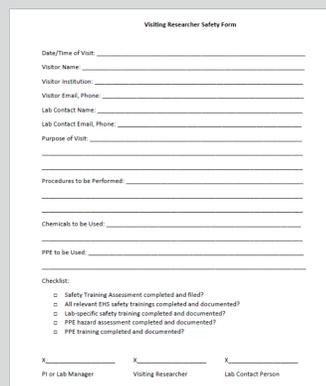
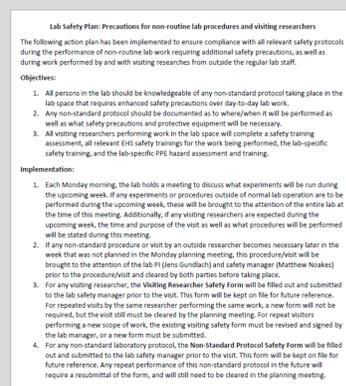
Due to the size of the Paper Science Center's lab space, mobile safety kiosks/carts were created by Kurt Haunreiter's group, ensuring that lab members have easy access to important safety equipment at all times. The kiosks/carts contain personal protective equipment (PPE) such as rubber aprons, gloves, first aid kits, and chemical spill kits. Before a student or staff member begins their work at a station, a kiosk/cart must be in place and their PPE must be put on.



DOCUMENTS FOR VISITORS AND NON-STANDARD PROCEDURES

GUNDLACH LAB Physics, College of Arts and Sciences

Prof. Jens Gundlach's group often has visiting researchers trying out new lab procedures in their lab space. In order to ensure that everyone has completed the necessary safety trainings and are following the correct safety practices, they created their own safety documents. The Visiting Safety Protocol outlines a safety plan and policies for visiting researchers. The Visiting Researcher Safety Form documents the contact information, experiment plans, chemicals used, and a safety document checklist for visiting researchers. A similar version of this form is used to document any new unique procedures being performed in the lab.



SHARING SAFETY DOCUMENTS IN THE CLOUD

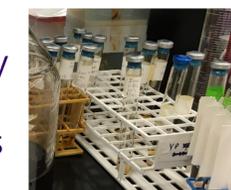
CAO LAB Materials Science and Engineering, College of Engineering

Prof. Guozhong Cao's lab group uses Google Drive as a way to store and share their lab documents. Every lab member has a folder with all of their experimental standard operating protocols (SOPs) inside. The SOPs are written by the people using them and reviewed by the lab's Chemical Hygiene Officer. Using file sharing in this way allows all lab members to have immediate access to the most current SOPs and also makes it easy to see who is working with which chemicals.

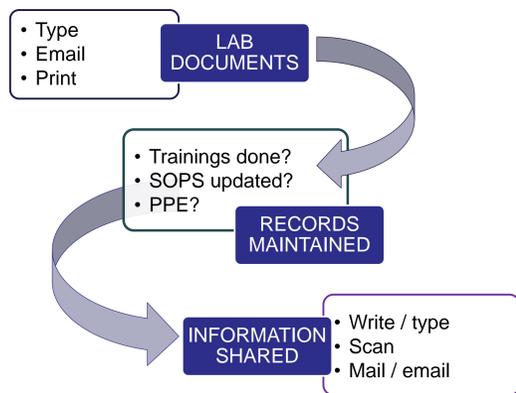
DELEGATING CHEMICAL MANAGEMENT TO WORK-STUDY STUDENTS

BAROSS LAB Oceanography, College of the Environment

Labs that collect large numbers of samples from field work often face issues with how to consolidate and dispose of them later on. Prof. John Baross' group decided to hire a work-study student to take on this task for their space. This ensures that the samples are being processed in a uniform manner and disposed of correctly, and it prevents the samples from continuing to take up shelf space in the lab.



LAB SAFETY INITIATIVE INNOVATION EVENT



TEACHING INSTRUCTOR ORIENTATION

BEN WIGGINS
Biology, College of Arts and Sciences

A group of teaching lab spaces in the Biology department are used by various instructors. Due to the high turnover rate of the people using these spaces and the variety of lab work being done in them, Ben Wiggins, the supervisor of these labs, helped create a checklist to ensure that every instructor has the necessary safety documents and safety trainings for their work. The checklist also documents that each instructor's lab staff member has been oriented and trained appropriately and serves as a record of which instructor is using a particular room at any time. The document is signed and dated by the instructor at the bottom.

Professor / PI Teaching Lab Safety Checklist:

- Laboratory policies
- Training expectations
- Additional safety documents required
- Signature and date from user

Professor / PI Teaching Lab Safety Checklist

Quarter/year: _____
Class Number: _____ Room Number: _____

Indicate that your assigned laboratory has:

- o Current updated laboratory log
- o Chemicals are brought into the lab they must be entered into the room inventory: <http://www.ehs.washington.edu/spoc/chem>
- o Applicable MSDS SDS sheets with instructions for spill cleanup/emergency response <http://www.ehs.washington.edu/spoc/chem/sds/sdsmanual>
- o Completed Personal Protective Equipment assessment for all lab activities <http://www.ehs.washington.edu/spoc/chem/pep>
- o SDS for toxic chemicals, biohazards, reagents, solvents, or other hazardous materials <http://www.ehs.washington.edu/spoc/chem/sds/sdsmanual>

Indicate that each Lab Staff Member has completed:

- o Laboratory Safety Training as specified by the EH&S training matrix <http://www.ehs.washington.edu/spoc/chem/sds/sdsmanual>
- o UW Laboratory Executive Safety Training Checklist <http://www.ehs.washington.edu/spoc/chem/sds/sdsmanual>
- o Laboratory Staff Safety Orientation Check List (found on the lab specific information section of the Lab Safety Manual)
- o Additional Lab-specific Training, SOP's, PPE requirements
- o Keep completed training records in the Lab Safety Manual

All accidents and near misses that take place in the lab must be reported to the UW OAES System. For more information on how to use the OAES system go to <http://www.ehs.washington.edu/oaes/oaesinfo>

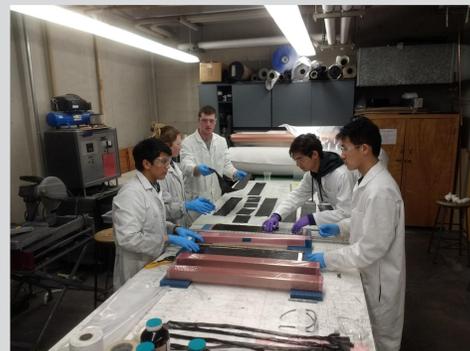
Professor/PI Name (print) _____ Signature _____ Date _____

Completed Checklist to be kept in the lab specific information section of the Lab Safety Manual 11/2017

ENGAGING STUDENTS IN SAFETY TRAINING OVERSIGHT

FLINN LAB
Materials Science and Engineering, College of Engineering

The composite materials processing facility in Wilcox Hall is used by many students from the Materials Science and Engineering department, as well as multiple other engineering departments, and is managed by Dr. Brian Flinn's lab. When the question arose of how to ensure that all users of the facility were properly trained, the lab enlisted the help of the Society for the Advancement of Materials and Process Engineering (SAMPE). The Student President and the Safety Officer of SAMPE take the necessary safety trainings at the beginning of each academic year and are then responsible for promoting the trainings to the students and recording the trainings in their SAMPE-specific Lab Manual. This guarantees that all students regardless of department, standing or research group, receive the correct trainings for the facility.



TRACKING TRAININGS AND SENDING REMINDERS

KOELLE LAB
Medicine - Allergy and Infectious Diseases, School of Medicine

It can be a challenge to track and manage the safety trainings of all lab members if the lab works in several different research fields. The Chemical Hygiene Officer (CHO) for Prof. David Koelle's lab created an Excel spreadsheet to tackle this issue. Her spreadsheet lists each lab member's training requirements, the dates of completion and the required renewal dates. The dates are programmed to change color when a training has expired or is soon to expire, so she gets alerted visually when the file is viewed and can send them reminder messages.

ORIENTATION & TRAINING GUIDE

JUUL LAB
Pediatrics, School of Medicine

To streamline the orientation and training process for everyone working in their lab space, the Chemical Hygiene Officer (CHO) of Dr. Sandra Juul's lab created a Safety Orientation Checklist. Each person must review the list of trainings needed for their work, complete a walk-through of the lab to locate safety resources and equipment using the checklist, and sign and date the checklist to record the orientation and trainings have been completed.



Laboratory Safety Orientation Checklist for Dr. Juul's Laboratory

Laboratory Safety Training Review
o Prepare for required general laboratory safety training.
o All personnel working within a research laboratory must take an EH&S general lab safety course, or those that already have safety training, review research program with an EH&S Lab Safety Advisor to determine if any additional safety training is required. For research involving radiation safety, laser safety, etc. List additional training requirements below.
o Review laboratory specific training/SOPs for highly hazardous materials, equipment, or processes that pertain to your research program.

Laboratory Orientation Review the following safety features:
o Location and information in Emergency Response Guides (typically next to wall phones or main exits)
o Emergency evacuation route and meeting area
o Location of the extinguishers and closest fire alarm pull station
o Location and proper use of safety showers
o Location and proper use of eyewash stations
o Location of spill kit (if applicable)
o Location and use of spill kit (if applicable)
o Location and use of spill kit (if applicable)
o Location of chemical fume hoods and/or biosafety cabinets (if applicable)
o Lab waste management, including location & use of hazardous waste accumulation areas (if applicable)
o Location of Safety Data Sheets in lab or online (Safe Chemical Work Practices tools on EH&S website)
o Location of Chemical Hygiene in lab or online (Safe Chemical Work Practices program on EH&S website)
o Location and number of Exposure Control Plan (see Bioshielded Pathogen program on EH&S website)
o Location of highly hazardous materials, equipment, or processes, their uses for, use, & location of SOPs

Training Information & Signatures
o Undergraduate | Post Doctoral Fellow | Intern | Visitor
o Graduate Student | Staff | Core Customer | Vendor

Trainer: _____
Name: Olivia White Signature: _____
Orientation given by: David Koelle Signature: _____
Laboratory/Room Name: Division of Neurobiology/Ph3030 Date: 12/11/17

EH&S Principal Investigator: A copy of this form must be kept in the lab.

LAB-SPECIFIC CHECKLISTS

SEAN YEUNG
Civil and Environmental Engineering, College of Engineering

The Harris Hydraulic Lab is a fully equipped laboratory for use by both research and teaching groups working on environmental fluid mechanics. The laboratory is used by researchers from departments across campus and is managed by Sean Yeung, the building coordinator. He has created a document outlines lab-specific trainings and policies for the workspace. This document provides users with an orientation guide and also serves as a record of who is using the space and its equipment.

Teaching Lab Safety Checklist

Quarter/year: _____
Class Number: _____ Room Number: _____ Instructor/TA: _____

Indicate that your assigned laboratory has:

- o 15-to-600 mg/L MSDS Database. All stored chemicals must be listed here: <http://www.ehs.washington.edu/spoc/chem>
- o Applicable MSDS SDS sheets with instructions for spill cleanup/emergency response <http://www.ehs.washington.edu/spoc/chem/sds/sdsmanual>
- o Completed Personal Protective Equipment assessment for all lab activities <http://www.ehs.washington.edu/spoc/chem/pep>
- o SDS for toxic chemicals, biohazards materials, and dangerous procedures: <http://www.ehs.washington.edu/spoc/chem/sds/sdsmanual>

Indicate that Lab Staff Member has completed:

- o Laboratory safety training as specified by the EH&S training matrix <http://www.ehs.washington.edu/spoc/chem/sds/sdsmanual>
- o Laboratory orientation checklist (found on page 2 of this document)
- o Additional lab specific training for particular equipment or procedures
- o List completed training here

Keep completed training records in the training binder, kept near the Lab Safety Manual.

All accidents and near misses that take place in the lab must be reported to the UW OAES System. For more information on how to use the OAES system go to <http://www.ehs.washington.edu/oaes/oaesinfo>

Professor/PI Name (print) _____ Signature _____ Date _____

Laboratory Orientation Checklist

Location of safety equipment & documentation:
o Lab safety manual & SOPs
o MSDS (physical and digital)
o Lab fire plan & emergency contacts
o Lab and building exits
o Fire extinguisher
o Showers
o Eyewash
o Spill kit
o First Aid
o Safety sign

General lab procedures:
o PPE: clothing type, storage, maintenance, location
o Hazardous waste disposal and chemical segregation
o Glass disposal
o Biohazardous waste disposal
o Evacuation assembly area
o Emergency shower plan
o Signs of chemical releases and/or exposure

LAB SAFETY INITIATIVE INNOVATION EVENT



ROUTINE SELF-AUDITS & LAB CLEAN-UP DAYS

YU LAB Chemical Engineering, College of Engineering

General housekeeping issues and maintaining awareness of them are issues that every lab deals with. The members of Dr. Qiuming Yu's lab address this by conducting group walk-throughs of their lab space every other Friday. This gives lab members an opportunity to discuss current housekeeping and safety issues within their workspace. These walk-throughs are also used as time to conduct tidying up of the lab areas. Doing this on a regular basis helps prevent clutter and improves level of safety awareness in the lab.

DEPARTMENT SAFETY TEAM

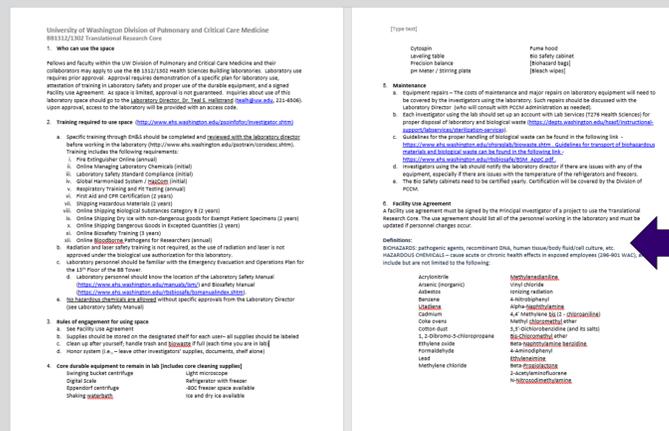
DEPARTMENT OF BIOLOGY College of Arts and Sciences

Biology has formed a new safety team to discuss and oversee safety issues within their department. They have chosen Ron Killman to be the department's designated Safety Officer.



SAFETY DOCUMENTS FOR SHARED EQUIPMENT HALLSTRAND LAB Pulmonary and Critical Care, School of Medicine

The Translational Core Lab is a shared space used by researchers and faculty members in the Pulmonary and Critical Care Medicine (PCCM) Division. This space is overseen by Dr. Teal Hallstrand, the laboratory director. To ensure that everyone using the space is engaging in best practices and aware of safety requirements, his group created a list of guidelines. These guidelines outline resources and expectations for all users, and a Facility Use Agreement that everyone must read and sign before using the space or any of the equipment in it. These safety documents also act as a record of who has used the space and equipment for their research.

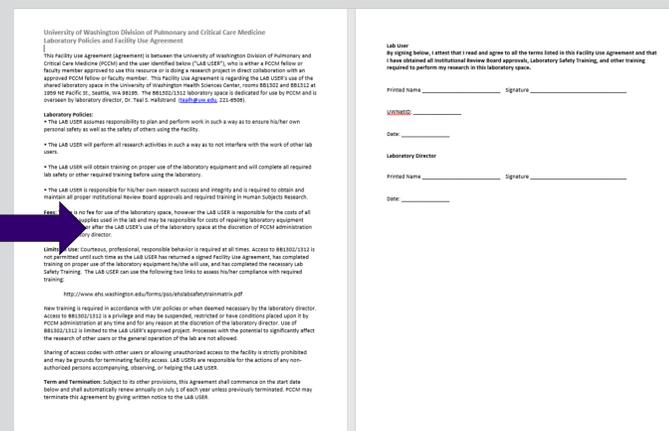


Guidelines List:

- Training requirements
- Rules of engagement
- Available equipment
- Maintenance procedures
- Hazardous chemicals present

User Agreement:

- Laboratory policies
- Limits on use
- Fees
- Signature and date from user
- Signature and date from laboratory director



DEPARTMENT SAFETY TEAM

DEPARTMENT OF AERONAUTICS AND ASTRONAUTICS College of Engineering

Aeronautics and Astronautics has formed their own safety team to discuss and oversee safety issues within their department. Dr. Dana Dabiri is currently leading the meetings for this group.



REVIEWING CHEMICAL HAZARD LEVELS

SCHWARTZ LAB Chemical Engineering, College of Engineering

Dr. Daniel Schwartz's lab uses MyChem to manage their chemical inventories as well as keep track of their risk level in the lab. Their inventory showed that they had one substance from an old grad student that significantly increased the hazard level in their lab. They did not need the chemical for immediate experimental purposes, and got rid of it, immediately lowering their lab's hazard level.



Facility Room	CSL Department	Contact	Room	Work Phone	Home Phone	# Chem	Last Reviewed	Reviewed By	Room Level
BESBORN HALL 209	CHEMICAL ENGINEERING	DANIEL SCHWARTZ	AREA	206 485-4815	206 526-1332	243	11/05/2017	FRISORACE	Room Update
		CARTER ROBERT BEASHEA	AREA	360 774-1141					Room Update
		KARBERO HASEDOYO	AREA	206 543-4046	360 293-4110				Room Update
		MATTHEW MCKRACH	AREA	360 791-7139					Room Update
		KARL OLSBRO	AREA	360 493-8813					Room Update
231	CHEMICAL ENGINEERING	DANIEL SCHWARTZ	AREA	206 485-4815	206 526-1332	34	12/28/2016	KOZYRA	Room Update
		CARTER ROBERT BEASHEA	AREA	360 774-1141					Room Update
		KARBERO HASEDOYO	AREA	206 543-4046	360 293-4110				Room Update
		YASBRO	AREA	460 851-5286					Room Update
		DANIEL SCHWARTZ	AREA	206 485-4815	206 526-1332	48	06/04/2017	FRISORACE	Room Update
HARBORVIEW B4T 408	CARDIOLOGY, MEDICINE	DANIEL SCHWARTZ	AREA	206 485-4815	206 526-1332	48	06/04/2017	FRISORACE	Room Update
		CARTER ROBERT BEASHEA	AREA	360 774-1141					Room Update
		KARBERO HASEDOYO	AREA	206 543-4046	360 293-4110				Room Update
		MATTHEW MCKRACH	AREA	360 791-7139					Room Update
		KARL OLSBRO	AREA	360 493-8813					Room Update
B018	METABOLISM, ENDOCRINOLOGY, AND	MICHAEL W SCHWARTZ	AREA	206 697-5283	425 756-4887	0	05/12/2016		Room Update
		ALAN KOSIB	AREA	425 962-2465	425 756-4887				Room Update
		KEILEY KOEHL	AREA	425 962-2465					Room Update
		MAURICE ROEDER	AREA	206 543-4046					Room Update
		KARIM DOGROTO	AREA	206 697-5283	425 993-6381				Room Update
B018	METABOLISM, ENDOCRINOLOGY, AND	MICHAEL W SCHWARTZ	AREA	206 697-5283	425 756-4887	0	09/23/2008	Morgan	Room Update
		JAMILA LERIA DAVID	AREA	206 697-5283	425 298-2147				Room Update
		ALAN KOSIB	AREA	425 962-2465	425 756-4887				Room Update
		KEILEY KOEHL	AREA	425 962-2465					Room Update
		MAURICE ROEDER	AREA	206 543-4046					Room Update

MyChem offers a variety of tools for users to manage their chemical inventories, including Chemical Safety Level (CSL) reports, which show the CSL for each room listed under a particular person's name