

CCMR LAB SAFETY ROOM ORIENTATION DUFFIELD HALL 231&150



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ccmr

Cornell Center for Materials Research

Cornell University, Ithaca, NY

<http://www.ccmr.cornell.edu>



Policy:

The safety rules for CCMR are based on our best interpretation of requirements at the federal, local, campus, and Duffield Hall levels. As a core facility with a broad user base, our goal is to enable all users to have the safest and most efficient possible research experience.

In the event you have any further questions regarding the proper procedures, safety regulations, or other concerns, please contact one of the Facility Staff. You may also find the following contacts may be able to assist you:

Scott Albrecht (sja4@cornell.edu) Building Manager Duffield Hall

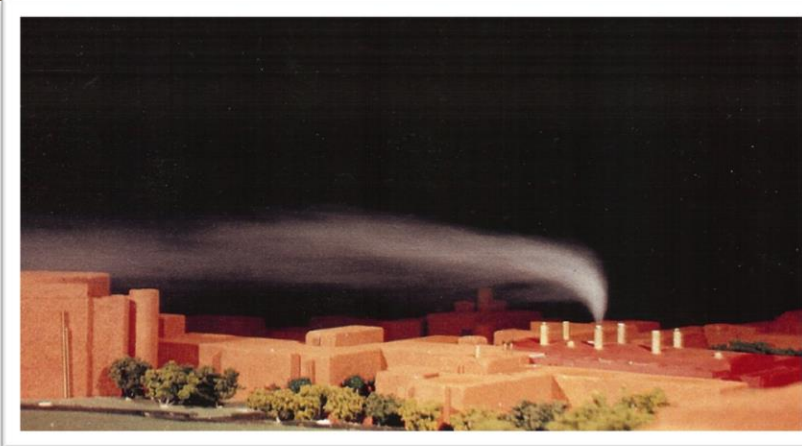
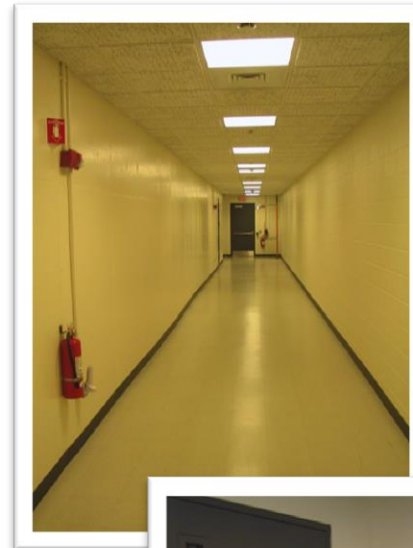


***Dan Woodie (Daniel.Woodie@cornell.edu) College of Engineering
Safety Officer***

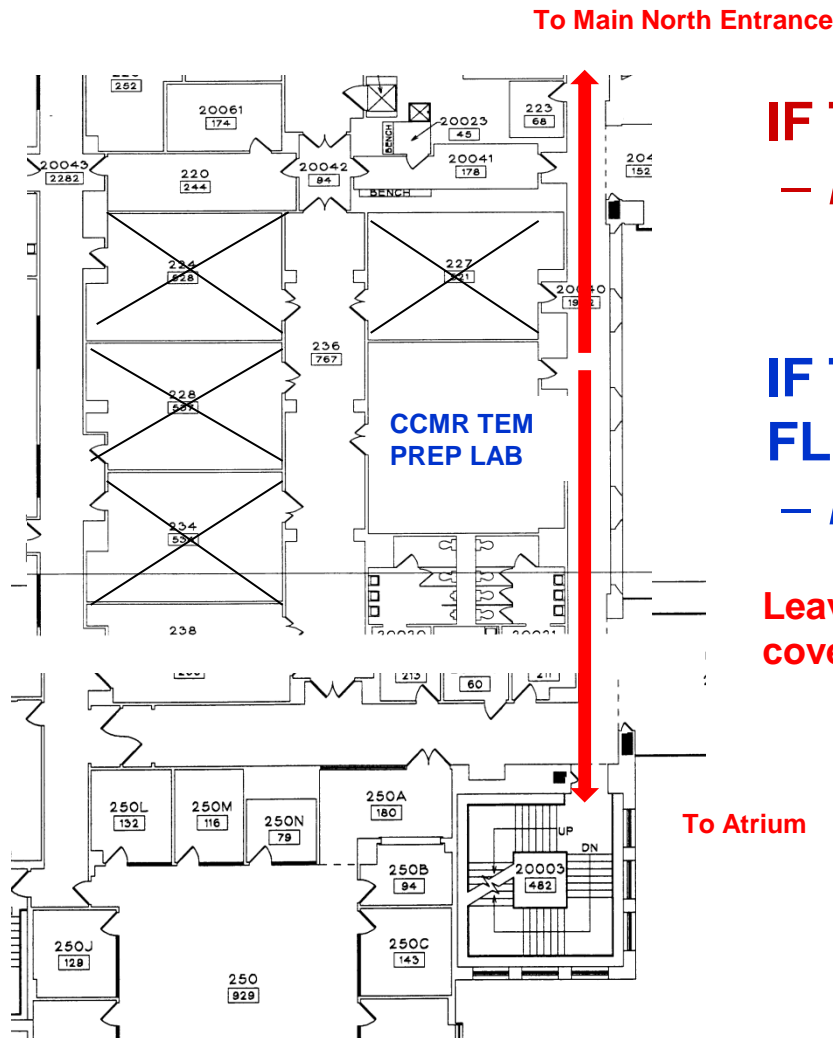


Environmental Health and Safety, (5-8200, dehs-mailbox@cornell.edu)

Duffield Hall: A unique building with safety at the forefront



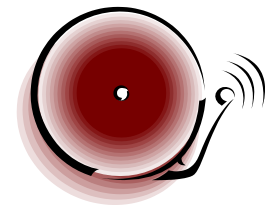
Emergency Exits and Evacuation



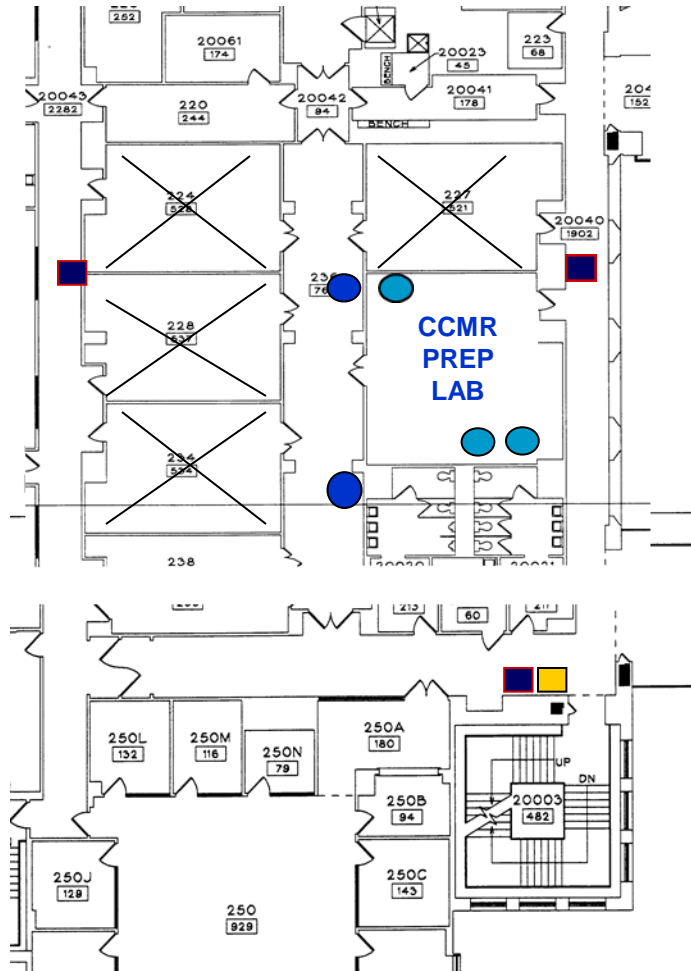
IF THERE IS A FIRE ALARM
– *EVACUATE THE BUILDING.*

IF THE GAS ALARM IS ON ALL FLOORS
– *EVACUATE THE BUILDING.*

Leave your experiments in safe condition
covered chemicals, instrument on standby, etc.



Emergency Equipment



EH&S – 911 PHONE (red colored phones)

If you accidentally lift up the phone, stay on the line and explain what happened so they know it is a false alarm. Regardless, police and EH&S will respond to any call no matter what!

911 phones and fire alarm pull boxes are located next to the fire exits

- EMERGENCY PHONE
- FIRE EXTINGUISHER
- SAFETY SHOWER
- EYE WASH

THERE ARE ADDITIONAL FIRE EXTINGUISHERS IN THE CENTRAL CORRIDOR BUT THESE ARE A DIFFERENT CLASS THAN THE ONES IN THE GENERAL CORRIDOR – IF YOU DON'T KNOW HOW TO USE ANY OF THEM - DON'T !

If you start a fire alarm or call on EH&S/Fire department, meet them at the main north entrance and explain the situation.



Working in the CCMR Prep Lab - Training

The following laboratory safety courses, offered on-line or in the classroom by Cornell University EH&S, are **required** to access the CCMR Prep Lab. EH&S course numbers follow in parentheses for your reference

See <http://www.ccmr.cornell.edu/facilities/safetyinfo/> for information on how to obtain training or verify your CULearn information

Required for access to Duffield 150 & 231:

- EH&S training Laboratory Safety: # 2555- Laboratory
- EH&S training in Chemical Waste Disposal: # 2716- ChemWaste
- EH&S training in handling: # 3055- Cryogenics

Additional requirements:

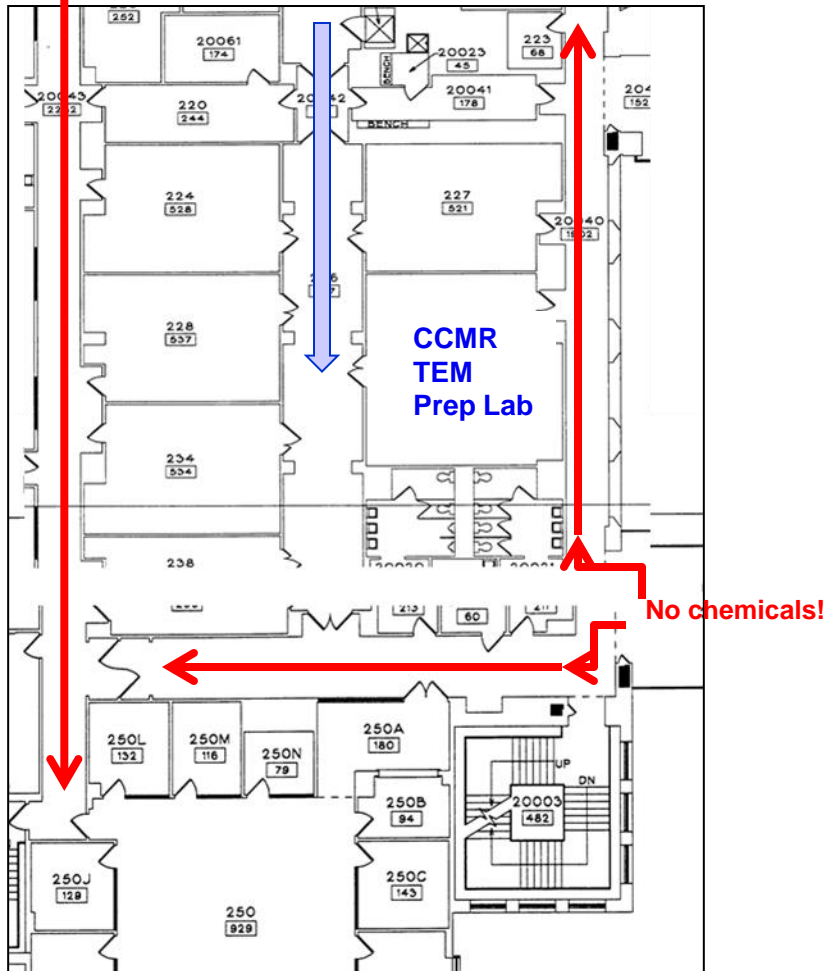
- For access to Duffield 231: The orientation you are attending today
- For access to 150: # 5033- Radiation training



Transporting Materials to 231

No chemicals!

Chemicals in the service corridor only



LIQUID SAMPLES

less than 50 ml aqueous buffers
10 ml organic solutions

BIOLOGICAL SAMPLES

- Notify staff before bringing a new sample in for the first time.
- MSDS sheet must be on record.
- Samples can be transported into the CCMR labs via the **shortest route (see arrows)**. Samples should be transported in a primary container (falcon tubes, glass scintillation vials, etc.), which in turn is kept in a secondary container (tool box etc.)

CHEMICALS

- Notify staff when you want to bring chemicals into the labs
 - Make an appointment with staff beforehand to meet the staff member with your chemicals at the Phillips Hall loading dock (where the big liquid N2 tanks are).
 - All bottles must be labeled by staff
 - You will need to provide an MSDS sheet (.pdf format)

Email to jlg98@cornell.edu

- Order the approved chemical Shipped directly to CCMR, attention John Grazul. Send an Email to jlg98@cornell.edu alerting us to expect an incoming package.



Working in the CCMR Prep Lab - Entering

Enter the labs by swiping your ID card at the door

Every user must swipe their ID every time when entering the CCMR labs!

SAFETY EQUIPMENT REQUIRED

Personal safety equipment is located near the entry door

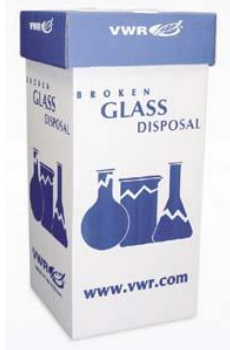
- Safety glasses required at all times
- Lab aprons required while using wet chemicals
- Dispose of gloves when you remove them, they are disposable for a reason

APPROPRIATE DRESS REQUIRED

- **NO** headphones allowed in the labs
- **NO** shorts, short pants, skirts with bare legs, sandals, open-toed shoes, midriff-baring tops, shoes that expose the tops of the feet, etc.

Lab visitors are responsible for adhering to these same rules regarding lab conduct and safety, and **must be accompanied by a registered Facility user at all times!**

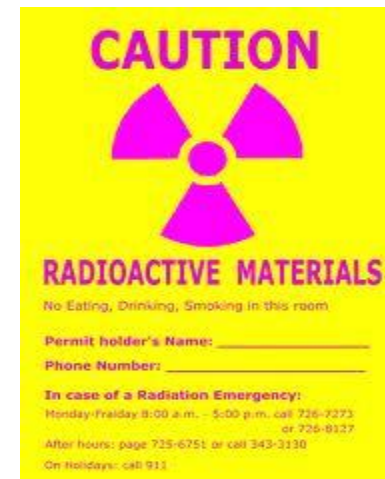
Working in the CCMR Prep Lab - Waste and Trash



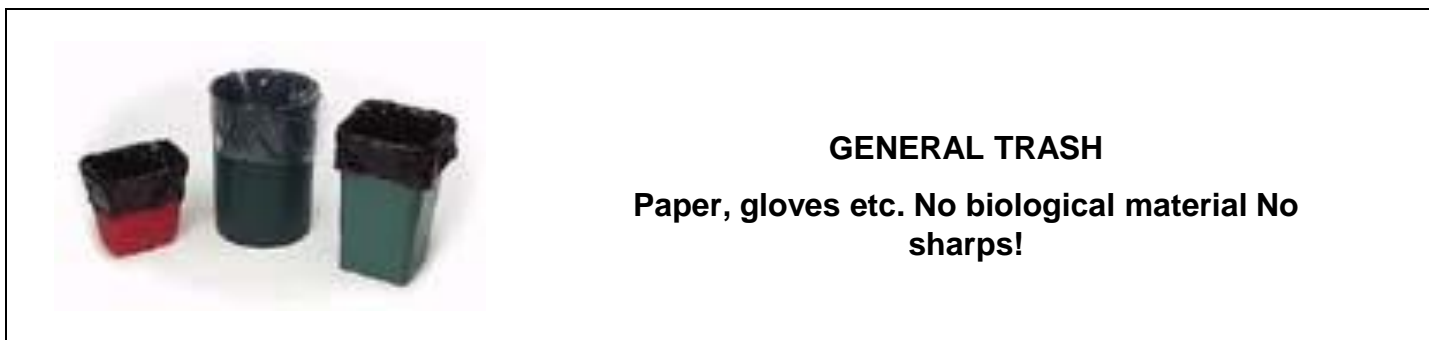
BROKEN GLASS ONLY!
No biological material



**ANYTHING THAT CAN PUNCTURE
A GARBAGE BAG MUST GO INTO
A SHARPS CONTAINER (PIPET
TIPS RAZORS ETC..)**



Uranyl Acetate Waste:



GENERAL TRASH

Paper, gloves etc. No biological material No sharps!



Working in CCMR Prep Lab - Chemicals

- If you use any hazardous/corrosive chemicals use an apron/lab coat.
- Always have the fume hood sash in the proper working position.
- Use solvents in the solvent hood and acid/bases in the corrosive hood.
- If you must use acids/bases and organic solvent together, use the most appropriate hood (depending on the type of hazard).

Osmium Tetroxide, and Ruthenium Tetroxide are **ONLY** to be used by trained users in the appropriately labeled hood. You are required inform other users in the lab when you are using these chemicals

All chemicals must be properly labeled with the chemical name, date and your name. Chemicals not labeled will be disposed of without notice

MSDS sheets are on each desktop along with the chemical hygiene plan and a list of chemicals



Working in the CCMR Prep Lab – Chemical Waste

- Organic Solvents
- There are labeled waste containers in the fume hoods. The bottles have a specific label for each classification of solvent
- Acids and Bases
- Put ANY acid or base waste into the appropriate waste container (found under the hood).

Organic Solvents	
Non Halogenated - Flammable	
<input type="checkbox"/> 1-methoxy-2-propanol acetate	<input type="checkbox"/> gamma-butyrolactone
<input type="checkbox"/> 1-methyl-2-pyrrolidone	<input type="checkbox"/> hexane
<input type="checkbox"/> 2-ethoxyethyl acetate	<input type="checkbox"/> isopropanol
<input type="checkbox"/> 2-butoxyethanol	<input type="checkbox"/> methanol
<input type="checkbox"/> 3-pentanone	<input type="checkbox"/> methyl ethyl ketone
<input type="checkbox"/> acetone	<input type="checkbox"/> methyl isobutyl ketone
<input type="checkbox"/> acetonitrile	<input type="checkbox"/> naphthoquinone
<input type="checkbox"/> anisole	<input type="checkbox"/> polymethyl-methacrylate
<input type="checkbox"/> butanol	<input type="checkbox"/> polyimide
<input type="checkbox"/> n-butyl acetate	<input type="checkbox"/> propylene glycol monoethyl ether acetate (PGMEA)
<input type="checkbox"/> cyclohexane	<input type="checkbox"/> pyridine
<input type="checkbox"/> diethyl malonate	<input type="checkbox"/> tetrahydrofuran (THF)
<input type="checkbox"/> dimethylformamide (DMF)	<input type="checkbox"/> toluene
<input type="checkbox"/> dimethylsulfoxide (DMSO)	<input type="checkbox"/> xylene
<input type="checkbox"/> ethanol	<input type="checkbox"/> _____
<input type="checkbox"/> ethyl 3-ethoxypropionate	<input type="checkbox"/> _____
<input type="checkbox"/> ethyl lactate	<input type="checkbox"/> _____

For all waste:

Fill the bottles to ~ the marked line, when filled to this level put them in the back of the hood in the spill containment box

When a bottle is full to the line, let the facility manager know as soon as possible.

MSDS sheets and the lab safety manual are located on each lab computer



Acknowledging the Facility

Please remember to properly acknowledge use of the CCMR Facilities in your presentations, publications, and conference proceedings



Researchers who make use of these facilities must acknowledge the award number

NSF DMR-1120296

www.ccmr.cornell.edu/about/acknowledge.html

For more information, visit:
www.ccmr.cornell.edu/facilities



CCMR Shared Facility Access Form (more information at <http://www.ccmr.cornell.edu/facilities/safetyinfo/>)

Submit one form to *each* facility that you are requesting access to.

- 1) Print out this page. Illegible or incomplete forms may be discarded.
- 2) Read the online facility orientation completely and sign below.
- 3) Circle the room(s), *in gray below*, to which you are requesting access.

Facility	Room	Required Trainings	Facility	Room	Required Trainings
Duffield Hall	150	AHWCR	Clark Hall	F03 (Keck)	AHW
	231 (Prep)	AHWC		All D21, D22	AHWM*F*
Bard Hall	B47 (PLD)	AHWL		D15 (AFM)	AHWL*
	B47, B47A	AHW	D10	AHWCM*	
	B55	AHWG	ST Olin	165	AHWCD
	B56	AHWC	Snee Hall	1158	AHWCR
	SB30	AHWL		1102	AHWR
	SB56 (Mira)	AHWCR*		1149 (μ probe)	AHW

* required for certain instruments, refer to orientation form.

Trainings key (in bold are required for all facilities):

- A Laboratory safety training (#2555-laboratory)**
- H GHS-Globally Harmonized System (#5711-GHS)**
- W Chemical waste disposal (#2716-chemwaste)**
- L Laser safety (#2397-lasersafety)
- C Training in handling cryogenics (#3055-cryogenics)
- M Magnetic field safety training (#5035-magnetic)
- R Radiation producing equipment safety (#5033 EHS-RPE)
- G Compressed gas safety (#2335-compressed)
- F Fire safety training (#5330-firesafety)
- D How to Read an MSDS (#3755-MSDS)

- 4) Verify in CULearn (URL above) that all the required trainings show as **completed on or after April 1, 2009**.
- 5) Print a copy of your CU Learn All Learning and attach to this form.
- 6) Fill in user information, sign and bring completed forms to the appropriate facility manager.

User Name _____ Cornell University ID card # _____

NetID/E-mail _____ Status _____ Department _____ Advisor _____

By signing below, I am attesting that I have read the facility orientation form and completed the necessary EH&S safety trainings.

User Signature _____ Date ____/____/____

Office use:
Door _____ e-mail list _____ entered by _____