Thermofluids Discovery Laboratory
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Housekeeping Guide

How we keep the lab safe, clean and ready to use

Housekeeping is not about tidiness for its own sake. A clear floor is an escape route. A labelled bottle is a chemical someone else can handle safely. A bench with nothing on it but the experiment is a bench where a stray laser reflection, a dropped weight or a hot surface finds nothing to ignite or break. Most lab injuries and most lost weeks of work start with something out of place.

This guide sets the standard for every TDLab space. It applies to graduate students, undergraduates, visiting researchers and the PI alike. Read it once, then use the checklists at the end every day you work in the lab.

What is covered

- The rule that decides everything else
- Benches, floors and walkways
- Tools, instruments and shared equipment
- Chemicals, gases and waste
- Electrical equipment and cords
- The laser room
- Field and tower equipment
- Food, drink and personal items
- Visitors and after-hours work
- Daily, weekly and monthly checklists
- User acknowledgment

The one rule
Leave every space, tool and instrument the way you would want to find it, and in a condition where a person who knows nothing about your experiment could walk through safely.
Everything else in this guide is that rule applied to one corner of the lab.

Prepared by Dr. Ahmad Vaselbehagh, Principal Investigator | Revision 1, November 2026
Applies to every TDLab space, including the laser room (ENG 019C), the instrument and tower equipment store and shared bench areas

1. Benches, floors and walkways

- Keep walkways and the space in front of doors, the fire extinguisher, the eyewash and the electrical panels clear at all times. Nothing is stored on the floor, even for an hour.
- A bench holds the experiment that is running on it and nothing else. Parts, packaging, cables and paper go back to their places before you leave.
- Wipe benches after use. Spills are cleaned at once, by the person who made them, with the right material for the spill.
- Cables and hoses do not cross walkways. Where they must, they are covered or taped down and marked.
- Boxes are unpacked the day they arrive. Packaging goes to recycling the same day.
- Ladders and step stools are returned to the wall hook, not left where they were used.
- Report broken furniture, loose shelves, flickering lights, leaks or any damage to the PI the day you notice it.

Labelling

- Every container, sample, part bin and setup that stays in the lab overnight carries a label with the owner's name, the date and what it is.
- An experiment left running or left set up carries a card that says who owns it, what it is, when it will be removed, and whether it is safe to touch or switch off. Unlabelled setups older than two weeks may be dismantled.
- Shelves and drawers are labelled by content. If you move something to a new home, change the label.

2. Tools, instruments and shared equipment

- Tools live on the shadow board or in their drawer. Put them back the moment you are done with them, not at the end of the day.
- Instruments (anemometers, data loggers, pressure and temperature sensors, cameras, power meters) are signed out in the equipment log with your name, the date and where they are going, and signed back in when returned.
- Return instruments clean, with cables coiled, batteries charged or removed, and cases closed. Report any damage or odd readings in the log so the next user is not surprised.
- Calibration stickers stay on. Anything past its calibration date is tagged and reported, not used.
- Do not borrow from another person's setup without asking. If it is urgent and they cannot be reached, leave a note with your name and the time.
- Shared computers: save work to the lab drive, log off, and do not install software without asking the PI.
- Broken equipment is tagged OUT OF SERVICE with the date and the fault, and the PI is told. It is not quietly put back on the shelf.

3. Chemicals, gases and waste

- Every chemical has a label, a safety data sheet on file, and a place in the storage cabinet. Flammables go in the flammables cabinet, acids and bases apart from each other, nothing on the floor or on a bench overnight.
- Use the smallest quantity that does the job and keep containers closed when you are not actively pouring.

- Waste goes in the labelled waste container for that waste stream, never down the sink or in the general trash. Sharps go in the sharps box. Ask before mixing anything into a waste container.
- Compressed gas cylinders are chained or strapped upright at all times, capped when not connected, and moved only on a cylinder cart. Check the regulator and lines for leaks before each use.
- Empty cylinders are marked EMPTY and stored apart from full ones.
- Keep the eyewash and the spill kit stocked and reachable. If you use anything from the spill kit, tell the PI so it is restocked.

4. Electrical equipment and cords

- One device per outlet where possible. No daisy-chained power strips, and no extension cords as permanent wiring.
- Cords are inspected before use. Frayed, pinched or taped cords are cut off at the plug and discarded.
- Water and electricity are kept apart. Pumps, baths and water lines are placed so that a leak cannot reach a power supply.
- Homemade electrical equipment is enclosed, labelled with its voltage, and checked by the PI before first use.
- Switch off and unplug heaters, power supplies and soldering irons when you leave the bench, even for a short break.
- Nothing is stored inside or on top of electrical panels or within three feet of them.

5. The laser room (ENG 019C)

The laser room follows the Laser Safety Guide. Housekeeping there has one extra purpose, keeping anything out of the beam path that can reflect or burn.

- Bare metal, tools, rulers, jewellery and shiny objects stay off the laser bench and out of the beam path.
- Paper, cardboard, solvents, plastics and cloth are not stored on or near the laser bench.
- The beam stop, barrier panels and laser curtain are returned to their marked positions after every session.
- Laser eyewear goes back in its case, clean and inspected. Damaged eyewear is removed from service and reported.
- The laser and its power supply go back in the locked cabinet. The warning light is switched off and the session is written in the laser log.
- Cut-material scraps and dust are removed after each job. The extraction filter is checked on the schedule posted on the unit.

6. Field and tower equipment

- Tower sensors, loggers, guy lines, anchors and tools are stored in their labelled bins, dry, and inventoried after every deployment. A missing anchor is found before the bin goes on the shelf.
- Wet equipment is dried before storage. Mud is cleaned off. Batteries come out of anything that will sit for more than a week.
- Vehicles and trailers are returned clean, fuelled and with the equipment list checked.
- Data from a deployment is copied to the lab drive and backed up before the loggers are cleared.

7. Food, drink and personal items

- No food or drink in any area where chemicals, lasers or experiments are in use. Closed water bottles are allowed at the desks only.
- Coats, bags and helmets go in the cubbies by the door, not on benches or chairs.
- Headphones are off while you are operating equipment, so you can hear an alarm or a colleague.

8. Visitors and after-hours work

- Visitors are escorted at all times, wear the PPE required for the area, and are told what not to touch before they come in.
- Hazardous work (laser operation, chemicals, pressurized systems, anything with a hot surface or a heavy lift) is not done alone or after hours without the PI's prior approval and a second person who knows you are there.
- The last person out checks the end-of-day list, switches off what should be off, and locks the door.

9. Checklists

Print these pages and keep them by the door. Initial the daily list when you leave; the weekly and monthly lists are rotated among lab members and reviewed by the PI.

	Every day, before you leave
	Bench wiped and cleared of everything that is not a running experiment
	Tools returned to the board or drawer; instruments signed back in
	Chemicals closed and back in the cabinet; waste in the right container
	Heaters, power supplies, soldering irons and the laser switched off and unplugged or locked away
	Running experiments labelled with owner, contents and safe-to-touch status
	Floor and walkways clear; cords and hoses off the floor
	Gas cylinders closed at the valve; regulators vented if the system is not in use
	Water lines closed unless an experiment needs them, and that experiment is labelled
	Lights off, door locked, date and initials on the sheet

	Every week (rotating duty)
	Sweep or vacuum floors; mop spills and under benches
	Check eyewash runs clear; check spill kit and first-aid kit are stocked
	Check fire extinguisher is in place, charged and unobstructed
	Inspect cords and power strips; remove any that are damaged
	Empty recycling and general waste; check chemical waste containers are not full or past their accumulation date
	Check the equipment log: anything overdue for return is chased up
	Check gas cylinder restraints and look for leaks with soap solution at fittings
	Laser room: beam path, barriers, curtain and eyewear in order; extraction filter checked

	Every month (PI or delegate)
	Walk-through of every space with this guide in hand; note and assign fixes
	Chemical inventory reconciled with the SDS binder; expired or unlabelled items disposed of
	Calibration dates of instruments reviewed; overdue items tagged
	Storage shelves checked for overloading and secure anchoring
	Unlabelled or abandoned setups older than two weeks dismantled after a notice to the group
	Training records and acknowledgments up to date for everyone with lab access

10. User acknowledgment

I have read the TDLab Housekeeping Guide and I will follow it, including the daily checklist, every time I work in the lab.

Name (printed)	Signature	Quiz score	Date

Keep the signed page with the lab safety records. Housekeeping problems that are not fixed after a reminder are raised with the PI, and repeated problems can cost lab access.