

General Guidelines for Scientific and Administrative Activities

CENL - Version: 1/2019

- Students/Postdocs are junior researchers. As such, they are expected to not only pursue their own scientific projects, but also to participate in the life of the scientific community at large. Interactions with other students, postdocs and faculty are strongly encouraged. In this spirit, students are expected to be in the laboratory (i.e. desk, lab) regularly, mornings before 9:30am and afternoons. Exceptions are when taking classes, attending seminars, teaching or other academic activities.
- Science is a team effort. Helping others (whether it is related to your project or not) is considered part of your job. Conversely, asking for help is not asking for a favor... it is asking others to do their job!
- All students working with rats 1) should have 24/7 access to the lab and colony room (cat card) and a university computer account, 2) complete all CITI rat handling classes (See Animal Care Classes.doc on the server), 3) will have to come in during some weekends/holidays (e.g. to work with or care for the animals), 4) should leave an emergency phone number in the "Documentation" drawer.
- Vacation time (i.e. more than 1 day) should be agreed upon with your advisor. It should be entered in the laboratory calendar (cenlaboratory@gmail.com), so that everyone knows who is around and who is not.
- Financial support for conference attendance is available only if the student presents (i.e. is 1st author) a poster/talk. Exceptions may be discussed.
- All personnel should check that the keyed doors of the lab and offices are locked after 6 pm and during the weekend. Please turn off the lights before you leave.
- The neuro-lounge is available for lunch and impromptu meetings. No animals or chemicals are allowed in this area. Whether you work with animals or not, casual professional attire is requested. Because chairs and benches are not routinely cleaned, long sleeves (mid-upper-arm or longer, knee or longer) attire and closed-toed shoes are strongly recommended.
- Laboratory purchases should be entered on the 'Lab Supplies' sheet, in the Neurolounge.
- For health and safety reasons, all students interacting with rats should wear lab-coats. Do not bring any lab-coats or other 'rat exposed' materials (i.e. ice buckets, towels) in office areas or in the neuro-lounge. Some of you have allergies. No food or drinks are allowed in areas where rats and/or chemicals are found.
- Fluids are tolerated in selected areas in the lab in closed containers, away from chemical areas.
- Attendance to the weekly lab meeting is **mandatory**. Presence in the lab is expected before 9:30am– 6pm-ish, or according to an agreed-upon schedule (see above).
- **Be respectful of others:** clean after yourself, return tools immediately after you are done, let others know if your work may impact theirs. Follow the rotating lab cleaning schedule and guidelines. Graduate students and Postdocs are assigned lab-duties; please be diligent in fulfilling them.
- No equipment or supplies should leave the laboratory (i.e. pass the double doors) without express authorization. Documents on the server (e.g. protocols, code, data) are considered confidential.
- Visitors are not allowed, unless cleared by Jean-Marc. Close friends/relatives can come visit under the responsibility of the student (they should wear lab coats), but should **never** enter the animal colony room.
- Graduate students are expected to be 1st author on one peer-reviewed paper per year or equivalently two non-1st authored papers per year. Exception is made for the first 1.5 (grads) or 0.5 year (Postdoc) year in the laboratory.
- Graduate students and postdocs are expected to present/attend (at least) one scientific meeting per year.
- A Ph.D. thesis is expected to be multi-disciplinary. Ideally, it should include **both** a theoretical component **and** an experimental (e.g. in vivo, in vitro, human) component. **Collaborative** work within and outside the lab is **strongly** encouraged (including co-advising, when appropriate).
- Graduate students and postdocs are expected to gain significant teaching and outreach experience. At least one such activity is expected per year.

If you have any question/concerns about these guidelines, feel free to ask and discuss!

General Guidelines for Animal Procedure Training

Last update 12/2018

Definitions:

‘Assist’: You observe and assist the entire procedure, but the procedure is performed by the experienced person.

‘Assist/swap’: you are not the experimenter/surgeon on record. You assist as above. From time to time, at the discretion of the experimenter/surgeon, you swap with him/her to perform well-defined and limited parts of the procedure.

‘Under supervision’: You are the experimenter/surgeon of record and you lead the procedure. You are directly supervised (assisted) by an experienced person who is physically present the entire time.

‘Accessible supervision’: You are the experimenter/surgeon of record and you lead the procedure. You schedule the procedure at a time when an experienced experimenter/surgeon is physically present in the lab (‘on call’)

‘On your own’: You are the experimenter/surgeon of record and you lead the procedure (with assistance if required). After 2 ‘on your own’ procedures, you are considered ‘experienced person’. You lose the ‘experienced person’ status if you have not performed the procedure for more than a year.

‘Authorized personnel’: Requires specific authorization (by JM) and may require additional training (e.g. CITI)

- Rat handling
Let rat acclimate to the colony room for 2-3 days. Just inspect visually the rat through the cage
Start handling in the colony room. 1) 3 times under supervision, 2) 1 day with accessible supervision.
Then 3) on your own.
- Rat behavioral experiments
1) Observe/assist at least twice (can help with the computer operations etc...). 2) Lead the experiments at least twice under supervision. 3) Run the experiment once with accessible supervision. 4) Run the experiment on your own.
- Rat electrophysiology experiments
1) Observe at least twice and help with computer operations. Participate to setup and cleanup. 2) Lead the experiments twice under supervision. 3) Run the experiments twice under accessible supervision. 4) Run experiments on your own.
- Perfusion (authorized personnel only)
1) Observe/assist twice. 2) Assist/swap on one perfusion. 3) Lead the perfusion twice under experienced supervision (assistant). 4) You lead the perfusion with accessible supervision. 5) Run the perfusion on your own (with/without assistant).
- Surgery (authorized personnel only)
Note: You should be trained on perfusion (above) before starting step 2 below.
1) Assist 3 times. 2) Assist/swap on at least 1 surgery. 3) You lead the surgery twice with an experienced surgeon as assistant. 4) You lead surgery once with accessible supervision. 5) Do surgery on your own (always with assistant).

Procedures that require some training/teaching (in progress)

Last update 12/2018

These are the list of procedures and/or training opportunities currently available in the lab. Discuss with JM the possibility or need of being trained in any of them.

Animal-related

- 1) Animal Care Procedures (Cage cards, feeding, weighing ...)
- 2) Rat handling
- 3) IP and SC injections
- 4) Euthanasia (CO₂ + guillotine)
- 5) Blood collection
- 6) Perfusions
- 7) General Surgery room procedures and equipment (assistant-level)
- 8) Cryostat operation
- 9) Staining protocols (NISSL)
- 10) Surgeries (surgeon-level): Pump, cannula, acute (optogenetics, LFP) and hyperdrive
- 11) Histology (Cryostat, staining, mounting)
- 12) Experimental protocols:
 - PTSD protocols
 - Memory reconsolidation protocols
 - Electrophysiology protocols (wired and wireless)
 - Optogenetics
- 13) Solution preparation (Ethanol, PFA, cresyl violet, etc)
- 14) Patch clamp recordings (incl. Dynamic clamp)

Others

- 1) 3D Printer (Cura, Solidworks). 3D scanning.
- 2) Autoclave operation
- 3) Chemical preparations (PH meter, analytical balance, fume hood, etc.)
- 4) Water purifier maintenance
- 5) Workshop operations (drill, dremel, soldering iron)
- 6) Building a hyperdrive. Making bundles, tetrodes and anchor screws.
- 7) Recycling a hyperdrive
- 8) Lab specific software (e.g. Labbook, lick-and-run, Tracker, VideoRecord/Analyze)
- 9) Scientific software (e.g. Corel-Draw, SPSS, Cheetah, Anymaze)
- 10) ELISA operations
- 11) Histology microscope, macro camera
- 12) Centrifuges
- 13) Washing machine
- 14) Website updates/suggestions/edits (JM will do updates)
- 15) Use of CENL Matlab software/functions. Data Analyses. Basic programming in Matlab.
- 16) Biophysical modeling using NEURON
- 17) Basic electronics and robotics