WHAT YOU NEED TO KNOW ABOUT WORKING IN A LAB - GENERAL LAB ORGANIZATION

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What type of laboratory do you work in?

- In general, labs can be described as:
  - **Basic Science** – the researchers do science for the sake of knowledge. For example, how does a specific transcription protein work?
  - **Clinical research** – human patients or their samples are used to investigate a disease or syndrome.
Where is your lab located?

- Each lab is part of a Department or Center.
- Large pieces of equipment are often shared by the department members and are housed in a separate lab or possibly your lab.
- These can include ultra-centrifuges, liquid nitrogen tank, autoclaves, dark rooms, etc.
- Also the department may have a conference room and a kitchen.
- Make sure you check if you can use these facilities before going ahead.
KNOW YOUR LAB COWORKERS
Principal Investigator (PI)

- People often ask: Who is your PI?
- This is the head of the lab, the boss, your advisor. Most probably your mentor.
- This person often spends time in their office writing grants or research reports and may spend less time in the lab.
- If they are clinicians, they may also see patients in addition to report writing.
- However, this person is the intellectual guide behind most of the projects in the lab.
- PIs are responsible for funding the lab research.
The Not-So-Secret life of a PI.
Post docs

- Lab Post-doctoral fellow
- This person has recently received their doctorate (usually PhD) and is doing a training period before becoming a PI
- They usually work on their own project, but will collaborate with other lab members on various parts of the project.
Technician or research assistant

- Can be a college student who wants to gain more experience in a lab before entering medical or graduate school.
- Can be a professional with a masters degree and appropriate pay and title, based on years of experience.
- They do a variety of tasks including: ordering lab supplies, preparing media, caring for the lab’s cell lines, assisting the lab with experiments, and they can carry their own experiments.
Lab supervisor

- The day-to-day operation of the lab is sometimes overseen by a lab supervisor.
- This person usually has a masters degree and extensive lab experience.
Graduate students

- They are doing lab work to get their Masters degree or PhD.
- They usually work long hours and spend a lot of time invested in their specific project.
- They become increasingly independent during their 4-7 years in the lab.
Resident

- Residents are usually found in a medical center or hospital
- They may be also called fellows in different institutions
- They have an MD and are spending some time (weeks, months, sometimes years) training in an area of his/her field.
Working hours

- Because experiments do not fit into a slot of 9-5, lab workers have unpredictable and sometimes eccentric hours. This does not apply to you!
- Clinical research also depends on the clinic schedule.
- Check with your mentor what working hours are expected of you and try to conform to this.
- Please communicate with your mentor and lab personnel what your vacation plans are.
- If you are sick, please let them know.
- Even though you do not get paid by the hour, you need to let them know out of courtesy.
Lab meetings

- Large labs usually have meetings to discuss the research of each member of the team.
- In these meetings, sometimes only one or two people are assigned to talk each week, or all members are expected to speak briefly.
- Some meetings are casual, and some are formal with a slide projector.
- You may be asked to participate. Ask your mentor ahead of time if he/she expects you to participate so you can prepare a few statements or questions you may have.
- Check out the atmosphere and ask questions during appropriate times.
- **DO**: take notes and look up terms you may not understand
- **DO NOT**: fall asleep, text message during the meeting
The first week

- By now you should have been assigned a desk or lab bench.
- Your mentor should have discussed your project with you.
- If another lab member offers to teach you, go ahead and learn from them.
- You may get a lab key. Be careful with it!
- Your research may be slow right now while you wait for reagents to be ordered, cells to grow, etc.
What to do on the first few weeks

- Set up and organize your lab bench or desk
- Introduce yourself to everyone in the lab if the mentor has not done so.
- **TAKE NOTES ON EVERYTHING!** You do not want your instructors to keep repeating themselves or they will get annoyed.
- Familiarize yourself with where things are kept.
- ASK. Of course, you do not want to bother anyone unnecessarily, but it is much better to ask about a procedure, a reagent, equipment, etc. than to waste time and money.
- If you make a mistake, it’s OK. Just make sure you learn and ask coworkers for help.
- **Ask your mentor for relevant literature about the project. This will impress them!**
What NOT to do on your first few weeks

- Don’t say “we did not do it this way in my previous job”. Each lab does experiments their own way (example: cell culture)

- Do not prop up your feet and read, play computer games, take a nap, or look at videos on Youtube. It is true that at the beginning, there will be some dead (non-experiment) time until the experiment takes off. However, playing while others are working hard will not make a good impression. Instead try to read about your research topic.

- Remember not to abuse the internet! Your mentor will get notification from the IT department if you spend too much time at certain websites.

- Do not ask and/or complain to other students or co-workers about money or salaries. It can irritate mentors and other co-workers.

- Don’t say you are working in a lab for any other reason than for interest in the field. If you say you are working there just for the money, you will not be taken seriously and it can cost you your job.
Basic survival rules: Attitude

- Ask, do not command. Others are taking the trouble to help you and do not HAVE to do it.
- Be courteous to everyone, not just your mentor.
- Do not assume that someone is going to drop what they are doing to help you. Be patient.
- **Write down everything** when someone is giving you instructions. You are not expected to remember everything, and that person is not expected to repeat everything over and over again.
- Make appointments with busy people. Some mentors are also directors of a department or center, and are hard to know when they are available for them to focus on what you have to say.
Basic survival rules: Courtesy at the lab bench

- Do not use reagents in someone else’s lab bench without asking.
- If everyone shares a reagent and you finish it, let someone know. Do not place the empty bottle back on the shelf.
- If something breaks, tell someone immediately. You will not get in trouble unless you try to hide it.
- If you do something wrong, confess. Everyone makes mistakes, but sneaking to cover a mistake is unacceptable.
- Clean up after the experiment. Do not leave it for the technician or graduate student to do it.
Check your lab’s own Safety rules

- No eating, drinking, or smoking in the lab unless approved by your mentor.
- Do not wear open toed shoes in the lab. Your feet will be vulnerable if a chemical spills on you.
- No shorts or bare midriffs are allowed for safety reasons.
- Do not mouth pipet, even water.
- Ask what to do in case of emergency—where the first aid kit is kept, how to call for emergency
If your PI doesn't give you a reference letter, I can write one for you!
If you have any questions or problems, please make sure to let us know early on in the internship.

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