

# The essentials to become a great LCSO member in the eyes of Jerome

(Does the PI adapt to the student, or the student to the PI? In my opinion both, but there are fundamental values that are set, and you need to be aware of them if you wish to join the group!)

## 1) General

- **Be passionate about science**, a PhD is not only a job, but a passion, a vocation and an education, but **in no case it needs to be your only passion!**
- **Value Diversity**: Science thrives with diverse origins, as well as personal and professional experiences
- **Be an expert** of your field, but stay always **open for collaboration/know-how transfer** with others.
- **Be a "relaxed perfectionist"** (learn to enjoy doing everything the best you can), but be aware that perfection just gives you a direction for progress and is not meant to be reachable. Stay relaxed!
- **Strive for a personal balance** (some think of it as work/life, I prefer the body/brain/soul model)
- Take the **responsibility/leadership** for your research, don't expect it from others and do not waste your time in blaming circumstances, but don't feel faulty either: just grow and improve!
- **As a PhD**: you should learn progressively to become **an independent researcher**, you will probably start in tandem with a senior, then get your own project. But even when independent **team work remains essential**
- **As a postdoc**, you should learn to become **a team leader**. You will have your own independent project and in addition be in charge of helping younger scientists

## 2) In the lab

- **Safety is first priority**: Work at the bench wearing lab coat, safety glasses, long pants, shoes, never alone
- Keep your working place clean and ordered and your chemical bottles at the right place with the right label
- Take care of the equipment (balances, glassware, stirring plates,...), repair/replace them at once if damaged
- If a reaction did not work, purify again all starting materials, solvents and reagents and try again
- Use the time your reactions are running to plan and read: prepare the next day in the lab
- Learn to run reactions in parallel. Be efficient (output counts, not hours spent in the lab)
- Choose the optimal analysis method for the desired information (TLC, NMR, isolated yield, HPLC, MS,...)
- Keep always the characterization of compounds and your lab journal up to date and check for errors

## 3) In reports and presentations:

- Follow a logical structure. Think always of smooth transitions (no "salami" reports)
- Present your work in the broader context with correct credit to previous reports (both pioneers and recent)
- Use ACS style for references/chemdraws, all draws of the same size, with nice circular catalytic cycles
- Take care to have clean NMR spectra without grease and solvents, no missing peaks, assign  $^1\text{H}$  spectra
- Write experimental part according to ACS standards taking previous publications of the group as template
- Compare peak by peak your NMR data with the reported one for known compounds, report mistakes
- Use significant digits correctly

## 4) Interactions and team spirit

- **I don't read minds!** Come to me and discuss if you have any personal or scientific issue.
- Be punctual and learn to consider deadlines as a matter of personal honor
- Find the right balance between solving the issue yourself and asking for help (to me or other group members)
- Feel free to try your own ideas, but implement quickly my suggestions
- Propose new projects/ideas for your research or the one of others. Take initiative for the common good.
- Do your best with your group jobs, give the **highest priority to common duties**: this is true team spirit
- As a junior, **listen respectfully to seniors** and implement their suggestions
- As a senior, always **take questions of juniors seriously** and help them as much as you can
- **Avoid discrimination** in any form and be aware that all of us have implicit bias

## 5) Theoretical knowledge

- Be always critical but open-minded: **no idea is perfect, but no idea is without value**
- Try to know more on your project than me (I am the generalist, you are the specialist!)
- Follow the scientific literature out of your own interest
- Learn to argument clearly on mechanisms using clean arrow pushing
- Take initiative to improve your weak points to avoid repeating the same mistake/missing knowledge
- Do not hesitate to come to me to discuss general chemistry questions
- **Avoid over-specialization!** Keep a general organic chemistry knowledge and feel free to explore other fields