

General Guidelines for Research Activities

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Introduction

This manual contains the general guidelines for the research activities in our lab. **A perspective lab member should agree to follow this manual before deciding to join the lab.** In particular, every lab member needs to follow strictly the **safety** practices, as stated in the EPFL safety guidelines, and this manual. Detailed guidelines for specific topics, such as description of group jobs, literature reading, notebook writing, course taking, as well as guidelines for use of gloveboxes, vacuum lines, etc, can be found in separate documents under group links in the group website.

Philosophy

The research in my group is expected to be **TEAM WORK** oriented. Each member of the group will get to work on her/his separate and independent project. Additionally, each researcher is supposed to contribute their individual abilities to help the other members of the group to successfully accomplish their goals or gain new skills. This way we are hoping to work as a highly competitive group in our field of research and to build lasting friendships among the members of the research team.

First law of research: how much you put in your work is how much you get out!

Third law of research: those who help always get the help from others!

Administration

- At EPFL and Switzerland, a contract can be terminated anytime within the first 3 months of your arrival. Keep in mind that you will be evaluated during this grace period, on whether you can execute safe and competent practices in the lab.
- Any new lab member needs to get safety training from EPFL. Find out how you can do it from our safety officer or from HU.
- Please notify HU if you will not be in the lab for more than 4 hours during working hours for any reasons.
- Please notify HU if you cannot attend a group meeting for any reason.
- Please notify HU at least 2 weeks in advance for any of your vacation plans. Exception may be granted in a case-by-case scenario.
- Please notify HU for any ordering **over 100 CHF**. Search different suppliers to obtain the most economical resources.
- All chemicals and glassware are shared within the group.

Additional points for Ph.D. students

- Make sure you keep track of the requirements of the doctoral school. Know when you need to submit your progress report, have your qualify exam, etc. Ask Anne Lene Odegaard if you have questions.
- Your initial contract is one-year and it is subject to annual renewal. In the 9th month of your first year, a decision will be made whether to continue supporting your study. You will be evaluated against your potential of receiving a Ph.D. from EPFL. The academic performance of senior Ph.D. students in the lab can serve as a reference.
- Consult HU before you enroll in any class. It is advisable to fulfill your 12 required credits early in your PhD.
- Keep track of your teaching credits.
- Learn a bit of French so you may TA francophone undergraduates after 2 years. There are free courses available at EPFL at any level.
<https://www.epfl.ch/campus/services/internal-trainings/fr/centre-de-langues/>

Attending seminars at EPFL

One of the best ways of keeping yourself updated with the current research is to attend research seminars. Therefore, group members are strongly recommended to attend the scientific lectures at ISIC. These include but are not limited to seminars given by outside speakers (professors, research directors, etc.), It is especially important that you attend the seminars related to your research field (in a broad sense). Consider going to seminars with a topic that is more remote from your thesis topic as well, as can give you a decent idea of other scientific fields at the low time cost of 1 hour. You are encouraged to raise questions after the seminars.

You typically have opportunities to discuss with the speakers in scientific lunches as well. You also can present your work. Please be pro-active.

Group meeting

Group meetings are held weekly. The group meeting is a forum for the group members to discuss results and obtain new ideas. All group members are encouraged to participate in the discussions. Presentations in the group meeting are good practices for your future presentations in conferences, qualifying exams, thesis defense, and even job interviews! Keep in mind that you won't get enormous amounts of time for such presentations, so keep the group meetings succinct as well. Your goal should be to give a clear overview of the research you have done in the past few months in about 20 minutes, rather than to dump all your data onto the audience. The group meeting is meant to be provocative, so you can be prepared to face the real world when you leave the group. You may be challenged, or may be asked to answer very simple questions that you would feel offended. Keep in mind that this is just to ensure your intellectual growth, and nothing is personal.

Ad-hoc sub-group meetings are organized regularly as well. In these meetings a sub-group of people working in more closely related topics meet and discuss. The subject could be a specific topic, a paper, or one person's recent work.

Publishing your work

We follow the American Chemical Society's ethic guideline for the publication of our research. See: <http://pubs.acs.org/userimages/ContentEditor/1218054468605/ethics.pdf>. In addition, the ACS style guide may be followed. <http://pubs.acs.org/styleguide/>

Authorship

From time to time, questions about authorship arise. The group follows the ACS guidelines and common practices of reputed labs.

A. Who are the authors

"The co-authors of a paper should be all those persons who have made significant scientific contributions to the work reported and who share responsibility and accountability for the results. Other contributions should be indicated in a footnote or an "Acknowledgments" section." (ACS ethical guideline)

"Generally speaking, all authors of a publication should have made significant and substantial intellectual contributions to the work being reported. ... If a colleague prepared buffers or did routine computer programming, these contributions should be acknowledged, but they are not sufficient contributions for authorship. General discussion with colleagues or within research groups is rarely sufficient for inclusion in authorship. Despite some arbitrariness in defining what constitutes a significant intellectual contribution, the guiding ethical principle is clear and should be adhered to." (ACS style guide)

"Not everyone who contributes to a research project should necessarily be granted coauthorship on the resulting papers. Every listed author should have contributed substantially to the project with respect to its conception, the design and/or performance of the experiments, the analysis of the results, and/or the drafting of the manuscript describing the project. All authors (and especially students!) should participate in critical reading and approval of the final manuscript submitted for publication. Each author should understand the research problem and should be

able to offer an intelligent discussion of the entire project from the perspective of his/her own involvement in it. There should never be any “courtesy authors,” who may have been selected because of previous or future efforts in this research area or who are considered to add credibility or prestige to the publication (or to themselves), or for any other reason. Those who provide services such as statistical advice or routine analytical/administrative support should not be granted authorship but can be thanked in the acknowledgments." (Cell, 2006, 126, 823-825).

B. The order and responsibility of authors

"A question that often arises concerns the order of the authors' names. This is not really an ethical issue, and practice varies from place to place. **Most often the first author is assumed to have made the major contribution to the work, and the senior and/or corresponding author is listed last.** However, many variations to this theme exist, such as putting the authors in alphabetical order. In some cases, the specific contributions of each author are described. ..." (ACS Style guide).

"It is often said that all authors are responsible for the entire content of a manuscript. This is a meritorious ideal, but unrealistic. Most manuscripts have multiple authors, and very often, a single author is responsible for only a portion of the work being presented. A more realistic assessment of what authorship implies is that ... the technical responsibility is only for the area in which a given author has the appropriate expertise. The responsibility of the corresponding author is to ensure that all authors have approved the manuscript before submission and for all subsequent revisions." (ACS Style guide).

In practice, and in our lab, the first-author is given to the person who made the most important breakthrough, and the biggest contribution of the paper.

What and when to publish

"Research should be published in a **timely** manner when enough work has been done to yield **significant** results." (ACS Style Guide) HU will discuss with the lab member(s) about publications case-by-case and make the executive decisions. A lab member is welcome to suggest and take the lead in preparing a new publication.

Where to publish

Our general principle is that we publish the papers in the journals with the most appropriate readership for the work. Although authors are welcome to suggest, the ultimate decision lies in the director of the project, i.e., the corresponding author.

Writing of the paper

In general, the first-author of the paper is expected to write the main part, and coordinate the other co-authors to complete a complete version of the first draft.

Consult the papers that have been published by our group, as well as those in the literature (if they are well-written) for how you can assemble your research findings into an acceptable publication.

Note: **Plagiarism is strictly forbidden** in our group and in the whole academia! Avoid it at any cost. Never copy a whole sentence or even several phrases from other papers, books, etc. into your paper or thesis. This includes your own previous papers and the old papers of the group, as **self-plagiarism is also prohibited**. The only exception for the latter is that when you write your Ph.D. thesis, you can insert the papers of which you are the main author.

Presentation in Conferences

Due to financial and time concerns, you may attend a scientific conference only if it is related to your work and you have enough results to present, either in the poster or better in the oral form. On top of this, there is a limited budget available for travels for the whole lab. HU will make the decisions case-by-case. If justified, your meeting expense will be covered by the lab budget. If you insist on going to a meeting that does not meet the above criteria, you will have to pay for the expense on your own and the time you spend on the meeting is counted as your vacation.

Send HU a copy of your presentation (poster or oral) ideally 2 weeks, but at least 1 week before the conference. You are expected to revise it according to the feedbacks, and you may be asked to do a rehearsal for your oral talks.

Dress professionally for your presentations.