Mentoring Plan and Expectations for Graduate Students

Advisor: Prof. Truong X. Nghiem
Lab: Intelligent Cyber-Physical Systems (iCPS) Lab

General expectations

All the general expectations stated in the Lab Manual apply to all graduate students. In addition, as core members and researchers-in-training of our lab, you have additional, more specific expectations stated in this document.

First, here are some pieces of advice: ***being a graduate research student (Masters/PhD) is developing oneself to become a successful researcher in the future, whether in academia or industry.***
- Once you become a graduate research student, you begin on a path to become an independent researcher in the future. You are no longer a college student and thus you must not keep any undergraduate mentality (like, only need to succeed in courses to get As, only do what are told).
- You must be responsible for your own study and research, and your own growth and success, while helping our research lab, your advisor, and your lab mates and contributing to our long-term success. Joining a research lab is joining a family or a close community.
- You should aim to develop your future self to be a well-rounded researcher, with excellent knowledge and skills not only in your niche area of research but also in other aspects such as communication (writing, speaking, presenting), project management, people management, etc. These are all valuable skills for your future success.

Individual Development Plan (IDP) and Annual evaluation

You must develop and maintain an IDP, and you will undergo an annual evaluation of your performance every year. Refer to the Lab Manual for details.

Expectation: You will take ownership over your educational experience

- **You, not your advisor, have the primary responsibility for the successful completion of your degree.** This includes commitment to your work and being proactive to define what you need to be successful. You should maintain a high level of professionalism, self-motivation, engagement, scientific curiosity, and ethical standards.
- **Ensure that you meet regularly with me and provide me with updates on the progress and results of your research.** Make sure to use this time to communicate new ideas that you have about your work and challenges that you are facing. Remember: I cannot address or advise about issues that you do not bring to my attention.
- **Be knowledgeable of the policies, deadlines, and requirements of the graduate program, the graduate college, and the university.** Comply with all institutional policies, including academic program milestones.
- **Actively cultivate your professional development.** Take full advantage of all the professional development resources available to you from the graduate program and the university.
- **You are the master of your destiny**. You determine your progress and your success. At best, I can help with the intellectual framework of your project, but I cannot write equations, prove theorems, write code, or run experiments for you! It is your responsibility to act on the ideas and plans we discuss in our meetings. **Make sure you take good notes during our discussions**. Be pro-active and communicate with me on ideas and results, rather than relying upon me to remember and follow-up with you.

Publication expectation

- You should strive to publish papers as many and as frequently as possible, without compromising on quality.
- We will discuss about the standards and norms for publishing and presenting in our field.
- First drafts, for discussion with and feedback from me, should be relatively complete (no ugly format, no major mistakes, few typos and errors). If your English or technical writing skills are lacking, consider taking an English writing class or seeking on-campus academic writing support resources. It is not my responsibility to teach you English and writing skills, although I will often give you feedback and advice on your writing. You can also share your draft work first with a trusted peer or writing group before sending it to me.

- If you write any article or present any talk which uses contents, results, or resources from your work in the lab, you shall give proper credit to the lab and/or me and/or any lab members who contributed substantially to the work, and you shall consult with me before publishing the article or giving the talk.
- Refer to the Lab Manual for details on authorship and publication policies. Remember that, if a paper originates from our lab, the authorship and the inclusion of any co-authors must be discussed with me and have my permission first. Also, publishing work done, or directly derived from work done, on your time in the lab and/or using the lab resources without my permission or without co-authorship with me and other contributing lab members is strictly prohibited.

We will use the following **publication requirements** for graduate students to graduate from our lab.

Your years are counted from the beginning of your program (Fall to next Fall if you start in the Fall, Spring to next Spring if you start in the Spring) or when you join our lab. If you start as a Master student and continue as a PhD student, your years begin from your Master program. See the definition of a *publication unit* (PU) below. The year-by-year publication expectation is as follows.

	Year 1	Year 2	Each Year 3, 4, …
Minimum requirement	1 PU	2 PUs	2.5 PUs

- In your first year, if you have a heavy course load (3 regular graduate-level courses each semester) and you don't do research in the summer, your publication expectation for your first year is reduced by 1 PU.
- If you are a graduate teaching assistant (GTA), your publication expectation is reduced by 0.5 PU for each semester that you are a GTA. In particular, if you are a GTA for a full academic year (2 semesters), your expectation is reduced by 1 PU.
- **Above is the bare minimum expectation. You should strive to achieve more than that.**

What is a publication unit (PU)? Only count publications on which *your advisor is a co-author*. You are free to collaborate and publish outside of our lab, but they won't count in the PU calculation.
- A conference/workshop paper *submission* counts as 1 PU.
- A journal paper *submission* counts as 2 PUs. It only counts once; revisions of a journal paper submission are considered part of the original submission and do not count any PUs.
- A joint conference-journal submission (like CDC and Control Systems Letters) counts as 2 PUs.
- A *published* poster / abstract / non-peer-reviewed paper or presentation counts as 0.25 PUs.
- When there are multiple authors, whether in our lab or not:
  - If you contribute significantly and are a main (aka first / corresponding) author: you get full PU credits.
  - If you contribute somewhat to the paper but not a main author: you get a quarter of the PU credits.
  - If you contribute very little or nothing to the paper: you should not be a co-author anyway, but if you are, you do not get any PU credits.
  - Example: you are the main author of a conference paper submission, you get 1 PU; you are a secondary author of a journal paper submission, you get 0.25*2 = 0.5 PU.
- Note that PUs count *submissions*, not *published* works. However, it's for your own benefit to have *accepted* and then *published* works; otherwise, you won't be able to graduate. So, while you are working to meet the expected number of PUs, strive to have high-quality submissions which are more likely to be accepted.

Publication requirements for graduation: To graduate with a degree, a graduate research student must meet the requirements of their program and the following publication requirements of our research group.

Student type	Minimum requirement for graduation (only count publications on which your advisor is a co-author)
Research master's student	1 conference paper published or accepted; OR 1 journal paper submitted

PhD student	3 good journal papers or equivalence (in reputable Q1 journals such as of IEEE or ACM, Q2 or below venues do not count):
	• At least 2 of which are published or accepted
	• At least 2 of which are first/main author
	• A published first-author conference paper in a top 5 (or top 20%, whichever is higher standard) venue of the field counts as 0.5 first-author journal papers. We will use reputable ranking lists, for example by Google Scholar Metrics in the specific subcategory of the field, counting only conferences.
	• A first-author conference paper published in a very competitive venue, on a par with a high-quality journal, may be counted as a published first-author journal paper, subject to the advisor's decision. See more information below.
	• Non-first-author conference papers do not count towards the requirement.
	• At least 1 of which is an actual journal paper: for example, having 6 first-author conference papers doesn't meet the requirement, but having 4 first-author conference papers and 1 journal paper does.

Google Scholar Metrics: https://scholar.google.com.ec/citations?view_op=top_venues, select specific Category and Subcategory.

A published first-author conference paper may be counted as a published first-author journal paper if it meets **all** the following **necessary conditions**. These conditions are necessary but **not sufficient**; the **final determination is at the discretion of the advisor**.
- The conference is among the top 5 conferences of the field (see above for ranking determination).
- The conference has a rigorous peer-review process, similar to a high-quality journal.
- The acceptance rate of the conference in the year the paper was accepted/published was at most 30%.

Below are examples of common conferences in our fields (all meet the first two necessary conditions, acceptance rates in most recent years but may change in the future):

May count as a journal paper	Does not count as a journal paper
AAAI (~20%), NeurIPS (~25%), ICML (~27%) L4DC oral (~10%), ICCPS (~27%), RSS (~29%)	CDC (~55%), ACC (~65%), IFAC WC (~75%), L4DC normal (~75%), ICRA (~40%), IROS (~40%)