

Some advice on the interactions with the supervisor

One of the critical things for a good Ph.D. is the interaction with your supervisor. I have been thinking about this for a long time, and recently I came across a Twitter post [1] from Prof. Jia-Bin Huang¹, that motivated me to write these notes, building up on his advice and adding my own advice based on my own experience, and supervision style². I have marked the critical actions/points with 🖱️.

I will try to update the notes with further information and further thoughts. Any feedback will be highly appreciated.

§{1} Know the role of your advisor See your advisor as an Input-Output Machine.

¶ The quality of the output is a direct consequence of the input that is provided. You throw them garbage in and get garbage out.

¶ There are three modes to operate:

In-only: You do everything and report final results;

Out-only: You do everything they told you to do;

🖱️ In & Out: You get frequent and valuable guidance.

§{2} Show your work Describe the detailed process you went through, the reasoning you have taken, the methodology you adopt, and the interpretations of the results you got.

¶ There are two ways to approach this:

Show your successes, only;

🖱️ Show your work.

¶ Your advisor enjoys discussing science and this includes all aspects of the work (not only the successes). So, do show and share your work (all the key components of it – see next point).

¹He also shares other tips here <https://github.com/jbhuang0604/awesome-tips> – **Note:** I have not checked in detail these tips

²I was interviewed by Dr. Joana Martins on my supervision style for coursework at Chalmers, that I will be happy to share with those that might be interested

Some advice on the interactions with the supervisor

§{3} Present failures Doing science implies trying different approaches and (many times) failing. Your advisor can help you move through this process. Therefore,

You should not just say "It doesn't work";

☞ You should explain what is happening e.g. "Here is HOW it fails. I feed X but somehow did not get Y. I believe the core issues lie in steps Z and W. I have ruled out W as the cause. Next, I will design experiments/simulations/calculations to isolate the step Z."

§{4} Time is the most important asset (also for your supervisor) Your advisor is working on several tasks at the same time (and has a family too) – classes, supervising students, committees, writing grants and papers, preparing talks, doing calculations, discussing collaborations. It is important to keep this in mind when requesting feedback, letters, reports, paperwork, that might require some preparation/dedicated work time.

☞ Discuss with your supervisor what is the best way to prepare the regular meetings, share information/ papers/ presentations to save time for everyone (yourself and your supervisor) and to streamline the interactions;

☞ Carefully prepare the regular meetings by:

- Reviving the timetable of meetings for you to stick to;
- Identifying what you can send to your supervisor in advance to form the basis of a discussion about progress with your supervisor before each meeting;
- Thinking about what action points you might agree to focus on before the next time you meet;
- Revisiting the minutes of the previous meeting and keeping a record/minutes of what you decide in each supervision session.

☞ Make sure you give enough time for your supervisor to be able to provide quality/meaningful feedback and/or prepare the documents and/or perform the requested action;

Some advice on the interactions with the supervisor

☞ Do not hesitate to share exciting advances or any news as they happen – outcome of submissions, referee reports, applications, evaluations, anything that is important to you (see notes 1, 5, and 9).

§{5} Leverage Asynchronous Discussions You should keep your advisor engaged and excited about your research. Therefore,

☞ You should send frequent and concise updates along the way (I prefer email, but messaging over MS Teams is also fine);

You should not wait for the regular/scheduled meeting to present everything. If you want to discuss, you discover something exciting, or you are stuck or lacking a clear perspective, do not hesitate to communicate that as soon as possible.

§{6} Provide context Your advisor will forget everything you discuss the moment you step out the door (see note 4).

☞ Treat your advisor as a goldfish. Always provide high-level context first.

☞ Maintain meeting minutes that everyone agrees upon so you have consistent guidance (this means summarizing the next steps at the end of the meetings). Prepare the minutes right after the meeting and share them by email such that any corrections are immediately provided (see note 4 on details on how to prepare the regular meetings).

§{7} Set expectations It is important to be realistic about your predicted timelines and plans (also important to make sure your supervisor can provide feedback when necessary as the work progresses – see note 1).

☞ You should set a realistic timeline for your research progress. Tell your advisor you will do what by when;

☞ Do not forget that "If you want to get ahead, get a plan" my own take on the classic sociology paper [2];

Some advice on the interactions with the supervisor

You should not have "No plan/no timeline", or just try to finish everything as soon as possible.

§{8} Have fun, share, and be enthusiastic with your research and convey your enthusiasm and your excitement to your colleagues, your supervisor, and family.

👉 Learn deeply about your topic and its history (not only the technical details), understand why it is challenging, what are the "classic papers", why it matters, and about the different bright people that have worked on your topic e.g. in the team, with your advisor, or worldwide. Learning about these details will give further meaning to your work and your contributions – your supervisor will be excited to reminisce and go through the details that are hard to find in the papers or in textbooks, in particular in more informal contexts;

👉 "Never underestimate the power of social events" – take advantage of those events or any other interactions (e.g. meet in the hallway or for coffee or just pop up in the office) also to share and discuss – sometimes, a two-minute chat can save many hours or days of intense work.

§{9} Read Ph.D. Comics [3] because it is lots of fun, it shows that many Ph.D. students face similar challenges e.g. in their interactions with their supervisors and because Jorge Cham has autographed a cartoon for GoLP (check the GoLP hallway for this)!

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For the most updated version of this document, check [here](#)

References

[1] Jia-Bin Huang. <https://twitter.com/jbh Huang0604/1546361365778022400>, 2022.

Some advice on the interactions with the supervisor

- [2] Annette Karmiloff-Smith and Bärbel Inhelder. If you want to get ahead, get a theory. *Cognition*, 3(3):195–212, 1974.
- [3] Jorge Cham. <https://phdcomics.com>, 2002.