2023 Kinney Lab: Time Management

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27 January 2023

Summary

Thank you for choosing to train and work in my lab. It means a lot to me that you are willing to spend these formative years of your career doing research with me. Over the years I have seen many trainees (most, perhaps) struggle with balancing the amount of time they need to devote to various activities, a robust combination of which are essential for a successful scientific training experience. The goal of this document is to suggest time management strategies to achieve this balance, as well as approaches to each of the activities you must engage in.

Budgeting your time

Trainees in my lab should perform at least ~40 hours/week of focused work. I recommend dividing your time in roughly this way:

- 25% (~10 hours/week): reading scientific literature or educational material
- 10% (~4 hours/week): attending talks
- 5% (~2 hours/week): meetings
- 10% (~4 hours/week): planning research
- 10% (~4 hours/week): writing up research
- 40% (~16 hours/week): doing research (programming, experiments, data analysis)

Each trainee's specific division of time will have to be adjusted to their individual circumstances and/or goals. Still, I think this budget is a good template off of which to work.

Tracking your time

It can be hard to quantify how much you actually work. I find it useful to track my time using Toggl (https://toggl.com/). For instance, having used this app I know that in 2022 I worked 2814 hours (54 hours/week on average): 320 hours (11%) reading, 765 hours (27%) writing, 202 hours (7%) attending talks, etc. I have also found this app useful for quantifying the impact that different activities have on the number of hours I actually work each week (e.g., taking the train to work vs. driving to work).

Reading

Trainees in my lab should read the scientific literature at least 10 hrs/week. **This is critical: familiarity with the scientific literature is the primary factor that separates successful scientists from unsuccessful scientists**. I recommend you develop a daily routine, e.g., some specific time of the day you reserve for scientific reading. And while there will be day-to-day

variations in how much time you can spend reading, make sure you never go more than a few days without reading anything that expands your scientific knowledge.

Your primary reading goal should be to develop a deep knowledge of your specific research topic. Your secondary reading goal should be to develop a broad knowledge of your specific scientific field. Your tertiary reading goal should be to develop a more general understanding of related scientific topics.

Value the time that you spend reading. Select the papers you choose to read with care, and read those papers closely. Make sure that you understand not just the main points the paper makes, but also the scientific context for the problem that paper aims to address, the claimed impact of the paper's results, the methods that paper uses, and the datasets that paper generates and/or analyzes. Importantly, you should form an opinion about whether the results presented in the paper actually support what the paper claims. Pay particular attention to the figures: understand what every panel in every figure is intended to show, and come to a judgement about whether the results in each panel do or do not show what is claimed.

I suggest that you mark up each paper/PDF as you read it. After you finish a paper, write a short summary, one that you can come back to in a few months or years. This act of writing a short summary will also give you a chance to synthesize your understanding of the paper. Record the paper and your notes in a database designed for scientific literature management (I use ReadCube Papers); this will help immensely when it comes to citing papers.

Attending talks

Trainees in my lab should regularly attend scientific talks (about 4 hrs/week). Attending talks is a critical component of your training: it will expose you to a diverse topics in biology, as well as to presentation strategies/styles that you can incorporate into your own research talks. The specific talks at CSHL that I think my lab members should attend are,

- Supergroup meetings (every other Monday, 1p-2:30p)
- James In-House (Tuesday, 11:30a-1p),
- QB seminar (Wednesday, 12p-1p),
- CSHL Seminar (Thursday, 12p-1p),
- CSHL In-House (Friday, 12p-1p).

I suggest that you aim to attend at least 3 talks/week.

Trainees in my lab should also give a few talks a year. Everyone will get a chance to speak in the supergroup meetings. Postdocs and graduate students should also sign up to talk in the QB In-House seminar. Postdocs planning to go on the academic job market should sign up to talk in the CSHL In-House seminar.

Planning

Before doing any research, plan out what you want to do and why you want to do it. Ask yourself, "What is the goal?", "What am I trying to test?", "What are the possible outcomes?", and "What conclusions will I come to based on these possible outcomes?". This planning process is essential for computational work as well as for experimental work. Thoughtful planning will save you enormous amount of time down the road, both in avoiding wasted effort, and in providing an explicit rationale that can be included in the resulting paper.

Writing

Record the research you do as you do it. This applies to both experiments and computational analyses. Write down, in words, what you did and what conclusions you come to based on your results. Also put in the necessary effort to make your visual presentation of data/results presentable and understandable by others. These writing activities should be pursued continuously throughout the course of a project, not just at the end. Writing your results as you go will give you better perspective on where you are in your project, and which directions will be most productive to pursue going forward.