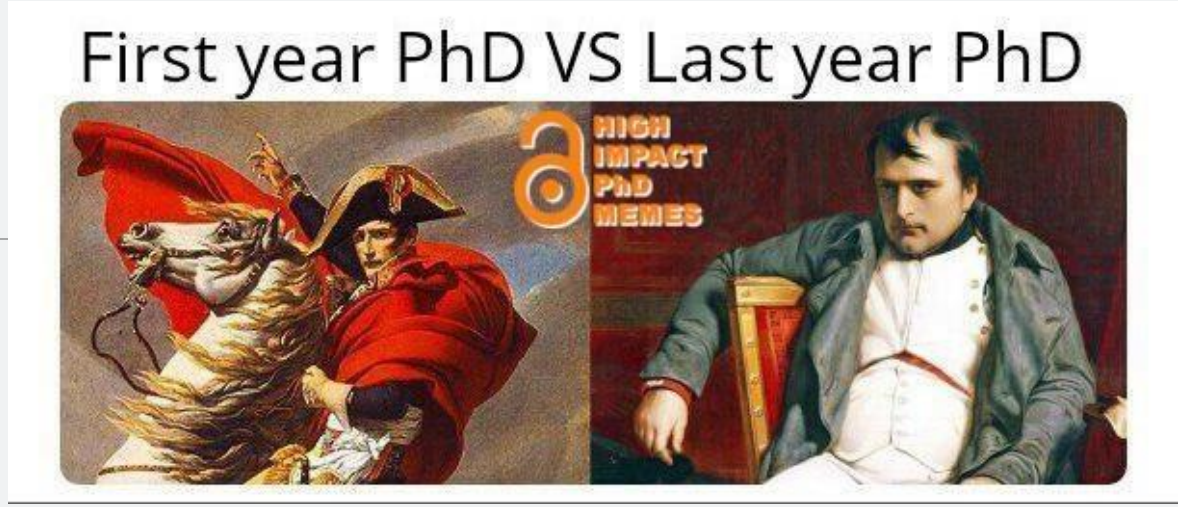
Surviving Grad School 101



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Talk outline

1. Tackling first year
   - Classes
   - Choosing rotations
2. General grad school advice
3. Self-care: How to take care of yourself physically, mentally, and emotionally

Disclaimer: No two graduate student experiences are the same!

>> Talk to older students (they will be your best resource)

Part 1: First Year

I.I Classes

1. BGS-wide classes
   - All are video-taped, helpful resource for studying for exams
   - Go to office hours with questions!
2. Program-Specific Classes
   - Speak up in class - you might want to rotate with some of these professors
   - Save the lecture slides (if provided) in your own storage
3. A note on grades:
   - You only need a “B” to pass
   - However – jobs, fellowships, and grants will ask for your transcript
   - Try to find a balance between classes and spending time in rotations
     - You should not spend 100% of your time in lab, but taking classes doesn’t entitle you to be a lab ghost during your rotation

Remaining silent through an entire seminar, the grad student sees the only other quiet individual forsake him.

I.II Choosing a rotation lab – where to start

1. Be open to fields you might not have previously considered!
2. Look on the BGS faculty website or your program specific site
   - Read the research blurbs, see what sounds interesting
   - Make a list of potential options
3. Ask older students in your program (and your academic advisor/ faculty buddy, if applicable):
   - Does the lab have a good reputation? Has the PI had graduate students before?
4. Email multiple professors to see if they will meet with you!
   - If they don't respond within a week, it is ok to send a follow up email.

I.II Choosing a rotation lab – Prepare for the meeting

1. Do your homework on the lab!
   - Read over the faculty page (again)
   - Read over one or more recent papers, at least the abstracts
   - **Talk to graduate students that have rotated or joined** (your graduate group can provide a list upon request)
   - Update your CV
   - Be prepared to talk about your interests, expectations, and why you are interested in their lab

I.II Choosing a rotation lab – Meeting the PI

1. Show up to your meeting **on time**
2. Be prepared to tell them about yourself: your schedule, your career goals, etc
3. If they don't volunteer the info following the outline of their research, ask what rotation projects are available
4. **ASK LOTS OF QUESTIONS**

❖ **Some Good Questions**

- Are you looking to take on a thesis student? Are you able to take more than one thesis student this year?
- Do you have the space and **money** for a thesis student?
- Do you plan to be at UPenn for the next 5-6 years?
- What projects are available in your lab?
- What is your mentoring style? How often do you travel?
- What are your expectations for your graduate students?
- What is the lab environment like?
- Hours, lab jobs, lab meetings? journal clubs?
- **Can I see the lab space and meet your lab members?**

I.II Choosing a rotation lab – Evaluating the meeting

1. How did the meeting go?
   - Were they: Easy to communicate with? Friendly? Excited about their open projects/you?
   - Did you feel comfortable during the meeting?
   - Did they answer your questions and listen when you had something to say?

2. Be on the look out for warning signs:
   - Many people in their lab have very similar or overlapping projects
   - (Especially for a 2/3rd rotation): they can only take one student but have had several rotation students this year
   - They're not sure if they would have money for you and/or say you would have to get a grant
   - They have many commitments and don't mention having regular meetings with their students
   - Their research is in a 'hot' field- danger of being scooped etc
   - **Their students don't seem happy and/or give a different picture of life in the lab than their PI did**

I.II Having a successful rotation

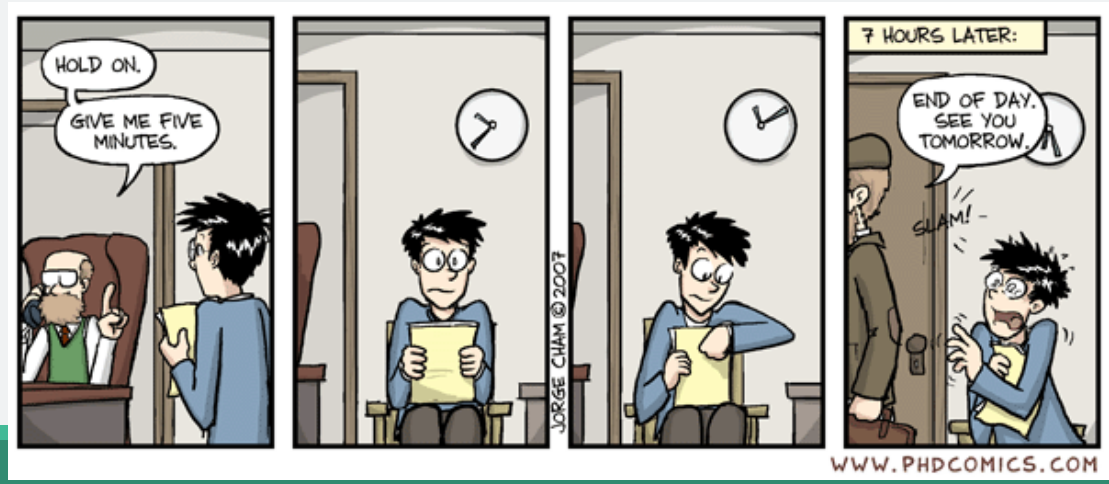
- Show up when you say you will
- Read the background papers
  - Ask for a list of starting papers from your rotation mentor in the lab or PI
- Keep an up-to-date and thorough lab notebook
  - Write down everything
- Know what you are doing and why
- Ask questions!
  - Speak up in lab meeting
- **Spend a lot of time in the lab!**
  - Even if you have classwork to do, try to do it at your desk in lab
  - Immerse yourself in the day to day lab environment

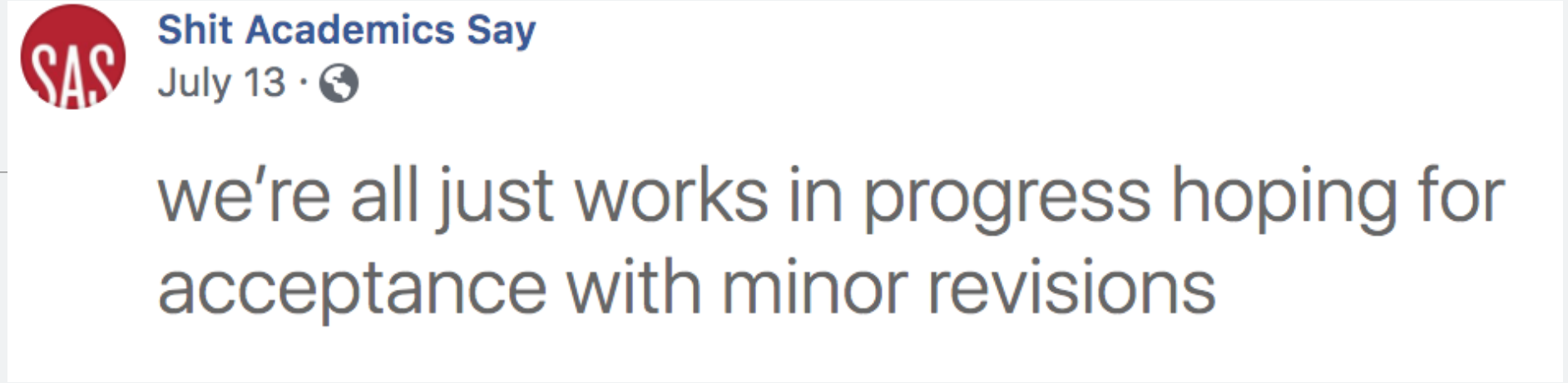
I.II After the rotation

- Make a presentation of what you accomplished during your rotation (even if you are not required by your lab/program)
- Make sure your notebook is in good shape/you give any e-files to your rotation mentor in lab
- **ASAP** write a summary for yourself
  - What were the pros and cons of the lab?

Choosing your next rotation

- Take into account what you liked and didn't like about this lab
  - Size? Number of grad students/postdocs?
  - Pre-tenure vs established professor?
  - **Professor availability**
  - Types of experimental techniques mostly used





Part 2: Grad School Years 2-?

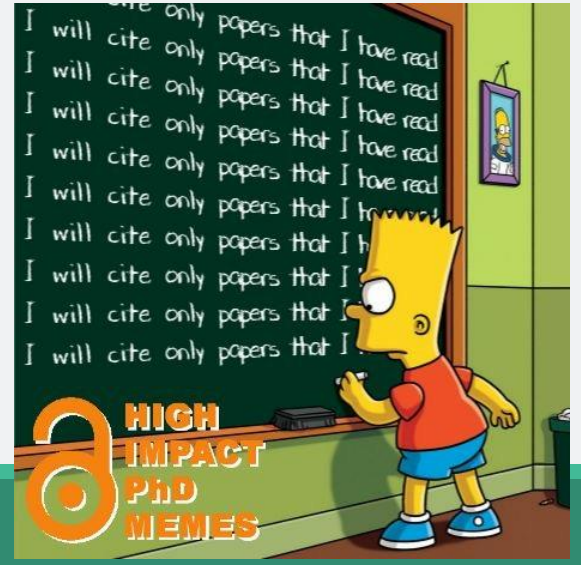
II.I Organization/General lab advice

- Come up with a plan for organizing your experiments
  - My suggestion: number each experiment, have a summary/cover page for each experiment
- Keep a detailed list of samples generated and freezer/fridge boxes
  - Makes life easier if you keep it updated!
- Every time you put together a presentation, make a note in the comments of what experiment the graph is from
- Get an external hard drive and/or cloud storage
  - 1 terabyte hard drive = $50-60
  - Penn+Box ((www.upenn.edu/computing/box/)
- Organize your PDFs of relevant papers
  - Endnote, Papers, Mendeley, Readcube

Reorganizing papers that he has no serious plans to read, the grad student engages in barely productive procrastination.

II.II Being successful in your research

- Put in the time to optimize and know how your assays/kits work
  - Will save you time in the long run!
- Learn the software, stats and code you will need for your thesis
  - Stata, Prism, MATLAB, Adobe Photoshop and Illustrator, etc
- Lab notebook organization!! (Yes, it's here again b/c it's that important.)
- Read the literature
  - Seriously. Just do it.
  - Stay up to date with Pubmed alerts, PubCrawler, Google Scholar Alert, Readcube or Mendeley Recommendations, Twitter & other social media

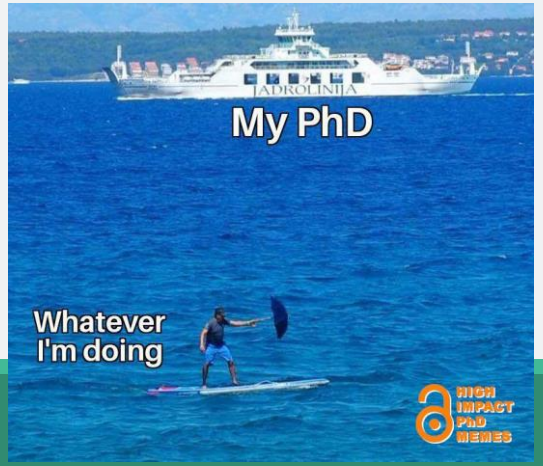


II.III Developing yourself professionally

- Apply for fellowships
  - National Science Foundation (NSF), Internal Training Grants (T32s), NIH Fellowships (F31 & F30 = NRSA), Private and/or Field-Specific Predoctoral Fellowships
- Tips for fellowships & future job applications
  - **Get to know your current PI. They will be responsible for writing your recommendations for the foreseeable future.**
  - **Keep in touch with your former and rotation PIs!**
  - Keep summaries of your undergraduate/technician/lab rotations
  - Consider volunteering if you do not already!
- Volunteer to present at joint lab meetings
- Try to go to one conference a year
  - BGS has travel funds available if your PI doesn't have the money
- Ask your PI if there are opportunities for you to write a literature review

II.IV Time management

- Get a planner/Google calendar and use it constantly
- For experiments:
  - Build in extra time
  - Prioritize
  - Be flexible!
- Write longer term goals for a project every 6 months/year
  - Break into smaller, actionable tasks
  - Make a checklist so you can see the progress you are making
- For writing/presentation deadlines
  - Set a deadline a week ahead of the real deadline
  - Set aside specific times on your calendar to accomplish these tasks
- In most labs it is perfectly acceptable to read/write from home or the library if you can't focus at your desk!!



II.V Being Critiqued

- This will happen many times over your PhD (and beyond)
- Hopefully, mostly meant constructively
  - If you feel you are being given critique that is not constructive/biased/harmful seek advice from outside mentors
- You are not perfect, you are here to grow and learn
- Use failure and critiques as feedback!
- It is okay to ask for help, it does not make you “weak”!
- Take advantage of every opportunity to practice your scientific writing and presentation skills!
  - Especially take advantage of feedback from your fellow students which should be a safe space to make mistakes and gain insight.

Failing to find a single functioning stapler, the grad student struggles to keep things together.

Viewing a movie instead of catching up on work, the grad student rapidly sinks into a torturous pit of guilt.

Part 3: Self-Care

If you remember one section, it should be this one

Eating his stolen sandwiches in the stairwell, the grad student contemplates how his life has come to this.

III.I Things you will likely experience that are normal

- Imposter syndrome
- Feeling so overwhelmed you don't even know what to do so you freeze and make progress on nothing
- Feeling anxious about sounding dumb when you ask questions
  - This is 100% normal and you should always JUST ASK.
- Feeling like everyone outside of grad school doesn't understand what you are going through
  - They won't and can't. So try and be patient with them and ask them to be patient with you.

III.II Strive for a work/life balance

- Eat well and try to exercise
  - But also, keep a tupperware in your desk for free food…
- Take the time to relax and keep up with your hobbies/find new ones
  - Penn offers a bunch of grad student interest/affinity groups
  - Student Health Services offers massage, meditation, acupuncture
  - There are also unique spaces on/near Penn's campus – beautiful libraries, music practice rooms at the School of Music, the Schukyhill trail for running/biking, etc…
  - Explore Philadelphia- coffee, bars, live music, museums, restaurants, Fairmount Park etc
- You have 2 weeks vacation plus the week between Christmas and New Years (and many professors are fine with you taking more)
  - Use it all up!
- Utilize CAPS (Penn's mental health services) - they're here to help!!

III.III Build/maintain your support network

- With other BGS grad students
  - Grad school is not a zero sum game - your classmates successes do not come at your expense!
  - Your grad school network can become one of your most valuable assets

- Outside of science
  - Make time for your pre-existing significant relationships (family, friends, partners, etc.)
  - Volunteer, join a city-wide sports team, find a religious/spiritual community, go to meetups, etc.

III.IV Navigating Bad Situations

- If you are experiencing any of the following situations, you should seek help/guidance immediately:
  - Feeling unsafe in lab or anywhere else on campus
  - Harassment or discrimination of any kind (racial, sexual, gender, etc.)
  - Resources: Special Services Division of Public Safety, Student Intervention Services, CAPS
- Mentor or Lab Conflict
  - Personal Conflicts
  - Ethical Conflicts
  - Resources:
    - Your academic advisor or faculty buddy (if applicable), thesis committee chairs/members, previous rotation mentors- whoever you feel most comfortable talking with
    - Your Graduate Group Chair! This is one of their main jobs
  - Always mention mentor conflict during your private discussion with thesis committee- they are there to help!

To recap…

Choose your mentor/lab wisely

Be proactive and manage your time

Keep track of samples and data

Keep up with the literature

Maintain a sense of humor

Be patient with yourself

Make friends within your program and BGS

Make time for FUN and protect your mental health

Additional Resources

UPenn CAPS: https://www.vpul.upenn.edu/caps/

UPenn Computer Connection: http://cms.business-services.upenn.edu/computerstore/

- They have great deals on software etc

UPenn Career Services: https://www.vpul.upenn.edu/careerservices/

School of Music room reservations: https://www.sas.upenn.edu/music/performance/private-lessons/practice-room-sign

BGS Resources page, lots of links to various campus services: https://www.med.upenn.edu/bgs/current_students_resources.shtml

How to Complete and Survive a Doctoral Dissertation, Sternberg, David, N.Y.: St. Martin's Press, 1981

Getting What You Came For: The Smart Student's Guide to Earning a Master's or Ph.D., Peters, Robert L., N.Y.: Farrar, Strauss & Giroux, 1992

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Questions?

Babbling incoherently in response to an undergrad's question, the grad student is alarmed to watch the class write everything down.