Comments on Graduate School

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Various things I learned over my career, which I wished I had known earlier.

Comments on Academic Integrity

Ethics training.
1. You are working too much*

- I recall from grad school lots of physics - working on equipment, running experiments (for months at a time), analyzing data, writing papers, writing proposals for new experiments, going to meetings, giving talks, ...

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1. You are working too much*

- I recall from grad school lots of physics – working on equipment, running experiments (for months at a time), analyzing data, writing papers, writing proposals for new experiments, going to meetings, giving talks, ...
- I also recall lots of bike riding and gym time, hikes in the mountains and national parks, dinners in Santa Fe, “parties” with colleagues, ...
- Time off will improve your mental health and your overall productivity.
- In all my years at Rutgers, I only had one student / postdoc who took off too much time.

* Probably. Almost certainly.
2. You are probably worried about your qualifier next fall
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• “We” got really worried before our quals - about 50% pass rate then.
  - I picked a school with only written qual; yours is much more aligned to professional activities.

• Recent qual results:
  - 2019-2020: 6 passed, 2 to redo papers, 1 not yet taken
  - 2018-2019: 21 passed, 1 left without taking qual
  - 2017-2018: 21 passed, 3 failed

• I find I do better if I am a little worried, about giving a good talk, etc. But not too worried.

• So... worry appropriately.
3. Doing research

• Faculty want students who are productive and self-supervising.
• In addition to being deeply focused on your particular research,
  - think about what is the next step or project.
  - is there something you heard about from elsewhere that could help your research?
• Writing peer-reviewed papers is not a program requirement, but it is something that most faculty consider either very important or required for your professional success.
4.a Giving talks*

• Take notes on what others do poorly. Do not imitate them.
• Be interested and excited in your talk. If not, why should your audience think it is interesting or exciting?
• Think about your audience; only give them the needed technical details, at an appropriate level
  - I only hear about 1 talk per decade that is too simple.
  - Almost no one can follow the algebra.
  - Your experimental details are very exciting to you.
• Avoid “you know”, sighs, etc.
• Know what you talk about; arrange your talk to talk about things you know.
• There should be reminders on the slide for everything you want to say – but don’t read it.
• End seminars a couple minutes early.

* This slide is too busy.
4.b A pretty slide

- Your beautiful slide transitions are distracting.
- Your fonts are too small.
- Your figures are too small, and there are too many on the page.
- Your lovely slide background adds noise and confusion.
- The contrast is poor.
- Your margins are too narrow.
- At least you did not put every word in a different color to emphasize everything.
- Did I provide references for these figures? None are my work.
- Some rooms have small screens.
- Green may not project well.

Hard to see postage stamps, limit to 1-2 figures per slide.
5. Getting ready to be hired (for a postdoc position)

• Faculty often hire postdocs to support a particular technical project, rather than trying to find the “best” person.
• But some of us think: this is a chance to hire someone who will work with / for us for decades.

• You are the product. What does your customer want?
  • Explain why you want the position, but also how hiring you benefits them.

• Don’t take the last plane flight the night before.
6. Things that can get you into trouble

• Being irresponsible.
• Being unprofessional / abusive / harassing.
• Academic integrity violations.
To Be Continued...