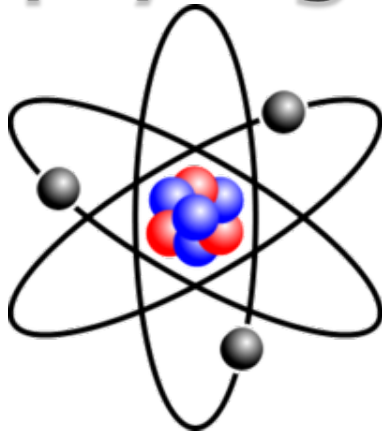


Applying to Graduate School in Physics



Workshop and Faculty Panel
October 8, 2014

Which Schools Should I Apply To?

► Think about what you want:

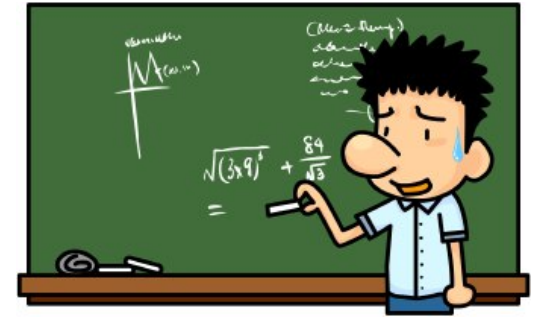
- Theory or experiment?
- Department: Physics, Applied Physics, Astronomy, Engineering, etc.
- Field: Astrophysics, High energy physics, Atomic and molecular, Biophysics, Condensed matter, etc.



► Do some research!

- Look at department and research websites
- Look at grad school rankings (both overall and for your specific field of interest)
- TALK to students and professors who know the schools!
- Find a match for your interests

How many schools?



- ▶ Different answer for everyone...
 - 8–12 schools is a common range
 - **Choose a mix of schools** you have a very good chance of getting into, more uncertain ones, and “reach” schools. Give yourself options!
 - Check competitive scores & GPAs for your list of schools (department websites usually have these stats)
 - Talk to an advisor / professor / TA!

- ▶ For each school:
 - Look at the research program carefully – make sure there is **more than one** professor whose research you find exciting!

Things to Think (and ask!) About

▶ Funding

- Is funding guaranteed?
- Will you be a TA?
- Consider applying for fellowships!



▶ What is the program like?

- What classes are required?
- Qualifying exam?
- Finding an advisor?



▶ How about the university?

- Location, student population, and culture

Is the graduate program important?

THE APPLICATION

- ▶ Letters of recommendation
- ▶ Statement of purpose / personal statement
- ▶ GRE scores
- ▶ Transcripts (request them early!)
- ▶ Application fees (get waivers!)

Make sure you **plan ahead** to get all these taken care of by the deadlines!



Letters of Recommendation

- ▶ Who to ask?
 - Undergraduate advisor
 - REU advisor
 - Boss (if work related to physics)
 - **Someone who knows your work**
 - NOT a TA or large class instructor
- ▶ Provide them with the info they need!
 - Deadlines, submission details, personal info if desired
- ▶ **Follow instructions** and remember deadlines!
 - Some schools will ONLY read 3
 - Give your recommenders several weeks' notice to write, and **send reminders!**

Personal Statement

► General Tips:

- Use **concise**, not overblown language
- Focus on **why you are excited about your field NOW**, not what inspired you to get into it in the first place
- Keep the focus on your research. Be **professional**!
- Have a professor or grad student proofread it
- Keep it under the page limit
- **DON'T be afraid to self-promote!**



5 Questions to Answer in the Statement

1. Why do you want a PhD?

- ▶ Possible answers:

- You love **research**
- You want to **teach**
- You want to contribute new knowledge to the field

- ▶ List your goals and ambitions

- Be ambitious, but **reasonable**
- Explain WHY you have chosen these goals



5 Questions to Answer in the Statement

2. Do you have the drive/focus to get a PhD?

- ▶ Grad school is hard! Are you ready?
 - You *know* it will be difficult
 - You are up to the challenge: hard-working, focused, etc.
 - Provide evidence and **examples**!
- ▶ Show a **serious interest** in the major issues in your field
 - Share experiences reflecting this
 - Be **professional**!



5 Questions to Answer in the Statement

3. Do you have the ability to do graduate-level research?

- ▶ Research **skills** (the past!)
 - Describe research experiences; list *specific* skills
- ▶ Research **interests** (the future!)
 - List a specific field; describe a specific research project
 - Be clear and show understanding of your field
- ▶ If you plan to switch fields in grad school:
 - Explain why you are choosing the new field
 - Explain how you are qualified to succeed in it



5 Questions to Answer in the Statement

4. Why are you applying to this particular school?



- ▶ With whom would you work and why?
 - List **specific** professors (more than one!)
 - Show that you have read about their research!

- ▶ What do you like about the department?
 - No empty accolades
 - Give REAL, honest reasons why you think the department is a **good match** for you.

5 Questions to Answer in the Statement

5. What can YOU offer the department?

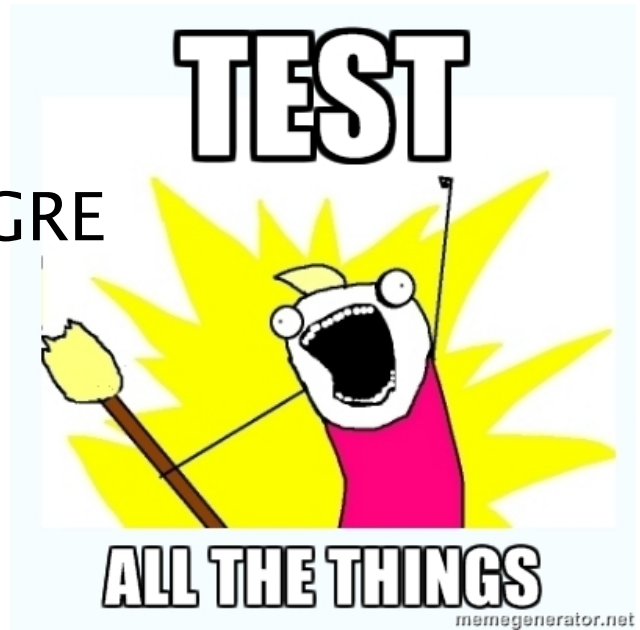
(Your Strengths!)

- ▶ Why are **YOU** a good match for them?
 - e.g., you are good at forming partnerships in a collaborative setting, or you have a demonstrated interest in their specific research track/specialty/approach
 - **Don't be afraid to (honestly) self-promote!!**
- ▶ **Diversity** and **Outreach**: How can you contribute?
 - Many grants require diversity and public outreach
 - List experiences that improved your **communication skills**
 - Being a woman in physics helps with diversity!



GRE Scores

- ▶ Must take general AND physics GRE
- ▶ Study a bit for general
 - Need a high score on math section
 - English section rarely a factor
 - GRE prep resources at UCSB:
<http://clas.sa.ucsb.edu/academic-skills/gre-prep>
- ▶ Physics GRE requires **lots of practice!**
 - Take practice tests! GREphysics.net and others
 - Practice timed tests; work through common problem types
 - Score matters, but can be balanced out by other parts of application



FELLOWSHIPS

Why you should consider applying:

- ▶ Deadlines are earlier, but process is almost the same as applying to grad schools
- ▶ Having your own funding gives you more research **options** and **flexibility**!
- ▶ Often pays better than TA or RA positions
- ▶ Get a huge **head start** on grad school apps!
- ▶ Even honorable mention is good for your CV

Some fellowships to consider:

- ▶ **National Science Foundation (NSF) Graduate Research Fellowship:** \$32,000 stipend and grad school tuition for 3 years. ~2,000 new awards per year. Must be U.S. citizen, national, or permanent resident. Deadline: Oct. 30 (for Physics)
- ▶ **National Defense Science and Engineering Graduate Fellowship (NDSEG):** \$31,000 stipend and tuition for 3 years. Must be U.S. citizen or national. Deadline: Dec. 12
- ▶ **Hertz Foundation Graduate Fellowship:** \$32,000 stipend and grad school tuition covered for 5 years. Must be U.S. citizen or permanent resident. Deadline: Oct. 31
- ▶ For other resources, see:
 - <http://web.physics.ucsb.edu/~women/resources>
 - <http://ogs.tamu.edu/funding-information/fellowships/externally-funded-fellowships/national-fellowship/>

Questions?



- ▶ Our **faculty panel** is here to give advice:
 - Prof. Leon Balents – condensed matter theory
 - Prof. Beth Gwinn – condensed matter experiment
 - Prof. Ruth Murray-Clay – astrophysics
 - Prof. Joe Polchinski – high energy theory
 - Prof. Joan Shea – biophysics & chemistry
- ▶ Have a snack and chat with **grad students**, too!
- ▶ This presentation will be posted on the Women in Physics website for reference:
<http://www.physics.ucsb.edu/~women>