The Graduate School Application Process

Deciding to Attend Graduate School

It's surprising how many students skip the "Why?" of attending graduate school. But given that the decision to attend or not to attend can have significant ramifications for your future career path, this question should be considered the most important of all!

In helping you reach a decision, talk with Department graduate students and professors to find out what graduate school is all about. Think about the job market. Consider taking year off and being a research assistant. Build up application and allows time for deciding if this career is for you.

Gaining Research Experience

Nowadays it is essential to have research experience prior to going to graduate school. Try to get into an NSF *Research Experiences for Undergraduates* (REU) program, as this will provide an important reference letter and show you whether you like research or not. An overview of the REU program can be found at http://www.nsf.gov/crssprgm/reu/; note that it's only open to US citizens.

Also, consider getting involved in research at UW; professors are often looking for undergrads to work on various research projects. Sometimes these positions are paid, but most of the time not. If you want to support yourself over the summer, consider applying for a research grant:

- Wisconsin Space Grant: https://spacegrant.carthage.edu/ (requires US citizenship)
- UW's Hilldale Undergraduate Fellowship: http://www.provost.wisc.edu/hilldale.htm

Ultimately, you should be aiming to secure one or preferably two strong reference letters talking about your research experience(s).

Taking the Physics GRE

Start preparing and studying the summer before your applications. See Bob Benjamin's handout with some notes on how to prepare for the exam. Have your favorite book/books to review undergrad physics. Get all four copies of the practice GRE exams (you can find these online and free). Exam solutions can be obtained from http://grephysics.net/ans/.

Choosing Schools

You should apply to somewhere between 8 and 15-20 schools. Especially considering the changing financial climate, it is better to apply to a larger number of schools. http://graduate-school.phds.org/ is a great resource to see how schools compare with each other and what caliber of students they admit.

Make list of top schools. Have your research advisor help cut down from there. Apply to 2-3 schools that are real stretches and also make sue to apply to a few safety schools. Consider larger vs. smaller departments. Consider Physics vs. Astronomy departments (or both). For selecting schools, find as much info about each school as possible (find and e-mail student alumni who are now at various grad programs and ask questions; e-mail particular professors). Develop an organized way to keep track of your applications. Consider and plan for the cost of applications.

Talk to your research advisor and ask to go to a summer American Astronomical Society (AAS) meeting, typically in June, to connect with various schools recruiting students.

Writing Your Personal Essay

The answer to "Why?" question (see above) should be in your essay. Make your statement of purpose stand out, personal, special. Find out about the department(s) you're applying to; cite specific research you're interested in and would like to get involved in, and specific advisors you would like to work with. Mention problems that interest you the most – show depth. Make sure to have a draft essay early so you can give it to reference writers.

Useful resources:

- Writing a statement of purpose (UC Berkeley)
  http://grad.berkeley.edu/admissions/state_purpose.shtml
- Writing a winning statement of purpose (Glenn Callaghan)
  http://www.sjsu.edu/faculty/gcallaghan/graduate/winningstatement.htm
- Steps to success (UCLA)
  http://www.gdnet.ucla.edu/asis/agep/advsopstem.pdf

Feel free to contact graduate students in the department to read and comment on your draft statements.

Obtaining Letters of Recommendation

Choose letter writers carefully. If possible, select someone who will be recognized by the admissions committee of the department you're applying to, and/or somebody who knows about your work (instead of the most senior person in the research group). Ask: "Would you be willing to write a strong letter of recommendation for me?" It is important to have at least two letters talking about your research experience/skills. Give

a deadline of at least 3 days before the real deadline.

Visiting Schools

Most departments review applications in early January, and then choose a short list of students to offer places to. These students are invited to visit, typically in late January through to early April; sometimes, students without formal offers are also invited to visit, to allow the department a closer look. During a visit:

- Be organized and take notes as you will later forget important details about each school.
- Have a list of questions to ask, e.g.:
    - How are students typically supported? What guarantees are offered?
    - Are there possibilities for first-year research projects?
    - What access is there to telescopes? Supercomputers? Labs?
    - Do different research groups interact?
    - What's the 'journal/research group' discussion schedule?
    - Is there a culture of advisors putting grad students on articles and grad students being first authors?
    - How many hours a week are expected as a teaching assistant (TA)?
    - How often must a grad student TA?
    - What's the average time to complete a PhD?
    - What are previous grad students currently doing? (often on webpage)
    - How many students have left after just masters? Without masters?
- Show interest when talking to faculty members about their research.
- When interacting with prospective advisors (and their research groups):
    - (To advisor): Do you have funding to support a student?
    - (To students): What's the general funding situation?
    - Is the advisor personally involved in research? What is their interaction style?
    - How quickly does the advisor publish work?
- Observe the working environment:
    - Do grad students enjoy themselves?
    - Do their offices have windows? Space? Computers?
    - What do you best like about surrounding community? Least like?
    - Do grad students from different departments have opportunities to hang out?
    - What's the breakdown in men, women, and minorities?
    - Is there an atmosphere of teamwork or competition?
    - Are people polite, friendly, and welcoming?
    - Is the town/city a place you could live for 5-6 years?
- Sit in on classes or discussions and observe professor-grad student, prof-prof, and grad student-grad student interactions.

Most departments adhere to a recommendation by the AAS that the deadline for students

to decide whether to accept an offer is April 15th. You shouldn't be asked to decide before then. If you haven't received any offers by April 15th, don't despair; many new offers are made right after the deadline as spaces become available.

Suggested Timeline

Early November
- Decide on schools
- Start working on your essay

Mid November
- Choose letter writers and give them the following:
  - Addressed and stamped envelopes for applications that require hard copies
  - Timeline with all the schools you are applying for and their deadlines
  - Your resume and a draft personal statement to remind them of your achievements and to allow them to tailor their letters

Late November – December
- Start sending in applications; better to get them in well ahead of the deadline, so that any problems can be fixed

January
- Attend Winter AAS Meeting
- (Hopefully) start hear from schools and arranging visits

Mid/Late February
- If no news, call/e-mail departments to ask about the status of your application

April 15th
- Deadline for students to decide on offers

Further Reading

- http://www.cfa.harvard.edu/cfawis/Gradlist.html
- http://www.astro.indiana.edu/grad_questions.shtml
- http://www.gettingintogradschool.com
- http://www-personal.umich.edu/~danhorn/graduate.html