



fun! glamour!
excitement!
Applying to Graduate
School in Physics

Lisa Manning
Women in Physics and
SPS

APPLYING TO THE RIGHT SCHOOLS

Determine what you want

- theory vs. experiment
- Department: Physics, Astronomy, Applied Physics, Engineering
- Field: Astronomy & Astrophysics, Particles & Fields, Atomic & Molecular, Biophysics, Nuclear Physics, etc

Find a match

- Talk to professors, students
- Research school online
- Department ranking websites

Funding

- Master's vs PhD
- guaranteed funding?
- TA, RA ?

Program structure:

- mandatory classes?
- qualifying exam/oral exam?
- process of finding advisor?

The University

- location (city, small town)
- student population
- importance of graduate program

THE APPLICATION

- Letters of recommendation
- Statement of purpose or personal statement
- GRE scores
- Transcripts
 - Get them early!
- Application fees
 - get waivers!

It can all add up to a lot of money, so plan ahead and try to find waivers, etc

Letters of recommendation

- **Who should write them?**
 - Professors
 - undergraduate advisor
 - REU advisor
 - faculty sponsor of a club
 - boss (if work related to physics)
 - someone who knows your work
 - **Provide them with all the info they need!!!**
 - Not TA or large lecture class instructor

Statement of Purpose



General Tips

- Use **concise**, not overblown language
- Don't write an autobiography
- Emphasize why you are excited about your field **now**, instead of what inspired you to get into the field in the first place.
- Keep the focus on your research
- Have a professor or grad student proofread it
- Don't go over the page limit!
- Women don't self-promote enough!!

5 Questions to Answer in your personal statement

Why isn't a bachelor's degree good enough for you?

- Possible answers:
 - You love research
 - You want to teach
 - You want to contribute to new knowledge in the field
- List your **goals and ambitions**
 - Be ambitious but reasonable

Do you have the desire/ perseverance to get a PhD?

- Do you know what you are getting into?
 - “I KNOW grad school will be hard.”
 - “I am hard-working and focused.”
- Don't say personal issues motivate you
 - distortion of the scientific process
 - you might be a dreamer, not a doer
- “Show an **intrinsic and serious interest** in the substance of the issues dealt with in your field.”
 - Share experiences that reflect on these

Do you have the ability to do research at the graduate level?

- Research skills
 - Describe concrete research experiences
 - Name specific skills
 - REUs, internships, etc
- Research interests
 - State a specific field
 - Propose a specific research project
 - Intellectual clarity and zip
- Additional info if you are applying in a different field from your undergrad major



Why are you applying to this specific university?

- With **whom** would you work and why?
 - Scour department web page
 - Contact professors?
 - More than one person!
- What do you like about the department?
 - No empty accolades
- Why would it make a good match for you and your future career goals?

How do you contribute to diversity/public outreach?

- Government grants require:
 - Diversity
 - Public Outreach
- Help a department get money
 - Stand out in a crowd of applications
- List experiences that have improved your communication skills
- Being a woman in the sciences helps with diversity!

GRE

- Must take general AND physics GREs
- study (a bit) for general
 - English score rarely considered
 - need a high score on math
- Physics GRE requires lots of practice!
 - Tests rewards educated guesses
 - Lots of practice tests online - physicsGRE.com, GREphysics.net
 - Not really useful, but schools use it anyway
 - Historically, women score ~100 points lower than men, so...

FELLOWSHIPS



- Deadlines are a little earlier than grad schools, but process is almost the same
- Applying to grad school is easy if you've already applied for fellowships!
- Usually pay better than a TA or RA
- You may have more flexibility in who you work for and whether you TA.
- Prestige factor can get you more fellowships
- Even honorable mention is good for CV

A Few Fellowships to Apply for

NSF Graduate Research Fellowships: Three year graduate research fellowships. 900 new fellowships are awarded each year. \$27,500 stipend, cost-of-education allowance of \$10,500, and \$1,000 travel allowance. Due November 10th.

Hertz Foundation Graduate Fellowships. Award is for \$25,000 plus all education costs, fees, and tuition. It can be renewed for up to five years. Due Oct 31.

NASA's Graduate Student Researchers Program. Support 300 graduate students annually, and the award can be renewed up to twice. The stipend is for \$24,400 each year the fellowship is received.

National Defense Science and Engineering Graduate Fellowship. 200 fellowships to be awarded in spring 2010. Award is for three years. Due Jan 4.

DOE Office of Science Graduate Fellowship. 80 fellowships awarded each year. \$35,000 stipend, \$10,500 for tuition, \$5,000 for research expenses. Seniors can apply. Deadline Nov 30th, 2009

Department of Homeland Security <http://www.ornl.gov/dhsed/>

National Physical Science Consortium: <http://www.npsc.org/> due Nov

Jack Kent Cooke Foundation

Fusion Energy Sciences Fellowship

<http://www.ornl.gov/orise/edu/DOE/FES/fesfelhome.htm>

IBM PhD Fellowships. Nomination deadline in October.

Fellowships with Limited Eligibility

Paul & Daisy Soros Fellowships for New Americans.

www.pdsoros.org

NASA Harriett G. Jenkins Predoctoral Fellowship Program: for women, minorities, and persons with disabilities.

AT&T Labs Fellowship Program (ALFP). Fellowships are available to outstanding under-represented minority and women students. Due January 31.

Ford Fellowships: graduate research fellowships for underrepresented minorities. Approximately 50 fellowships are awarded annually. You can apply senior year.

Information Overload?

This presentation will be available from the UCSB Women in Physics website: <http://www.physics.ucsb.edu/~women>

GOOD LUCK!!!

