Preparing for Graduate Studies

Jacqueline Thomas
Recruiter
The National GEM Consortium

Yvonne Lopez
Asst. Dean Graduate School
University of Texas at El Paso

Ann Gates
Associate VP of Research & Sponsored Projects
University of Texas at El Paso
(Supported by NSF grant #CNS-0540592)

University of Texas at El Paso
06/30/09
Agenda topics covered today:

- Benefits of Graduate School
- Preparation for Graduate School
  - Application Process
  - Admission Process
  - Selling Yourself and Your Ideas: Statement of Purpose
- Wrap-up and Questions
- Funding
Purpose of Degree Programs

• Bachelor’s Degree
  – Broad base of knowledge
  – Foundation to build on lifelong learning

• Master’s Degree
  – In-depth knowledge in an area
  – May or may not include a thesis

• Ph.D. Degree
  – Contribution of new knowledge to your field
  – Deep understanding of how to structure research
Different Types of Advanced Degrees

Do you want to:

- Manage professionals in your field? (M.S. or Ph.D. may be best)
- Move away from undergraduate discipline into area such as marketing? (MBA)
- Practice patent law? (J.D.)
- Practice medicine? (M.D.)
- Do medical research? (M.D./Ph.D.)
- Be a faculty member or do govt./industry research (or advanced development)? (Ph.D.)
What is my earning potential?

- How much more will I make?
  - BS Salary? $50,000 - $70,000
  - Ph.D. Salary? $90,000+
  - Source: [www.salary.com](http://www.salary.com) or [www.engineeringsalary.com](http://www.engineeringsalary.com)

Starting Salaries for Engineers
What will advanced degrees do for my career?

- Entry level vs. advanced placement
  - Advanced degree attests to capabilities
  - Negotiating power
  - Management vs. Ground level
  - Enhanced career flexibility
    - Greater choice of work
    - Greater mobility
    - Choice of Geographic location
    - Competitive advantage
    - Demonstrated ability to perform rigorous tasks
How will advanced degrees allow me to give back to my community?

Community Impact

- Role model
- Policy

Increased compensation

- Higher starting salary
- Greater ability and flexibility to earn independently
  - Entrepreneurship/Consulting
  - Authorship
How does an advanced degree develop you as a leader?

- It provides you with a “seat at the table”
- The solutions to some of the nation’s most pressing problems lie in science and engineering
  - Energy (Oil, Wind, Solar, etc.)
  - Healthcare (AIDS, cancer, Alzheimer’s)
  - Sustainable environment
  - Transportation
  - Communications
  - Strengthening civil infrastructure

Will your B.S. provide you this ticket to success?
YOUR Academic Value Chain

- Solutions to Complex Problems
- Competitive Advantage
- Patents & Innovation
- Publications
- Outreach

Education

Research

- Prestige
- Endowments
- Recognition

Administration

Government

Industry

Society
How Do I Apply for Graduate School?
Narrowing Graduate School Choices

• Surf the Web
  – Get recommendations from advisors, colleagues, mentors
  – Use your favorite search engine to find keywords
  – Explore University, College, Graduate Administration links
  – Investigate Departmental & Faculty Specialty Areas
  – Explore Campus Laboratory & Center Research Areas

• Events
  – National Conferences, Graduate School Fairs
  – Research Symposiaums, Campus Visits

• Faculty
  – Email, phone, visit
  – Talk to current PhD and Master’s students or faculty
  – Read faculty publications
Selecting the Right Graduate School

• Select an appropriate program and institution where you are positive you will be successful.

• Research and compare several programs. Review websites.

• **VISIT, VISIT, VISIT**: ALL the Graduate Schools you are seriously considering before you enroll ALWAYS VISIT!!

• Do not assume anything about the institution until research has been done.

• Talk to professors you worked closely with, he/she may be a helpful reference and may be familiar with experts or finest departments in your field of interest.

• Talk with current graduate students at the graduate school you are considering? They will be one your best resources!
Finding the Right Graduate Program for You...

Ask yourself:

• Are faculty conducting research in your area of interest?

• Strong infrastructure (labs, computing, library)?

• Does the curriculum support your interests?

• What is average time to degree completion?

• What will be your work/study environment?

• What are the degree requirements?

• Financial support available?

• Adequate social outlets?
Steps to Apply to Graduate School

• Study, practice, and take the Graduate Record Examination (GRE)
• Request official transcript(s)
• Contact professors and employers for a Letter of Reference
• Prepare your resumé
• Complete a Statement of Purpose
• Complete the Graduate School Application
• Apply for funding, e.g., GEM Fellowship

Make sure that your packet STANDS OUT!
Additional Resources

- Library reference sources
  - Peterson’s Guide
    [www.petersons.com](http://www.petersons.com)
  - Chronicle of Higher Education
  - Directory of Graduate Programs
  - *U.S. News and World Reports*
- [www.collegesource.org](http://www.collegesource.org)
- [www.gradschoolshopper.com](http://www.gradschoolshopper.com)
- [www.gradschool.com](http://www.gradschool.com)
- [www.gemfellowship.org](http://www.gemfellowship.org)
Graduate Admission Process

- **Graduate school application components**
  1. Application/Questionnaire
  2. Resumé
  3. Transcripts
  4. Letters of reference/Letters of recommendation
  5. GRE
  6. Statement of Purpose/Personal Statement
The Graduate School Application

- **Start Early**
  - Application deadlines range from early November to early February

- **Research your options**
  - Consider options outside of your comfort-zone, but where the institutions are committed to your success!

- **Pay attention to restrictions**
  - Some programs limit the number of credit hours you can complete before application.

- **Follow ALL the Directions (Don’t get “weeded-out”)**

- **Your Name**
  - Check your name on your SS card, graduate school admissions application, and fellowship application – they should be identical.

- **Supporting documents do matter!**

  Persistence will pay off!
• What is your resumé?  

  It is your history or past

• What should you include in your resumé?  

  All skills relevant to the position you are applying for

• Who should read your resumé?  

  Everyone you consider to be vital to your success

• It is a critical piece of your professional career

  Your Resumé Tells Your Story
Transcripts

• How critical is GPA?
  – Very CRITICAL!
  – There is still hope for those below a 3.0 GPA

• Transcripts
  – Official or unofficial? (Always ask, but Official is preferred)
  – Include Community College? (Typically Yes)

• On-time Submission
  – Know your Institution’s turnaround time
  – If it takes 4 weeks, then plan ahead
Recommendation Letters

Faculty vs. Character Reference

- Character references are typically from employers or coworkers
- Faculty references are from people who you studied with

Advice

- Ask for **STRONG** letters from **faculty**
  - They should endorse your current academic/research performance and future capabilities
  - Share your goals (industry, professorate, academic administration) – if they don’t know them, they can’t support them in writing
- Allow 3-5 weeks for letters to be written
- PAD the due date you give them so you have enough time
Recommendation Letters

• How to Ensure Strong Recommendation Letters
  – Undergraduate Research
  – Visit Faculty in their office regularly during the year
  – Give gentle reminders (Don’t ask the night before it is due!)
  – Do well in their courses - it easier to approach them
  – Read their publications and discuss it with them (Faculty love to discuss their research with everyone)
  – Ask them to be your mentor and send them success updates

• How do you ensure a strong recommendation?
  – You ASK for a STRONG RECOMMENDATION because you KNOW you have STRONG QUALITIES to support having one written!
Action Plan

• Apply for an Undergraduate Research Experience
• Meet with faculty during office hours
  – Discuss their course(s)
  – Discuss your graduate school plans
  – Read their research publications and ask questions
• Setup a meeting to discuss your plans and your request for a recommendation letter
  – Bring a resumé
  – Schedule in hour meeting
• Follow Up
  – Send reminder if necessary
  – Acknowledge recommender’s time
The Graduate Record Exam

• Is required for admission into graduate school
• Is required for funding at some universities
• Has two parts: General and discipline exams
  Includes a writing section http://www.gre.org
• Offers computer-based exams continuously
• Provides resources: search services, online practice exams, and campus workshops/seminars
• GRE scores are submitted with admission packet
• Review Peterson’s Guide for scores submitted at various universities
A Statement of Purpose is a personal statement about who you are, what has influenced your career path, your professional interests, and your plans.

- Essential points
  - What makes you unique
  - Why you are interested in research and graduate studies
  - Why you are interested in the institution to which you are applying
Your Statement of Purpose should

- Explain your understanding of what graduate school is and why you are interested in it
- Describe why you are interested in this institution’s particular program
- Differentiate you from other applicants
- Describe your career plan and how graduate school relates to that career plan
Before You Write

• Start early and do not be afraid to start over

• Decide what key points you really want to get across
  – What relevant unique personal experiences do you have?
  – Why is this graduate school for you?
  – How is graduate school important to your overall goals?
Basic Rules

- Read the application instructions
  - What does the school ask you to write about?
- Don’t repeat things that are already in other parts of the application portfolio.
- Undergraduate ≠ Graduate
  - Different target audiences
  - Different levels of investment
  - Different levels of research
Graduate School Game Plan

• **Summer**
  - Write a draft statement of purpose
  - Start browsing through directories of graduate programs and college.

• **September**
  - Meet with current faculty members to discuss your statement and possible programs
  - Ask for letters of recommendation
  - Sign up for required standardized tests

• **October**
  - Take standardized tests
  - Request application materials from programs in which you are interested.

• **November**
  - Order transcripts
  - Ask if the Registrar’s Office can send a transcript with your fall term grades in time to meet the deadlines of programs to which you are applying
**Graduate School Game Plan**

- **December**
  - Complete application forms
  - Give your recommenders the forms to fill out or the addresses to which they should send their letters
  - Give recommenders copies of your statement of purpose or your response to specific questions asked by the program.
  - Mail applications early.
  - If you are applying for need based financial aid programs, you must file an application for Financial Aid and have Financial Aid transcripts sent to the institution to which you are applying.

- **January**
  - Contact programs about the possibility of visiting.
  - Make trips if possible.

- **April**
  - When applying for need based financial aid programs, you may have to file a copy of your federal income tax return.
Additional Online Resources

- [http://www.statementpurpose.com](http://www.statementpurpose.com)
- [http://accepted.com/grad](http://accepted.com/grad)
- [http://www.princetonreview.com/grad](http://www.princetonreview.com/grad)
- [http://sciencecareers.sciencemag.org](http://sciencecareers.sciencemag.org)
- [http://www.rpi.edu/web/writingcenter/gradapp.html](http://www.rpi.edu/web/writingcenter/gradapp.html)
Financial Aid Assistance is Available!

Institutional Aid

- Fellowships
- Teaching Assistantships (TA)
- Research Assistantships (RA)
- Grants

External Sources

- Federal & State Aid (FAFSA)
- Loans
- Employers
- Other sponsors: Organizations
- (GEM), Philanthropic
- Foundations, Private Individuals or Special Clubs
Graduate Schools want to gain confidence that you will contribute to their institution.

What is your promise to make significant research contributions?
Q&A

MAKE A POWERFUL CONNECTION

The National GEM Consortium
P.O. Box 537
Nate's Place, Indiana 46556

(574) 631-7771
gem@nd.edu
www.gemfellowship.org

33
How Can I Pay for Graduate School?
Research Assistantships (Half-Time)

• Stipend: $10,000 - $18,000 for 12 mos.
• Tuition may be covered
• Health Insurance may be covered
• Work obligation (assisting professor with research)
• Often furthers one’s dissertation research
Teaching Assistantships
(Half-Time)

- Stipend: $8,000 - $12,000 for 9 mos.
- Graders, lab instructors, discussion/recitation section leaders, classroom teachers
- Tuition may be covered
- Health Insurance may be covered
- Provides teaching experience but usually does not further one’s research
- Useful credential for academic positions
What is a Fellowship?

Fellowships/traineeships, grants and scholarships are outright awards made to graduate students with no service obligation. They usually provide a monthly stipend for living expenses, tuition and required fees.
General Characteristics of Fellowships

- Full-Time Enrollment
- 1-6 Year Duration
- Summer Internship Requirement
- Citizenship Requirement
- Research-Specific/Discipline-Specific
- Merit-Based
Institutionally Awarded Fellowships

- Fellowships offered through departments and/or college
- Contact Director of Graduate Programs
- University-Wide Fellowships
- Diversity Graduate Assistance Grants
- IGERT, NASA, GAANN, NIH
Nationally Competitive Fellowships

The National GEM Consortium
National Science Foundation
Ford Foundation
Jacob K. Javits

- Awarded directly from the granting agencies/foundations to graduate students.
- Graduate students may choose to use their fellowships at any university to which they have been admitted.
Additional Financial Aid Resources

- www.gemfellowship.org
- www.collegesource.org
- www.gradschool.com
- www.petersons.com ("Peterson’s Grants for Graduate and Postdoctoral Study")
- www.nsf.gov
- www.finaid.org
- Graduate Office at your university
- Graduate Office at universities of interest to you
- Department you plan to pursue your degree
- Web Resources: Graduate School “Financing Graduate Education Web Site”
- Databases
- Agency/Foundation Web Links
Financial aid resources

- Jack Kent Cooke Foundation

- Morris K. Udall Foundation

- Teach for America
  [http://www.teachforamerica.org/admissions/index.htm](http://www.teachforamerica.org/admissions/index.htm)

- USDA Public Service Leaders Scholarship Program
  [http://www.usdascholarships.com/applications/subsectionid.1,pageid.15/default.asp](http://www.usdascholarships.com/applications/subsectionid.1,pageid.15/default.asp)

- Dept of Homeland Security Graduate Fellowships

- The U.S. Public Health Service (PHS)

- Marshall Fellowships

- EPA Marshall Fellowships
  [http://www.marshallscholarship.org/applicationepa.html](http://www.marshallscholarship.org/applicationepa.html)

- Paul and Daisy Soros Fellowship for New Americans
  [http://www.pdsoros.org/requirements.html](http://www.pdsoros.org/requirements.html)

- Rhodes Scholarship Trust
  [http://www.rhodesscholar.org/brochure.html](http://www.rhodesscholar.org/brochure.html)

- Department of the State Fulbright Fellowships
  [http://us.fulbrightonline.org/home.html](http://us.fulbrightonline.org/home.html)
Financial aid resources
National Science Foundation (NSF)

- S-STEM
- Math and Physical Science in Public Science Education
- Navy Civilian Service Fellowships
- Robert Noyce Scholarship Program
- East Asia and Pacific Summer Institutes for US Graduate Students
- Graduate Research Fellowship Program
- [http://www.nsfgradfellows.org/IGERT](http://www.nsfgradfellows.org/IGERT)
- Doctoral Dissertation Improvement Grants
Alfred P. Sloan Foundation
Graduate Scholarship Programs

• To increase the number of underrepresented minority students – African American, Hispanic, and American Indian – receiving doctoral degrees in mathematics, natural science, and engineering by 100 per year.

• Faculty Serve as Mentors

• Scholarship Amount Tied to Expected retention Rate

• Money Provided Directly to Students
  – Average MPHDI Award:$26,031
  – Average AIGP Award :$34,843

www.sloanphds.org
Funding Opportunities Throughout Your Career in STEM:

- REU - Undergrads (Start research now!)
- AGEP - Professional Development ($20K+)
- IGERT-Grads ($30K) [www.igert.org]
- NSF Grad Research Fellowships-Grads ($40K)
- GK-12 - Grads ($30K)
- Faculty Early Career - Faculty
- Research Grants – Faculty
• $30,000 per year
• Renewable for up to three-years
• Student Stipend $21,000
• Travel Allowance $4,000
• University Allowance $4,000
• Health Insurance $1,000
GSRP Eligibility

- U.S. Citizenship
- Full-Time Graduate Student
- GPA 3.0 or higher
- Not receiving other Federal funding

Lloyd Evans commends the class of 2004 for an excellent group of technical presentations during the Orientation
Where do I start?

Do your homework - Take responsibility

• Read the details on the GSRP web site:
  http://fellowships.hq.nasa.gov/gsrp

• Download and read the GSRP Solicitation document.

Contact: Sandra Myers
NASA LaRC Office of Education
Mail Stop 400-GSRP
Hampton, VA 23681-2199
Telephone: (757) 864-7162
FAX: (757) 864-9701
education.nasa.gov/gsrp
How Do I Apply for a GEM Fellowship?
GEM delivers Graduate School

100+ GEM member universities, including:

- MIT
- Cornell
- Columbia
- UTEP
- Georgia Tech
- U of Illinois
- Johns Hopkins
- U of Michigan
- Northwestern
- Penn State
- U of Washington
- Purdue
- RIT
- Yale
- U of Puerto Rico
GEM delivers Employment

- Internship Expectations:
  - Internships begin summer before Fall enrollment at member university except;
    - Juniors complete three internships with employer
  - MS Engineering Fellows are expected to complete two internships with employer sponsor;
  - PhD Engineering and PhD Science Fellows are expected to intern at least once with employer sponsor;
  - All interns are evaluated as potential full-time employees; and
  - Employers pay internship salary and travel.
GEM delivers Money/Funding

- The GEM Fellowship is an EMPLOYER sponsored program, where students receive:
  - Waived tuition and fees
  - Paid summer internship(s) at 50+ employer members

  - MS Engineering Fellowship Program
    - Minimum $10,000 stipend over 3 semesters/4 quarters
    - Full tuition and fees at GEM member university

  - PhD Science/Engineering Fellowship Program
    - Minimum $14,000 academic year stipend for year one from GEM
    - University support year 2-5
    - Full tuition and fees at GEM member university
GEM Applicant delivers...

- **Eligibility requirements**
  - Minimum 2.8 GPA for MS Engineering Fellowship
  - Minimum 3.0 GPA for PhD Engineering and Science Fellowships
  - Submit three (one from faculty) letters of recommendation
  - Detailed resume
  - Include statement of purpose
  - Undergraduate and graduate transcripts
  - Be a member of underrepresented minority group (African American, Hispanic American, and American Indian)
  - Be a U.S. citizen
How GEM Applicant delivers an A-GAME

- Freshman-Juniors:
  - Undergraduate research
  - Internships and/or co-ops in relevant industries, labs (employer list on web site)
- Juniors and Seniors apply @ www.gemfellowship.org by November 15th deadline.
- Apply to targeted graduate programs at member universities (university list on web site) by their deadline (latest February 1)
- Leverage relationships with GEM Employers in January to request their consideration of sponsorship
On Time or Out of Time?

Starting July 1: Apply online @ www.gemfellowship.org
- Indicate up to four preferred employers on GEM application
- Apply for admission to member universities
- Take GRE (not necessary for GEM application)

November 15: Submit complete GEM application and graduate school application

December: GEM Selection Committee matches employer intern preferences with eligible applicants

February: Announcement of GEM Fellows
On Time or Out of Time?
(continued)

- **February:** GEM Acceptance Forms Due
- **May:** Forward transcript & school selection to GEM
  May/June: Internship begins
- **August/September:** Fall semester begins
  - Meet campus GEM Representative
  - Meet other GEM Fellows!