Grant Writing Workshop

Presented by
the Research Development Office

In collaboration with the
Office of Graduate & Professional Education
and the
College of Arts and Sciences

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http://www.udel.edu/research
Learning Objectives

• Share the reasons for seeking graduate fellowship grants

• Provide insights on when you should think about funding

• Briefly describe the types of sponsors and funding available

• Identify funding sources and the UD resources available to assist you

• Overview of the application preparation process

• Example of a proposal: NSF GRFP
Why think about funding?

- $$$ for predissertation, dissertation and research expenses helps you complete the graduate program in a timely manner
- Funds can often be used for travel to present at meetings and attend conferences
- Helps to focus your dissertation research
- Educational and professional experience enhances your CV
- Prestige for you, your advisor and UD
- Networking opportunities for building your career
- Feedback of your research by world class scholars/researchers
- You will never be awarded if you don’t try!

Bottom Line:
- Grant writing is something you are going to have to do throughout your academic/research careers
- Get practice and experience while in grad school
When should you look for funding?

• **START EARLY**
  – Some common obstacles we hear from students and even new faculty
    • “It’s such an overwhelming task”
    • “I don’t have time”
    • “I don’t have pilot data or even know my dissertation topic yet”
    • “My area of research is hard to get funding for”
    • “It’s just too much responsibility to have to worry about grants, budgets, reports, etc. I just want to get through graduate school!”

• Takes time to find funding opportunities that match your research interests
• Takes time to prepare application
• Different sponsors have different funding cycles
  – Many applications must be submitted during the academic year prior to when support is needed
• Grant writing is a process not a single event

• You may fail!
• Don’t take it personally!
• Simply learn from your failures, improve your application and resubmit!

Patience and persistence wins the game!
Who funds graduate research?

Types of Sponsors
- Federal agencies/programs
  - NSF
  - NIH
  - Fulbright
  - DOD, etc.
- Private
  - Foundations
  - Professional Organizations
  - Special Interest Entities

Types of Funding
- Pre Dissertation & Dissertation
  (specific tasks related to dissertation)
- Fellowships
  (specific training & research activities)
- Research Support
  - Conference Travel
  - Research Costs
  - Funding for work at a relevant location
- Postdocs
Predissertation Proposals

Application materials will closely overlap those used for graduate admission + a proposed research project or plan of future study

-Letters of recommendation, transcripts, GRE scores
-Build on undergraduate research, or other research between college & grad school
-In a discussion re: your senior thesis or major seminar paper, focus on what you learned & how it influenced or shaped your future goals, not on the procedures or findings
How a Dissertation Prospectus Differs from a Fellowship Dissertation Proposal

• Dissertation prospectus- Essentially asking your own department to decide whether your project is acceptable or not based on a series of papers or write-ups of lab results
  • Preaching to the converted

• Dissertation proposal- Asking an anonymous committee to decide that you deserve to win
  • Convince the reader that your project will make an important contribution to the field and change the way people think about the topic
Starts with a Passionate Idea (not the sponsor)

Before starting to write a grant and find the right sponsor you need to:

- Clarify your ideas and develop a clear, concise hypothesis
- Develop your objectives and aims
- Determine what question(s) you will address
- Define the specific experiments/scholarly processes that will test your hypothesis or expand an important idea
- Define measurable and realistic outcomes
- Identify methods most likely to achieve those outcomes
- Be able to articulate credibility and capacity to conduct the project

http://www.udel.edu/research
Sponsors Fund Grantees to Advance Their Missions

Do some homework!

- Review the sponsor’s website, annual report, and/or 990 return
  - Find out what/who/how much the sponsor funds
  - Search for past recipients, abstracts, and/or previously funded proposals
  - Check online FAQ
  - Contact sponsor personnel and ask targeted questions
- Seek out advisors who have served on or have received grants from the sponsor in the past
Finding Funding Opportunities
Research Office Website

http://www.udel.edu/research/preparing/funding.html

COS PIVOT Questions/Training: Contact Carol Rudisell at rudisell@udel.edu or 302-831-6942
Finding Funding Opportunities
Research Office Website

http://www.udel.edu/research/students/index.html

Requirement
Finding Funding Opportunities
Graduate & Professional Education Website

www.udel.edu/gradoffice

http://www.udel.edu/research
Finding Funding Opportunities
Graduate & Professional Education Website

http://www.udel.edu/gradoffice/financial/index.html

UD Fulbright Scholars Program
http://www.udel.edu/global/research/fulbright.html
Finding Funding Opportunities
Graduate & Professional Education Website

http://www.udel.edu/gradoffice/financial/external.html

This website includes links to several really good searchable databases!
Top Five Funding Opportunity Links

1. UCLA Graduate & Postdoctoral Extramural Support (GRAPES) Database
   http://www.gdnet.ucla.edu/grpinst.htm
   • Searchable database for graduate and post doc funding.
   • Search for awards by discipline, academic level, award type, and minimum award amount.
   • Filter for travel abroad awards and exclude awards to U.S. Citizens or Permanent Residents

2. Cornell University Graduate Fellowship Database
   http://www.gradschool.cornell.edu/fellowships
   • Searchable database with funding opportunities for all disciplines
   • On the same page you can find great information about
     - Letter of Recommendation
     - Writing Your Research Statement

3. Texas A&M Externally Funded Fellowships
   http://ogs.tamu.edu/funding-information/fellowships/externally-funded-fellowships/

4. Graduate and Professional Student Funding by Duke University
   https://ors.duke.edu/orsmanual/graduate-and-professional-student-funding
   • Includes international opportunities for US citizens and foreign citizens

5. COS PIVOT- UD Morris Library
   http://www2.lib.udel.edu/database/cospivot.html
   • Searchable database with funding opportunities for all disciplines
   • Includes federal opportunities, foundations, and private opportunities
   • Exclude awards to U.S. Citizens or Permanent Residents
Note to International Students

• Most national fellowships in the US are limited to US citizens or permanent residents
• Dissertation research funding from NSF does not require US citizenship or residency
• US affiliation or citizenship is not needed to apply for NIH small grants (R03), exploratory grants/development grants (R21) or research grants (R01)
  – These are awarded to UD not individuals
    • If you do not have a permanent visa, state in the application that your visa will allow you to remain in the US long enough for you to be productive on the project.
    • UD will have to certify that you have an appropriate visa.
    • If your visa doesn’t cover the entire grant period or you cannot guarantee that you will be getting one that does, you may not be allowed to be the PI. Alternately, UD could nominate a PI to replace you if you have to leave.
• Many industry and private fellowships do not have these restrictions
• Look for databases that sort by citizenship status
Application Process

Organizational Strategies

- Read the Instructions
- Confirm eligibility
- Application due date (online vs. postal mail)
- Individual submission vs. institutional submission
- Create a specific timeline for preparing the application

Typical Application Components

- Letters of reference
- Research statement
- Personal statement
- CV

If applicable:

- Preliminary data
- Detailed timeline of experimental work and exams
- Membership in particular professional organizations

Preparation Strategies

- Scope
- Audience
- Pitching and selling
- Writing
- Psychology
Application Instructions/Guidelines

• Different sponsors call them different names
  – Program Announcements (PA)
  – Requests for Proposals (RFP)
  – Requests for Applications (RFA)
  – Funding Opportunity Announcement (FOA)
  – Broad Agency Announcements (BAA)

• Use the most current program announcement

• Guidelines are the best source of information about the program, the application expectations, and the review criterion.

• Read them before you start the application, read them again in process and read them again as you prepare to submit.

• Keep a copy of the guidelines for your files.

• Some large programs also offer webinars

http://www.udel.edu/research
Best Practice Timetable

4-6 months before the deadline:
- Identify the programs/sponsors for which you will apply
- Create a checklist of major components, formatting instructions, websites, and due dates
- Discuss the grant with your Graduate Advisor and/or Chair

2-3 months before the deadline:
- Reread the guidelines
- Request transcripts and GRE scores
- Obtain agreement from writer’s of Letters of Recommendation/Support
  - Give them a draft of your proposal, review criteria and CV
  - Pick advisors/mentors/faculty that know you as a scientist and personally
- Create a budget outline (if applicable)

Start writing a few hours a day, not in one long marathon. Write at different times of the days. Morning writing looks much different than evening writing.
Best Practice Timetable

1 month before the deadline:
  • Prepare a draft version of all forms, narrative (with references) and have your Graduate Advisor review
  • Print out a hard copy and begin to proof formatting
  • Enlist proofreading help from peers, advisors, family

2 weeks before the deadline:
  • Have the final version ready to go
  • Proofread it again and find someone who hasn’t seen it before to proof
  • Acquire necessary institutional signatures on any University forms (if applicable)
Best Practice Timetable

1 week before the deadline:
  • Be prepared to submit ahead of time! On the day of the deadline invariably:
    - The copy machine breaks down
    - The electronic submission system goes down
    - Your laptop crashes or gets a virus
    - Someone who needs to sign off on the grant is unexpectedly out of town
  • If paper copy, send out by FedEx or express mail/courier so you can track the package and ensure receipt.
  • If online independent submission, plan on submitting at least 2 days before the deadline.

The day of the deadline:
  Celebrate! Relax! Think positive thoughts! Get some sleep!
Preparation Strategies: Scope and Audience

Scope: Single most important consideration
   - What is the funding agency looking for in successful applicants?

Audience: Who will read your application?
   - Scientists in your field?
   - Scientists in related fields?
   - Members of a private organization with some background in your field?
   - Lay persons?

Be careful of using too much technical jargon!
Preparation Strategies: Pitching and Selling

• It is critical that your application highlights the qualities that you possess that make you the ideal applicant

• Golden rule: “Under sell, over deliver”

• You are selling yourself and your research idea

• How will the proposed research address the specific goals/concerns of the funding agency?
  – What is unique and novel about your research?
  – How will your proposed research advance your field?
Preparation Strategies: Writing

- Find and review examples of successful applications
- Give yourself time to revise numerous times
- Make use of peers, faculty advisors and mentors
- Make use of people outside of your field
Preparation Strategies: Psychology

• Expect to apply multiple times

• All grants and fellowships are HIGHLY competitive

• Don’t allow yourself to become discouraged

• Welcome the chance for revision and resubmission

• Absolutely critical to give your recommendation letter writers enough lead-time

• Don’t be surprised if they ask you to draft a letter on your behalf
  – This is ultimately an important lesson in selling yourself!
General Proposal Advice

• Careful thought to your proposal title
• Focus on WHAT you want to do and WHY is it important – impact
• Create ENTHUSIASM & EXCITEMENT
• Work far in advance
• No boilerplate, be specific
General Proposal Advice

• Organize description under headings; be careful about pages of text
• Avoid jargon – spotlight ideas
  – short sentences
  – active voice
  – first sentence is key
• Pay attention to format—white spaces, safe margins, font, justification
Proposal Abstract – OUTLINE

- Your objective & goals
- Problem and significance
- Your capabilities
- Total budget (unless est. by award)
- Ensure strong first impression
- Write last
- Gain attention

Demonstrate Significance of Your Research
Outcome – So WHAT?

- Who is interested?
- Why are you the best scholar?
- What will we learn?
- Why is this important?
- When will the work be completed?
- How will you accomplish this?
Demonstrate Knowledge of State of Research in Field

• Superb bibliography
• Be thorough—don’t promise more than you can deliver
• Did you answer all the questions on the application form?
• Clear, easy to find, be consistent
• Think long-term
University of Delaware Library
2012 Fall Workshops

Student Multimedia Design Center Orientations will provide an overview of the facilities and services offered in the Student Multimedia Design Center on the lower level of the Morris Library.
Tuesday, Aug. 28, 2012, 2-2:30 p.m.
Wednesday, Aug. 29, 2012, 10-10:30 a.m.
Thursday, Aug. 30, 2012, 12-12:30 p.m.
Friday, Aug. 31, 2012, 10:30-11 a.m.
Tuesday, Sept. 4, 2012, 2-2:30 p.m.
Wednesday, Sept. 5, 2012, 12-12:30 p.m.
Thursday, Sept. 6, 2012, 10-10:30 a.m.
Friday, Sept. 7, 2012, 2-2:30 p.m.

Introduction to Film and Video Collection will provide an overview of film and video resources and services for classroom instructional support and research which are available at the University of Delaware Library (The session does not cover services related to the Student Multimedia Design Center.)
Wednesday, Sept. 5, 2012, 9-10 a.m.
Thursday, Sept. 20, 2012, 2-3 p.m.

Introduction to Digital Animation Techniques will introduce animation techniques and the tools and software that can be used to create animations.
Thursday, Oct. 4, 2012, 1:30-3 p.m.

iMovie 2011: The Essentials will highlight the many features of Apple’s video editing software, iMovie. The workshop will explore the entire iMovie editing process from beginning to end.
Wednesday, Sept. 12, 2012, 1:30-3:30 p.m.
Thursday, Sept. 13, 2012, 10 a.m.-12 p.m.

Digitizing Old Formats for Beginners will cover how to transfer old media formats such as VHS or vinyl records to current digital formats for use on a computer.
Wednesday, Oct. 10, 2012, 2:30-4 p.m.

Introduction to RefWorks will cover the basic functions of RefWorks, a citation management system that allows users to create and manage references, export references from databases or a database and generate bibliographies.
Thursday, Sept. 27, 2012, 12:15-1:30 p.m.
Wednesday, Oct. 24, 2012, 2-3:30 p.m.
Thursday, Sept. 27, 2012, 11 a.m.-12 p.m.

RefWorks Beyond the Basics will cover the advanced functions of RefWorks, including using the Write-N-Cite feature to insert in-text citations and create bibliographies or reference lists.
Thursday, Oct. 4, 2012, 10-11:30 a.m.
Wednesday, Oct. 31, 2012, 2-3:30 p.m.

Citing Using APA Style and RefWorks will focus upon using RefWorks to apply the APA citation style when creating reference lists and in-text citations.
Thursday, Oct. 25, 2012, 2-3:30 p.m.

Research Funding Online will focus upon two Library databases, Foundation Directory Online and COS Pivot, which faculty, staff, and graduate students of the University of Delaware can use to identify grants and other potential funding resources.
Tuesday, Oct. 30, 2012, 10 a.m.-12 p.m.

Final Cut Pro 7: The Basics will cover all of the basics of this feature-rich video editing software.
Wednesday, Sept. 19, 2012, 1:30-3:30 p.m.
Thursday, Sept. 20, 2012, 10 a.m.-12 p.m.

Final Cut Pro 7: Tips and Tricks will cover keyboard shortcuts and advanced functions such as color correction and audio mixing within Final Cut Pro 7, a feature-rich video editing software.
Wednesday, Sept. 26, 2012, 1:30-3:30 p.m.
Thursday, Sept. 27, 2012, 11 a.m.-12 p.m.

Getting Started with Patents will provide an introduction to patents, including how to search for patents that are relevant to one’s research or interests.
Tuesday, Oct. 23, 2012, 10 a.m.-12 p.m.

Introduction to ARTStor will feature the basic functions of ARTStor, an image library of more than one million images in the arts, architecture, humanities and sciences.
Wednesday, Nov. 7, 2012, 2-3:30 p.m.

Workshops offered by the University of Delaware Library are available at no charge and are open to University of Delaware students, faculty and staff. Seating is limited and registration is required.

For questions, call 302-831-2432 or email [lib-workshops@udel.edu]. For more information and links to register, visit [http://guides.lib.udel.edu/workshops].
Budget: Well-Justified & Reasonable

- Read instructions carefully
- Do not inflate
- Do not underestimate
- Detail expenses – transparent
- Pursue matching funds to strengthen proposal
- Check math 3 times
The premier fellowship program in science and mathematics is the National Science Foundation Graduate Research Fellowship Program (GRFP).

**Deadline: November 13-19th depending upon discipline**
Program Benefits

- **Three years of support** over five year graduate enrollment period
- **$30,000** (anticipated to increase to $32,000 for FY 2013) annual cost of living stipend
- **$12,000 cost-of-education allowance** paid to institution (tuition typically waived)
- **International opportunities**—fellows will receive announcements about opportunities to apply for GRFP support for their participation in international opportunities
- **TeraGrid supercomputer access** for both fellows and honorable mentions
- **No service requirement**
GRFP General Eligibility

- U.S. citizens and permanent residents
- Early-career students
- Pursuing research-based MS and PhD
- Enrolled in accredited U.S. institution

National Science Foundation Graduate Research Fellowship Program
Information: www.nsf.gov/grfp or www.nsfgrfp.org
Apply at: www.fastlane.nsf.gov/grfp/
Students that may apply

As of August 2013

- Undergraduate senior
- First year graduate student (and incoming graduate students)
- Second year full-time graduate students in their third semester (or not more than 12 semester hours of credit for graduate study)
- Second year part-time graduate students in their third semester (or not more than 24 semester hours of credit for graduate study)

Not eligible: MBA, MA, MPH, MSW and ED degrees, clinical counseling, business administration or management, social work, education, history, patient-oriented research, research with disease-related goals.
What is NSF looking for in successful applicants?

Individuals who demonstrate potential to complete graduate degree programs and become future leaders in disciplines relevant to NSF’s mission.
NSF GRFP Planning Timeline and Fall Graduate Fellowship Workshops

August (3 months before the deadline):

Website: [https://www.fastlane.nsf.gov/grfp/Login.do](https://www.fastlane.nsf.gov/grfp/Login.do)

NSF Due dates: November 13-19, 2012 (depending upon discipline)

Formatting instructions:
- Required font and size: Times New Roman 12
- References, footnotes and figure captions may be Times New Roman 10
- Required margins: 1” margins all sides
- Page formatting: Standard 8.5” x 11” paper; single spaced

Checklist of major components and tasks to work on in August:
- Individual online submission---Need to register!
- Read the solicitation- Available on Fastlane site
- Discuss the grant with your Graduate Advisor and/or Chair and start clarifying your ideas
- Personal Profile- Table within Fastlane
- Education and Work Experience- Tables within Fastlane
- Planned Graduate Program- Table within Fastlane
Welcome to the FastLane Graduate Research Fellowship Program (GRFP).

Reference Submission Deadline:
Reference Letters Must Be Submitted by 8:00 pm Eastern Standard Time.
Reference Writers, please note: You will be provided a new login in order to submit a reference letter.

November 27, 2012 (Tuesday): Submit Reference Letter

Applicant Deadlines:
Applications Must Be Submitted by 8:00 pm Eastern Standard Time.
November 13, 2012 (Tuesday): Computer and Information Science and Engineering
November 15, 2012 (Tuesday): Engineering
November 13, 2012 (Tuesday): Materials Research
November 14, 2012 (Wednesday): Chemistry
November 14, 2012 (Wednesday): Mathematical Sciences
November 14, 2012 (Wednesday): Physics and Astronomy
November 16, 2012 (Friday): Psychology
November 16, 2012 (Friday): Social Sciences
November 16, 2012 (Friday): STEM Education and Learning
November 19, 2012 (Monday): Geosciences
November 19, 2012 (Monday): Life Sciences

GRFP Award Recipients:
- Award Offers and Honorable Mentions List
NSF GRFP Planning Timeline and Fall Graduate Fellowship Workshops

September (2 months before the deadline):

Workshop: Date and Location TBD
*Reading the Solicitation and Aligning with Review Criteria,*
*Soliciting Letters of Reference*

Workshop: Date and Location TBD
*Personal Statement and Prior Research Experience*

Checklist of major components and tasks to work on in September:

- Request all transcripts and GRE Scores- Load to Fastlane upon receipt
- Obtain agreement from three reference writers
  - Give them a draft of your proposal, CV, and instructions for reference writers
  - Once agreement is confirmed, input contact information into Fastlane
  - Deadline for reference writers is **November 27, 8 pm**
- Personal Statement- 2 page limit
- Prior Research Experience- 2 page limit

http://www.udel.edu/research
NSF GRFP Planning Timeline and Fall Graduate Fellowship Workshops

October (1 month before the deadline):

Workshop: October 11th, noon- 1:30 pm, 048 Memorial Hall
  *Broader Impacts*

Workshop: October 23rd, noon- 1:30 pm, 107 Memorial Hall
  *Open Session*

Workshop: October 25th, noon- 1:30 pm, 048 Memorial Hall
  *Proposed Plan of Research*

Checklist of major components and tasks to work on in October:

- Proposed Plan of Research- 2 pages
- Print a draft version of all forms, narrative (with references) and have your Graduate Advisor review
- Print out a hard copy and begin to proof
- Enlist proofreading help from peers, advisors, family

http://www.udel.edu/research
NSF GRFP Planning Timeline and Fall Graduate Fellowship Workshops

November (2 weeks before the deadline):

Workshop: November 8th, noon- 1:30 pm, 048 Memorial Hall
*Open Session*

Workshop: November 13th, noon- 1:30 pm, 107 Memorial Hall
*Final Touches and Fastlane Submission*

Workshop: November 29th, 4-5 pm, TBD
*Fellowship Submission Reception (open to all graduate students who have submitted an external fellowship application during the fall semester)*

Checklist of major components and tasks to work on in November:
- Proofread it again and find someone who hasn’t seen it before to proof
- Submit!
- Don’t forget to remind reference writers to submit by November 27th!
Who will read your application?

• Applications will be evaluated by field-specific panels
  – Panelists are academic and research experts in general field, not necessarily for your research topic

• 2-3 Panelists complete a rating sheet based on overall assessment
  (Excellent, Very Good, Good, Fair, Poor)
  of two review criteria
  ✓ Intellectual Merit
  ✓ Broader Impacts

• Panelists also provide constructive feedback
Winning the Review Process

• A GRFP panel meets in a hotel room for three 10-hour days of reading proposals & writing reviews
• Each panelist reads and reviews ~3 proposals/hour
• What are they looking for? (in this order)
  – Broader impacts – use those words – that will be ½ of review
  – Previous research experiences – not just learning techniques, demonstrates understanding of significance of work
  – Letters of recommendation – must be detailed & specific to you
  – Research presentations and publications
  – Research plan includes multiple approaches with adequate detail
Broader Impacts

• Integrate research and education by advancing discovery and understanding while at the same time promoting teaching, training, and learning;

• Broaden the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic, etc.);

• Enhance the infrastructure for research and/or education, such as facilities, instrumentation, networks and partnerships;

• Results of the project will be disseminated broadly to enhance scientific and technological understanding;

• Potential benefits of the proposed activity to society at large (policy formulation for Federal, State or local agencies).
Start working on your essays NOW!

**How To Tell A Story**

It's easy! Just make something up and run with it.

- **Personal Statement**
  - Describe your fascination with research area
  - Examples of leadership and unique characteristics brought to chosen field
  - Personal experiences and individual strengths
  - How receiving the award would contribute to your career goals

Don't forget to weave the two review criteria into every section of your story

1) Intellectual Merit
2) Broader Impacts

Previous Research Experience

- Applicable experiences, relevant to research
- Key questions, methodology, findings, and conclusions
- Team and/or Independent work
- Mention all publications, posters, presentations, awards, recognition, etc.

Proposed Research Plan

- Original inquiry - Introduce general theory, importance, and motivation
- How you have prepared
- Perceived scope of work during graduate study and beyond
- Detailed plan, but avoiding being overly specific
Final Suggestions and Questions

1. Network with others and create proofreading groups

2. Check out this great blog for information posted by successful students describing their experiences and sample applications
   http://rachelcsmith.com/academics/nsf.htm

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References


Note of thanks to Debra Norris and the Arab Image Foundation for providing many of the great images provided in this presentation. These images are part of a major Mellon Foundation project that focuses on building photograph conservation across the Middle East.