Graduate Research and Postdoctoral Fellowships
Everything begins with a good idea for research.

- Develop a hypothesis
- Read the literature in your field, talk to your advisor, other researchers.
Now you have a good idea, and want to apply for a fellowship.

- Keep an open mind
  - opportunities in unexpected places

- Talk to faculty

- Look at large fellowship programs and smaller targeted programs (by discipline, demographic group, etc.)

- Web resources
• SEPTEMBER
  American Educational Research Association Dissertation Grants
  Fulbright Fellowship for International Study
  Jacob K. Javits Fellowship Program

• OCTOBER
  Spencer Dissertation Fellowships
  Woodrow Wilson Dissertation Fellowships in Women's Studies

• NOVEMBER
  AAUW Educational Foundation American Fellowships
  Environmental Protection Agency STAR Fellowships
  Ford Foundation Dissertation Fellowships
  Ford Foundation Predoctoral Fellowships
  GEM Fellowship Program
  National Estuarine Research Reserve System Graduate Research Fellowship
  National Physical Science Consortium Graduate Fellowships
  National Science Foundation Graduate Research Fellowship Program
  Charlotte W. Newcombe Doctoral Dissertation Fellowships
  Paul and Daisy Soros Fellowships for New Americans
  SSRC International Dissertation Research Fellowship

http://www.fic.nih.gov/FUNDING/NONNIH/Pages/predoctoral-graduate.aspx
2015 GRFP Deadlines

All applications are due at 8:00 p.m., Eastern Time Zone.

October 29, 2014 (Wednesday)

- Computer and Information Science and Engineering
- Engineering
- Materials Research

October 30, 2014 (Thursday)

- Chemistry
- Mathematical Sciences
- Physics and Astronomy

November 3, 2014 (Monday)

- Psychology
- Social Sciences
- STEM Education and Learning

November 4, 2014 (Tuesday)

- Geosciences
- Life Sciences

November 7, 2014 (Friday)

- All reference letters must be received by 8:00 p.m., Eastern Time Zone
• Identify fellowship opportunities for which you are eligible
• Analyze what they are looking for (review criteria)
• Write best possible application
• Gather and submit any required material (references, GRE scores, etc.)
What are They Generally Looking For?

• Will you be a successful graduate student and researcher?
  – Do you understand the research process?
  – Did you do your homework?
  – Can you express your ideas well?

• Is your selected area of research something they want to support?
  – Varies in importance depending on mission of funding agency.

• Are you in the right place to carry out your goals?
Why would you want a Fellowship?

- Career enhancement
- Research independence
- Often a generous stipend – e.g. NSF ($32-34K per year) and tuition/fee payment ($12,000 per year)
What are the odds?

- Depends on the agency, but for example, NSF is about 1/10

- A&M has as good a track record

- BUT, you can’t get funded if you don’t apply!

Hmmm...
1 in 10 odds.
Not bad!
Well-Expressed Essays

- Practice and allow plenty of time
- Get advice from your advisor
- Use other resources: A&Ms Writing Center
- Web sites
Hotlinks to Writing Strategies

• Many resources available on how to write good proposals
• See
  – “Grant Doctor” in Science Magazine
  – Agency-specific guides

• Excellent books on writing
  – Schrunk and White (http://www.bartleby.com/141/)
  – *The Art of Writing Proposals*, by the Social Science Research Council, available online at http://www.ssrc.org/publications/
• Start early and get others to edit your work!

• Write in a scholarly style
  – Make it clear you understand your subject
  – Cite references

• Make it clear that you understand the research process
  • Clear hypothesis, objectives
  • Discussion of your planned approach with sufficient detail to show your understanding of the topic
Logistics

• Comply with ALL submission instructions.
• Observe application deadlines
• Don’t wait until the last minute – system could be clogged & you won’t get in
• Follow all instructions – for example, font size, page limits, number of references, etc.
NSF Requirements

• US Citizen, national, or permanent resident

• Completed no more than 12 months of graduate study

• Extenuating circumstances - change of field, interruption in schooling

Intended for individuals in early stages of graduate study
• Field of study - Are pursuing a research-based master's or doctoral degree in the science, technology, engineering and mathematics fields supported by NSF.

• No history, business, clinical medical science or research with disease related goals (etiology, diagnosis, treatment, drug development)
**NIH F31 Individual Predoctoral Fellowships** are for individuals working towards a Ph.D. or equivalent research degree; the combined M.D./Ph.D. degree; or other combined professional degree and research doctoral degree in the biomedical, behavioral, health services, or clinical sciences. http://www.niehs.nih.gov/careers/research/trainingfrom/fellowships/predoctoral/index.cfm F31 receipt dates are April 13, August 13, and December 13.

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Your job

• To convince the reviewers that you have the potential to become an expert and leader in your field, and that you will contribute significantly to research, education, and innovations in science
Evaluation of Applications

- Intellectual Merit
- Broader Impacts

References must also address these criteria.

These are the criteria that you must address as you complete the three essay portions of the Application.

  Personal Statement (education and personal experiences)
  Previous Research Experience
  Proposed Plan of Research
Intellectual Merit

(1) Demonstrated intellectual ability and

(2) other accepted requisites for scholarly scientific study such as the ability to:

• Plan and conduct research
• Work as a member of a team and independently
• Interpret & communicate research findings
How will reviewers rate the Intellectual Merit of your application?

- Your academic record
- Your proposed plan of research (essay 3)
- Previous research experience (essay 2)
- References
- GRE (general and subject) scores
- Appropriateness of A&M for your field of graduate study
- Appropriateness of references and content
Broader Impacts

Contributions that:

• Integrate research & education at all levels, infuse learning with excitement of discovery, assure that findings & methods are communicated to a large audience
• Encourage diversity
• Enhance scientific & technical understanding
• Benefit society
How will reviewers rate the Broader Impacts of your application?

• They will consider your background – your personal, professional and education experiences – that indicate your potential to fulfill this criterion (essays 1 and 2).

• What are the things you have done that are good indicators that you will fulfill the broader impacts criterion in your future work?

• What contributions will your research make (essay 3)?

• Be creative
Essay 1: Personal Statement

• Describe personal, professional or education experiences that have prepared you or contributed to your desire to pursue graduate study
• Describe your competencies and evidence of leadership potential
• Discuss your career aspirations and how the NSF GRF will help you achieve your goals.
• Include details here that address the NSF review criteria of Intellectual Merit & Broader Impacts
Suggestions

• This should be a personal statement that lets the reviewer get to know you.

• DO NOT begin your essay by saying: “Ever since I was a child” or anything like that. Your challenge is to create a great new opening line.

Be creative and write something that catches the reviewers attention.
• Write a first, second, third – whatever – draft of your Personal Statement.
• Get some feedback
• Revise, revise, revise.
Essay 2: Previous Research Experience

• You will describe any research experiences you have had.

• You must explain the purpose, your role on the project, examples of how you worked independently and as a team member, and tell the reviewers what you learned.

• Distinguish between graduate and undergraduate.

• List any publications or presentations.

• Address both merit criteria.
Essay 3: Proposed plan of research

• This is not a contract
• The reviewers want to see that you have the potential to design and conduct original research

• Do not let your advisor write this for you!
Essay
Proposed Plan of Research

• Present plan with clear hypothesis

• Define 2-3 specific aims that will test your hypothesis, or an opposing hypothesis.

• Make sure that each of your specific aims are independent, such that if one fails, the whole project does not necessarily fail.
A *Suggested* Model for Proposed Plan of Research

1. Provide a brief scientific background of the topic or problem. Discuss how the knowledge gained from your research will advance the field and why this is important. This demonstrates your understanding of the topic area.
Proposed Plan of Research, continued

2. Present your hypothesis – remember what a hypothesis is: A statement that suggests an explanation for an observation or an answer to a scientific problem and can be tested experimentally.
3. Describe your research plan: how will you test the hypothesis? What is the work plan? What experiments will you conduct? What instrumentation will you need? **What problems might you encounter and how will you address them?** This should demonstrate your understanding of and ability to use the scientific method.
4. Results: What future research opportunities might your research lead to? How will you disseminate or communicate the results of your research? Remember, your research in graduate school is just the beginning....

• References cited.
• Observe any page limitations
• Have you addressed each requirement in the application instructions?
Writing the Application

- Be truthful.
- You must sell yourself without being arrogant. Reviewers must be convinced that (1) your proposed research is outstanding and (2) you can do it.
- Be certain you address the Intellectual Merit and Broader Impacts criteria
How to Write Successful Proposals

The number 1 rule!

Make the job of reading your proposal as easy and pleasant as possible for the reviewers.

This Not This

This

Not This
The number 2 rule:

Show your passion!
It is contagious!
3. Start early
4. Follow all instructions exactly.

If something is ambiguous, ask. There is almost always a contact person named in the announcement, and this is part of that person’s job.
5. Provide all information requested and answer all questions asked.

Create a list of information requested to make certain you cover everything.
6. Organize your narrative:

- Use headings to define major topics and use the topics identified in the announcement.
- Make each page look inviting. Nothing is more daunting than a solid page of text.
- Use white space (even when space is at a premium).
- Use diagrams, tables, pictures, charts. But keep them simple and understandable.
- Use bullets and numbered lists.
- Ask: Do I want to read this?
7. Grammar counts!

- No misspellings
- Proper sentences
- Proper grammar
- Correct punctuation
8. Your writing style counts

Direct sentences are best.

Example:
The research to be undertaken will.....
It is proposed to.....

Better:
I will conduct research that.....
My research will prove that.....
Write in the first person (I, we) unless you are directed otherwise.

Avoid technical jargon when possible. NSF directs that proposals should be written, insofar as possible, for “scientifically or technically literate lay audiences.”

Avoid phrases like: It is obvious. It is apparent. As previously stated.

Take out every “very” in your narrative.

Use short, easy-to-read sentences and paragraphs.
Does what you have written make sense? Read it aloud. Ask others to read it. Do they understand it? Do they enjoy reading it?
➤ Use references to support your proposal.
➤ Don’t promise something you cannot deliver.
➤ It is OK to use the same words as are used in the instructions. Reflect back the words the funder uses.
➤ Is your proposal internally consistent – no contradictions and no ambiguities.
Use reviewer’s comments to your benefit (if you’ve submitted before).

Don’t be shy about selling yourself.

Don’t give up. You will improve your proposal and your skills each time.
Reviewers see over 100 applications in 2 days!

- Make your application simple, clear, and easy to read. Show your excitement and potential.

- Remember that the reviewers are not all experts in your particular area. Use language that any scientist can understand and emphasize the significance and innovativeness of your ideas.