

National Science Foundation Graduate Research Fellowship

Components of a Successful Application: Advice From Past Recipients

August 31, 2016

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NSF GRFP Benefits

www.nsf.gov/grfp

- Graduate Research Fellowship
- Stipend of \$34,000 for 3 years
- Cost of education allowance to your institution for \$12,000
- International research opportunities: GROW
- Professional development opportunities: GRIP

Eligibility

- Up to two application attempts
- Once prior to graduate school
 - Undergraduate senior
 - Post-bachelor in the year before graduate school
- *Once* during graduate school
 - *Either* your first
 - *Or* second year

Deadlines

Fields of Study	Deadline
Life Sciences, Geosciences	Monday October 24
Computer and Information Science and Engineering, Engineering, Materials Research	Tuesday October 25
Psychology, Social Sciences, STEM Education and Learning	Thursday October 27
Chemistry, Mathematical Sciences, Physics and Astronomy	Friday October 28
References	Thursday November 3

Know Your Audience

- Volunteers selected by NSF based on their interests and academic qualifications
- Reviewing 40-50 applications in an online database, alone, around the winter holidays
- Scientists and engineers in your field, but not necessarily your specific research area

Be concise, direct, specific

What Are They Looking For?

- How your experiences, attributes, and academic achievements demonstrate the **potential for significant achievements** in science and engineering.
- NSF seeks to fund future STEM **leaders** and not just scientists.

How Will You Demonstrate It?

Two Criteria:

- 1. Intellectual Merit:** potential to advance knowledge
- 2. Broader Impact:** Potential to benefit society

Two Documents:

1. 2-page research proposal
2. 3-page personal statement

Intellectual Merit Criterion

Overall Assessment of Intellectual Merit

Very Good

Explanation to Applicant

The candidate has several short term undergraduate and professional research experiences that span intellectually broad topics. The candidate clearly is able to problem-solve extremely well, utilizing her background very effectively. The candidate broadens scientific outreach via her publication and numerous talks. The research plan provides defined hypotheses and research plan for evolution of a novel synthetic counter.

Broader Impacts Criterion

Overall Assessment of Broader Impacts

Excellent

Explanation to Applicant

The candidate's DIYbio work indicates commitment to scientific outreach and communication with high impact along with teaching on campus with significant curriculum/software development. The candidate has integrated outreach in the research plan showing extensive and sustained interest in educating others about science.

Intellectual Merit

Advancing Knowledge

- Demonstrated potential for significant research achievements in STEM

Knowledge & Skills	Activities
<ul style="list-style-type: none">• Relevant knowledge• Plan and conduct research• Collaborate• Analyze data• Interpret and communicate research	

Intellectual Merit

Advancing Knowledge

- Demonstrated potential for significant research achievements in STEM

Knowledge & Skills	Activities
<ul style="list-style-type: none">• Relevant knowledge• Plan and conduct research• Collaborate• Analyze data• Interpret and communicate research <p data-bbox="297 1148 710 1329">What makes you unique?</p>	<ul style="list-style-type: none">• Grades and courses• Awards• Data analysis, programming, and other technical skills• Research assistant, honors thesis• Professional experience• Research articles or presentations

Broader Impact

Benefit Society

- Demonstrated potential to advance *specific* desired societal outcomes

Desired Outcomes	Activities
<ul style="list-style-type: none">• Increased participation of underrepresented groups: women/minority, students with disabilities, veterans• Improved STEM education• Increased public scientific literacy: blogs, magazine articles, etc.• Increase partnerships with industry	

Broader Impact

Benefit Society

- Demonstrated potential to advance *specific* desired societal outcomes

Desired Outcomes

- Increased participation of underrepresented groups: women/minority, students with disabilities, veterans
- Improved STEM education
- Increased public scientific literacy: blogs, magazine articles, etc.
- Increase partnerships with industry

Activities

- Tutoring, teaching, or mentoring
- Community outreach: science clubs, radio, TV, newspaper, museums, aquarium

How do convey passion and commitment?

Tell a story; don't give a laundry list of achievements.

Putting It All Together: Research Proposal

Intro

- What scientific question *needs* answering?
 - How is it creative, original, potentially transformative?

Methods / Anticipated Results

- How will you answer that question?

Balance big,
but feasible

Conclusion

- What is the project's potential to improve society?

Putting It All Together:

Personal Statement

Introduction

- Describe your personal, educational and/or professional experiences that motivate your decision to pursue advanced study.

Meat of Essay

- How do your experiences prepare you for grad school?
- How did they **advance knowledge** in STEM fields and have **broader societal impacts**?
 - What did you do? Who did you do it with? What was the product? What did you learn?

Conclusion (.5 page)

- What are your future academic and broader impact plans?

Craft a compelling,
unique story

Reference Letters (3)

- Email references now
- Tell them what your “story” is going to be
- Provide them examples of intellectual merit and broader impact you want them to emphasize

Next Steps

- Develop your research plan with your advisor ASAP
- Contact reference writers
- Begin drafting personal statement and research plan
 - Outlines available online from multiple resources
 - We'll go over next time

Next Time: Refining Your Application

- Wednesday October, 5
- This room 5:00-6:30

- Bring your computer
- Bring a printed double-spaced draft of
 - Personal statement
 - Research proposal

Other Resources

<http://grfpessayinsights.missouri.edu>

<http://www.alexhunterlang.com/nsf-fellowship>

<http://www.malloryladd.com/nsf-grfp-advice.html>

<http://www.clairemckaybowen.com/fellowships.html>

Panel Discussion