Winning Strategies for GRFP

(and How to Get Started)

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2020 SUNY Webinar Series

Webinar #1: **Are you ready for graduate school? Finding fellowship funding**

Webinar #2: **Applying to NSF's Graduate Research Fellowship Program**

(All the basics, such as eligibility, GRFP benefits, parts of the application, the review process, and basic tips)

Webinar #3: **Winning Strategies for GRFP (and How to Get Started)**

(How to maximize your broader impacts and intellectual merit, writing for your audience, and other tips and winning strategies)

TODAY'S PLAN:

1. **Tips and strategies**
2. **Broader impacts**
3. **A bit about reviews**
4. **Examples from successful applications**

Webinar #4: **Write! (As if your Career Depends on it)**

(Write about your research in an interesting and lively way, tailored to your audience)

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Your potential to become a GRFP fellow

- Previous research experiences
- Evidence of research productivity
- Strong g.p.a. *(GREs are no longer used!)*
- A compelling narrative about your personal and research experiences *(the past and the present predict the future)*
- A well clear and well-designed plan for a research project
- If possible: Evidence of your creativity, passion, vision, outreach
- Three walk-on-water letters of recommendation
- In short: A coherent picture of *you,* and why NSF should take a chance on you.

RIGHT NOW, before the October deadine: Identify any weaknesses while there may still be time to address them.

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Common weaknesses

- Incoherent personal statement that does not tell a clear story
- Research plans that are unclear, incomplete, or unpolished
  - Too much or too little detail in research plan
  - Failure to "own" your own research
  - Naïveté about riskiness of project or about how science works
- Failure to address Broader Impacts
- Dense writing that is difficult to understand or uninteresting

Other issues that may present challenges:

- A borderline or variable G.P.A.
- Insufficient research experience (productivity: posters, publications)
- Lack of a mentor (this is a structural problem in some programs)

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Really really really dumb mistakes

- Not reading the Solicitation. There are changes from time to time!
- Just missing the deadline. Do not wait until the last few hours to submit! There are absolutely positively no acceptable lateness excuses for you or your reference letter writers. Log into Fastlane early to get used to the application format.
- Cheating on the font size or margins. These are checked by Fastlane and applications with violations are returned without review.
- Uploading your Research Plan twice (in place of your Personal Statement)
- Uploading transcripts that cannot be read (e.g., require passwords)
- Submitting a Research Plan with a biomedical focus
- Submitting a Research Plan that *reads* like it was (or was *actually*) plucked from your advisor's grant application. Your application must reflect your own original work!
- Giving short shrift to your Broader Impacts
- Leaving out achievements or not conveying them clearly
- Poor communication with letter writers (do acquaint them with GRFP!)

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Between today and the GRFP deadline...

Identify any weaknesses *now* while there may still be time to address them.

Move your research projects along in the pipeline!

Lay the groundwork *now* for demonstrating your potential.

Start drafting your statements early, and show them to your mentors.

There are many things outside of your control!
Be sure to control the things you can.

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In your statements, connect the dots to NSF's Review Criteria

	You (Personal Statement, 3 pp.)	Your work (Research Plan, 2 pp.)
Intellectual Merit *(Creation of new knowledge)*	**Your merit** – motivation, ability, research experiences, preparation, achievements, perseverance, future goals	**The merit of your work** – topic, innovation, rigor, creativity
Broader Impacts: *(Benefits to society)*	**Your impact** – background, personal story, broadening participation, outreach, initiative, leadership, communicating science	**The impact of your work** – its foundational nature, relevance, importance

IM and BI should be reflected not only in your *Personal Statement and Research Plan, but also in your Achievements, Letters*, and *Transcripts.*

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How to get started

- Remember that a GRFP application is about YOU. Tell YOUR story.
- Drawing a blank? Sit down with a friend (outside your field, ideally) and tell them about your personal story, or your research.
- Should you look at examples of successful applications?
  - Caveat – Looking at examples before engaging in a creative activity has been shown to actually *limit* your creativity.
  - So, draft your statements *before* looking at examples in your field of study. (It may be better to look at examples outside of your field of study.)
  - Do not model your application blindly after someone else's.
  - An application may have won *in spite of* some of its characteristics.
  - Another caveat - How old is the example you're looking at? Remember that the GRFP format and guidelines are subject to change.
- There is no substitute for getting comments from your colleagues!

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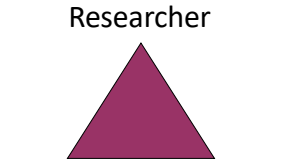
Broader Impacts:
A three-way relationship



(Adapted from Illes, 1999)

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What are "broader impacts"?

- Your potential to benefit society and contribute to the achievement of specific, desired societal outcomes, as indicated by personal experiences, professional experiences, educational experiences and future plans.
- Broader impacts may be accomplished through the research itself, activities directly related to your research project, activities supported by, but complementary to, your project.

(adapted from the Solicitation)

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NSF places high value on these Broader Impacts:

- Developing a diverse, globally competitive STEM workforce, with full participation of women, people w/ disabilities, & under-represented people

What does NSF mean by "Broadening Participation" ?

Engaging people from the following in STEM and STEM education:

- First-generation college students
- People from low-income backgrounds
- U.S. military veterans
- Immigrants or their children
- People from groups underrepresented in science and academia such as people from ethnic, racial, or genders who may be underrepresented in a scientific or academic field
- Rural residents and Non-traditional students
- Students from smaller colleges or non-research-active schools
- Children

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NSF places high value on these Broader Impacts:

- Developing a diverse, globally competitive STEM workforce, with full participation of women, people with disabilities, and under-represented people
- Geographic diversity – Did you attend high school in an EPSCOR state?
- Improving STEM education and educator development at any level
- Enhancing infrastructure and technology for research and education.
- Increasing public scientific literacy and public engagement with science and technology
- Improving well-being of individuals in society
- Increasing partnerships between academia, industry, and others
- Improving national security
- Increasing economic competitiveness of the US

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Possible kinds of broader impacts

- from any personal, cultural, ethnic, intellectual diversity that you yourself may embody

  (but that alone is not enough…
  how will you put your background to good use?)

- from your previously demonstrated commitment to outreach to the public, increasing opportunity in STEM research for others, or having other positive impacts, either from your activities or your research.
  - Your discoveries may have implications for addressing important human problems or may provide foundational knowledge for other fields.
  - Your research itself may result in new tools, methods, data sets, web sites that may be useful to other scientists, to teachers, or to the public. Describe these, with a plan for disseminating them. Think: IMPACT!

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How reviewers judge your broader impacts:

- Predicting the future: Your past and present impacts
  - Describe formative experiences may have shaped or inspired you
  - Have you overcome any hardships or obstacles?
  - What makes you tick? How do you think?
  - Give examples: initiative, curiosity, leadership, teamwork, independence, resilience. SHOW, DON'T TELL!
  - Describe your role and any experiences with problem-solving, leadership, etc.
  - Describe experiences with diversity, int'l experiences, travel
  - Don't just list experiences; connect them in your personal narrative.
- Present a detailed and memorable plan in your Personal Statement
  - If possible, connect the dots between your past and your future
  - If your pact impacts are not well-developed (e.g., no outreach), present a detailed well-motivated plan for moving forward.

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Opportunities for SUNY students to shine

- Being at a diverse, affordable school that does not cater to the 1% !
- WISE: Women in Science and Engineering Program*
  - 6-week lab rotations
- Alda Center for Communicating Science to the Public*
- Center for Inclusive Education (and the initiatives it houses)*
- Creative ways to disseminate your research
  - K-12 students – schools, science museums – *lay the groundwork!*
  - Scientific literacy for the general public (remote communities, senior citizens, etc.) – *be creative!*
  - Combine science and activism – public policy, educating politicians
  - The Internet – Tools for teachers? Outreach to students?
  - Individual mentoring – but give details, and extend your reach!
  - Interdisciplinary activities bridging domains, methods, theories, data

** SBU programs – your school may have these or similar programs—ask your Fellowship Office!*

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Keep in mind that a fellowship can free up some of your time

- *not only to follow your own research interests (beyond the focus of your PI's lab)*
- *but also to have the kind of impact that you might not be able to achieve as the average graduate student!*

Think about what kind of Broader Impacts activities that *you* could do better than anyone else—as an opportunity for your application to really shine.

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Wise words about Broader Impacts

- "Helping one or two minority or female students after class hardly constitutes real distinction; being a minority applicant does not automatically fulfill this criterion. The panel looks for impact—e.g., taking science to underrepresented groups through work with public or independent schools, club activity, college- or university-based programs, or summer work."
- "Panel members look for original, self-motivated contributions by applicants to science education, such as the development of new or innovative teaching materials, significant volunteer work with science in local schools or an extraordinary level of departmental service. "Potential contributions to diversity" refer to increasing the diversity of the US population entering science or knowledgeable about it, not to increasing the diversity of the applicant's scientific or other interests (an unfortunate but recurring misunderstanding)."
- "Initiating science activity and effective advocacy for science or science education are highly valued, as is serving as a role model to attract others toward scientific interests."
- "Likewise, "contributions to community" may include organizing or working with department-based initiatives, with science museums, or with students through independent programs. Applicants and their mentors should think in terms of making a real difference in the lives of others."

(adapted from http://www.phy.davidson.edu/NSF_GRF/NSFGRFfinal.html)

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One way to summarize IM and BI in your research plan:

Intellectual Merit: As CMOS devices are now limited by how much heat they generate, researchers have begun to ask, "Is using charge as the state variable (as opposed to nanomagnetics or spin) the problem?" [4]. But my research group has already shown that a robust, charge-based bit (one that is not vulnerable to noise) can be charged and discharged with an arbitrarily small amount of heat dissipated as long as the energy is reabsorbed by the clock [5]. **My research will build on this work and will result in a complete system with a wall plug efficiency that confirms the contentious Landauer Principle that only irreversible logic operations must dissipate at least k_BT ln(2) of heat.** This would provide convincing evidence that as a representative of binary values, the charge state variable can compete with other state variables and can still be extended to higher speeds and lower power.

Broader Impacts: Development of reversible computers could lead to **reductions in power dissipation by orders of magnitude for ultra-low power computing. This new technology could be used to advance mobile technology and even implantable medical devices or sensors that scavenge energy from vibrations.** The Landauer Principle is considered by some scientists to be a fundamental minimum for dissipated power in computing, but development of reversible computers would show that the real minimum is set not by fundamental limitations, but by practical ones. Lowering dissipated power would be particularly useful in mobile and medical applications. The active power would be low because of the adiabatic switching of reversible computing and the static power could be reduced by increasing the supply voltage and threshold voltage. The library started by Dr. and Dr. will be published with resonator designs to enable other scientists to continue research in this expanding field.

Excerpted from M. Westrate/Villanova's bootcamp slides

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Reviews

Holistic review is a flexible, individualized way of assessing an applicant's interests and competencies by which balanced consideration is given to experiences, attributes, and academic achievements and, when considered in combination, how the applicant has **demonstrated potential** for significant achievements in science and engineering.

Typically, each application receives 3 reviews.

Reviews consist of 3 comments (one for IM, one for BI, and one Summary comment), plus two qualitative ratings (for IM and for BI):

Excellent, Very Good, Good, Fair, Poor

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EXAMPLE #1

Undergraduate (Level 1 applicant) in Social Neuroscience

(NOTE: These excerpts from anonymized examples are shared with permission of successful applicants from previous years]

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From H.M. to Award

(HM as an undergraduate (Level 1); Award as a grad student (Level 2)

	Intellectual Merit:	Broader Impacts:	Outcome:
Level 1 Reviews:			
Review 1	Excellent	Very Good	
Review 2	Very Good	Very Good	**Honorable Mention**
Review 3	Very Good	Good	

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From H.M. to Award

(HM as an undergraduate (Level 1); Award as a grad student (Level 2)

	Intellectual Merit:	Broader Impacts:	Outcome:
Level 1 Reviews:			
Review 1	Excellent	Very Good	
Review 2	Very Good	Very Good	**Honorable Mention**
Review 3	Very Good	Good	
Level 2 Reviews:			
Review 1	Very Good	Good	
Review 2	Excellent	Excellent	**Award**
Review 3	Excellent	Good	

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Ugrad GRFP applicant's Personal Statement (excerpt)

Interesting!

I first enrolled as a Biological Sciences major at X University in 2005, at the age of 15, after having already taken two full years of college courses during high school. I honestly did not yet know which area of life science would captivate me, so I decided to purposefully explore different fields. I chose to spend my freshman year in a cellular neuroscience laboratory, where I studied the induction of long-term potentiation, a cellular model of learning and memory, in the rat hippocampus. Then I worked in animal ecology for a summer, collecting field data on diamondback terrapins in the Chesapeake Bay. During my sophomore year, I explored endocrinology, studying the effects of energy deprivation on female reproductive health. By the end of my first two years, I realized that my interest truly lay in neuroscience, although I did not yet know which sub-field of neuroscience would intrigue me most.

Why?

Transition?

I was interested in neural stem cells, and knowing that Singapore is famous for stem cell work, I sought an internship in Dr. Y's laboratory at the Institute of Molecular Biology in Singapore. I spent the first half of my junior year studying fetal cells that travel into the mother and integrate into her tissues. These fetal stem cells can differentiate into neurons in both mouse and human mothers' brains. Because many of these cells are found in the mother's olfactory bulb (OB), and adult dopaminergic (DA) neurons in the OB are replaced throughout life, my project was to determine whether these fetal stem cells can differentiate into DA neurons in the mouse mother's OB. The brains of wild-type mothers who had given birth to pups expressing a marker for DA neurons (tyrosine hydroxylase-green fluorescent protein, TH-GFP) were sectioned. I used immunohistochemistry and confocal microscopy to screen for labeled fetal DA neurons. The findings were inconclusive; faint green neuronal processes were found in the maternal OB, but it was uncertain whether they were DA neurons. The long-term broader impacts of this research include potential treatments for Parkinson's disease, as the fetal stem cells could replace dying DA neurons without graft rejection.

Too much detail!

??

In addition to neuroscience, I developed such a fascination with psychology…

?

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From H.M. to Award

(HM as an undergraduate (Level 1); Award as a grad student (Level 2)

- Improvements to Personal Statement and Previous Research
  - Cut ½ of experiences and added motivating connections
  - Re-organized for coherence; dropped dead ends
  - Clarified motivation: *why* social neuroscience
- Improvements to Research Plan
  - Clever (but risky) longitudinal study; 2 groups of subjects
    - Before relationship -> new relationship
    - New relationship -> committed relationship
  - Added diary study to better predict relationships
  - Directly addressed retention, sample size, re$ources
  - Highlighted innovation
  - Revised Broader Impacts section to remove "therapies"

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Improvements to Broader Impacts (Research Plan)

- GRFP application as undergraduate (Honorable Mention):

"In the end, a better understanding of the neural mechanisms behind romantic relationships would have several benefits for society. Better therapies or treatments could be developed specifically for individuals who are severely depressed or unable to function due to romantic loss. More generally, an improved understanding of normal human attachment could help us to decipher what goes wrong in the neuropsychology of individuals suffering from disorders characterized by social deficits, such as autism or personality disorders."

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Improvements to Broader Impacts (Research Plan)

- GRFP application as undergraduate (Honorable Mention):

"In the end, a better understanding of the neural mechanisms behind romantic relationships would have several benefits for society. Better therapies or treatments could be developed specifically for individuals who are severely depressed or unable to function due to romantic loss. More generally, an improved understanding of normal human attachment could help us to decipher what goes wrong in the neuropsychology of individuals suffering from disorders characterized by social deficits, such as autism or personality disorders."

- GRFP application as a first year graduate student (Award):

"A better understanding of the neural mechanisms behind typical romantic relationships could have a broad impact, allowing insight into both healthy and unhealthy close relationship behaviors. Such understanding lays a foundation for education regarding relationships. Conducting this research at SBU is advantageous because of the very diverse student population; I will actively recruit minority participants for an ethnically representative sample, and I will continue to recruit women and underrepresented students as research assistants, in addition to the female student I am currently training. In conclusion, the proposed research will further our understanding of the complex processes involved in attachment relationships, which are such a crucial part of human well-being and life satisfaction."

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Highlight innovation in Research Plan:

"**Intellectual Merit:** To my knowledge, this is the first longitudinal neuroimaging study of relationship development. Understanding the development of neural activation patterns in the transition from attraction to relationship initiation and finally to attachment would substantially advance our knowledge of the mechanisms underlying human pair bonding."

Help the reviewers by making their job easier – highlight the innovation in your project.

Write defensively – if you make any strong claims, make sure they're correct – if you're not certain, then hedge.

Be ambitious, but don't over-claim.

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EXAMPLE #2

1st year grad student (Level 2) in Psycholinguistics

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First-Year Graduate Student GRFP Award – (beginning, Personal Statement)

"Teaching runs through the veins of my family. My mother teaches special education, my father teaches at an elementary school, and my brother teaches at a high school. So, when I went off to college, it seemed only natural to pursue a career in education. I took all the appropriate steps: I volunteered at a charter school, I spent a summer as a 4th grade teacher, and I took courses related to education. However, a course in psychology made my plans come to a screeching halt. I found myself more interested in the science of psychology than in classroom management, and as a result, I switched my focus from education to psychology. I have not abandoned education; instead, this interest has manifested in my research on reading comprehension. In addition, I continued to tutor at the charter school during my undergraduate career, I worked as a preceptor for a statistics course, and in graduate school I have applied to become a mentor for minority undergraduate students searching for a path to graduate school. However, my journey was not as smooth as it seems in hindsight. My progression has been incremental, with each step contributing to the person I have become."

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First-Year Graduate Student GRFP Award – (ending, Personal Statement)

"I am acutely aware of the level of privilege I enjoy compared to others from my home state of Hawaii. Pacific Islanders are chronically underrepresented in science, which I hope to rectify by representing their interests as I move through academia. My goal is to develop a stronger connection to this community as I develop as a researcher, and assist other Pacific Islander students who wish to pursue science by making myself available as a resource and a mentor. In pursuit of this goal, I have recently applied to become a mentor for underrepresented undergraduates at Stony Brook through the Turner Fellowship, which is awarded to incoming graduate students to increase diversity on campus. This fellowship allows me to more easily connect with other underrepresented students, and to participate actively in the community.

Moreover, having teachers as parents has raised my awareness of the obstacles and struggles many Pacific Islander students face with education and reading in particular, making my research especially relevant and applicable to this population. Although my research focuses on the psycholinguistics of reading comprehension, this program of research is applicable to improving textbook pedagogy as well as to helping students with reading deficits."

Broader Impacts – (1) Excellent, (2) Excellent, (3) Very Good

Intellectual Merit – (1) Excellent, (2) Very Good, (3) Excellent

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First-Year Graduate Student GRFP Award - REVIEWS

Review comments for **Broader impacts**

(1) EXCELLENT. The applicant does a very good job of addressing the broader impacts criteria. *The applicant is an outstanding young scholar who is poised to begin a very successful research career.*

(2) EXCELLENT. The candidate has been active in providing mentoring support at the University. Direct broader impacts of the proposed research are also substantial in that findings could offer evidence-based approaches for rehabilitation of comprehension difficulties. *This is a novel proposal from an individual with extensive background in discourse comprehension. The proposed experiments will contribute significantly to our understanding of time representation in narrative discourse. The proposal could be strengthened by clearer specification of theoretical implications.*

(3) VERY GOOD. The applicant has described a number of activities, indicating that mentoring and teaching, particularly of members of under-represented groups, have played an important role in his development and will continue to do so. The application could be strengthened with additional explicit consideration of the links between the reading comprehension basic research and practice. *An interesting and important proposal from an impressive candidate.*

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EXAMPLE #3

First-year grad student (Level 2) in Social Psychology

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Level 2 GRF – "Multiculturalism" – Personal Statement

Intellectual Merit – (1) Excellent, (2) Good, (3) Very Good

Broader Impacts – (1) Excellent, (2) Excellent, (3) Very Good

"With a sigh of relief, I took a seat on a jet commissioned to whisk my classmates and me out of Egypt in the midst of its "Arab Spring" revolution. During my junior year, I was studying abroad in a remote area of Egypt when the country descended into protest and violence. Despite the urgent necessity to evacuate, some students struggled to understand and identify with the ethnic divisions and strife surrounding us. While our time in Egypt afforded us some opportunities for cultural exchange, such occasional cross-cultural contact did not prepare us for the depth of the political divide and unrest reflected in the uprisings. My experience as a bicultural, Middle Eastern-American imbued me with the ability to recognize that superficial cross-cultural contact alone is not sufficient to transcend cultural barriers successfully. Instead, one must study the mechanisms at the core of others' perspectives to discover ways to promote less biased cultural exchange and interpersonal understanding. Drawing on some of my personal experiences of cultural contact through travel, observations of intergroup conflict, and encounters with stereotyping and prejudice as a Persian/Arab Jew in the post 9/11 world, I have sought to integrate my academic, research and teaching interests to reflect a focus on intergroup relations and methods of countering stereotypes."

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Level 2 GRF – "Multiculturalism" – Personal Statement

Intellectual Merit – (1) Excellent, (2) Good, (3) Very Good

Broader Impacts – (1) Excellent, (2) Excellent, (3) Very Good

(Second paragraph)

"From an early age, my observations of society's treatment of stigmatized individuals, deprived of equal opportunity, fueled my determination to understand and study group behavior, and engage in civic action. In high school, I logged two thousand community service hours, leading and engaging with others in various activities, including planning weekly activities for elderly individuals at assisted living homes, fundraising for a local school for deaf persons, and running a literacy program for at-risk elementary school students. Additionally, after observing the unique academic challenges some students faced, I engaged in tutoring my peers, serving as a foreign language teacher assistant, and teaching remedial math to ESL students with unconventional education backgrounds. In the same vein, I sought to ameliorate the previously hostile and homophobic atmosphere for LGBT individuals by founding my high school's Gay Straight Alliance (GSA). Along with the executive board of GSA, I helped to expand LGBT education in the mandatory health curriculum, lead workshops for teachers on how to address LGBT issues in the classroom as well as develop a safe space campaign for students, which eventually permeated into the middle school."

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Level 2 GRF – "Multiculturalism" - REVIEWS

Intellectual Merit – (1) Excellent, (2) Good, (3) Very Good

Broader Impacts – (1) Excellent, (2) Excellent, (3) Very Good

(1)The applicant has demonstrated commitment to broader impact concerns through prior efforts and expresses intent to continue such activities relative to the proposed research through several avenues, including outreach, dissemination, and mentoring. The applicant also recognizes the potential societal benefit of the research findings. *The applicant has demonstrated commitment to broader impact concerns and appears well-positioned to meaningfully contribute to scholarship in this area.*

(2)The applicant is uniquely suited to study bi/multicultural identities. She has also had several experiences founding and leading organizations geared toward education and improving intergroup relations. Her research also has the potential to have broad impacts, improving the college transition for bi/multicultural individuals. I have no doubt that she has the ability and motivation necessary to assure that her research will be disseminated. One limitation to her application was that her scientific writing seemed too technical and I had concerns that she might have trouble writing for a lay audience. *Overall, the applicant seems likely to assure that her research has an impact in her local community. The applicant could work on improving the intellectual merit of her proposal and clarifying items in her proposed research.*

(3)Strong history of relevant service; well articulated statement of broader impacts. *Very coherent linkage between proposed research and personal experiences. Well articulated research proposal and statement of broader impacts.*

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EXAMPLE #4

Undergraduate (Level 1) in Social Psychology
(applied to both Social Psych and Clinical Programs)

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Level 1 GRF - "Social Dynamics" – **Personal Statement**

Intellectual Merit – (1) Very Good, (2) Very Good, (3) Excellent

Broader Impacts – (1) Excellent, (2) Good, (3) Very Good

"My fascination with the natural world began with experimentation. As a 12 year old, I relished in the process of discovering how things worked; on weekends I concocted homemade vitamin C indicators and an organic corn-based home insulation. By competing in regional and state science fairs, I noticed that most of my young colleagues came from school districts with greater access to resources than my own. I wondered if these differences translated to dissimilarities in the behaviors and interests of students from those areas compared to my classmates. My fascination with psychological phenomena only flourished from there, and I sought to find a way to connect the social realm of human interaction to my developing scientific process.

It was not until I arrived at the University of X that I narrowed my interests to studying dyadic social dynamics. I enrolled in a Social Psychology course, where I learned the ways that researchers use theoretical approaches to develop a hypothesis-driven method of attaining new information. My instructor introduced Social Learning Theory, which posits that behavior is shaped from observation and modeling the actions of others, as an explanation for the intergenerational transmission of maladaptive family outcomes and violence. I was captivated by the simple notion of stimulus-response learning, and I sought to find research articles identifying the factors of unhealthy family dynamics to confirm my observations."

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Level 1 GRF - "Social Dynamics" – **Research Statement**

Intellectual Merit – (1) Very Good, (2) Very Good, (3) Excellent

Broader Impacts – (1) Excellent, (2) Good, (3) Very Good

"Broader Impact: Results from this study will inform social-psychological approaches to understanding marital dysfunction. Recently, social cognition theories have received support from researchers in neuroimaging, and a mirror-neuron system has been proposed as the basis of perspective-taking ability. Findings obtained with the collaborative referencing paradigm have the potential to broaden our understanding of the social-cognitive components of meaningful dyadic interaction to inform future studies of intimate partners. Further, applying this paradigm to healthy participants will provide a context for performance deficits in patient studies by establishing a normal range of ability for familiar dyadic interaction."

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Level 1 GRF - "Social Dynamics" – REVIEWS

(1) EXCELLENT. The applicant has demonstrated the implications of her proposed research in the broadest context. She not only understands the scientific implications of her work but also how it might be applied as potential interventions to improve peoples' lives. *The strongest applicant in the pool at this level of all those I reviewed. She made the case of why her work is important to her, but also as to why it should be important to us.*

(2) GOOD. The applicant does discuss some of the potential broader impacts of her work. Further explanation of how this might add to the well-being of individuals would have been useful. The applicant has a solid history of research dissemination - impressive for a student at her developmental level. *Overall, this is a strong candidate for this award. She has demonstrated some early strengths and appears to be on a trajectory towards a promising career. Further elaboration in some points of her application would have been helpful however.*

(3) VERY GOOD. The author has ambitiously and proactively sought opportunities to extend her academic learning and to seek mentorship experiences that will allow her to cultivate her knowledge and skill to further her program of work. Additional explanation is needed to clarify her singular focus on the selected graduate program and how it is uniquely tailored to help her to achieve her goals. Is there a contingency plan or alternative if study at that one institution does not work out? In addition, how will the research program be translated/applied toward educational outreach and actual practice? General thoughts on these extensions would be helpful. Excellent proposal and program of work. Additional attention could be granted to the points made above.

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Don't forget: If your research is in human biology or your program is Clinical Psych...

- Emphasize basic scientific principles in your statements.
- *Don't express your motivation as disease- or health-related*, such as drug development, physical or mental health therapies, or animal disease models. A better motivation is your curiosity for uncovering the truth or for creating new knowledge.
- For broader impacts that are related to health, emphasize how your basic research lays a scientific foundation that could support others' future research in these more applied areas.

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In Conclusion - Otherwise strong applicants sometimes make mistakes, especially regarding BI:

- Ignoring Broader Impacts altogether (or failing to convey them well)
- Paying lip service or writing in generalities
  - *DON'T* just express an intent to do things in (NSF's) list.
  - *DON'T just jump on a bandwagon*
  - *DO* come up with an interesting, specific plan!
- Not distinguishing your broader impacts from others'
  - Keep in mind that the reviewer may have just read 25 other applications!
- **Missing an opportunity** to apply your own unique perspective – as an individual, a scientist, a member of a culture, a person with unique experiences
  - Take a leadership role, or showcase your innovations
  - Don't forget to describe teamwork experiences
  - Develop a plan that you can do better than almost anyone else!

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One more (great!) reason to apply for a GRFP fellowship

- If NSF (or a similar prestigious federal fellowship program) recognizes you with an award OR with Honorable Mention, and if you remain within the SUNY system for your graduate study, SUNY will give you $5,000 in unrestricted funds (for research, travel, professional development, or stipend!).
- You may qualify for this supplment if you win any of these prestigious federal fellowships :

	# awards	Stipend	CoE	Portable?	Previous master's?	Timing
NSF GRFP	2,000	$34,000	$12K	YES	NO	early yrs
DoD NDSE	< 200	$38,400	full tuition	YES	YES	early yrs
DoE CSGF	(few)	$36,000	full tuition	YES	YES	early yrs
NASA	(few)	$27K-36K	varies			any yrs
NIH NRSA (F30, F31)	(many)	$24,816		NO	YES	final yrs
Canadian awards: NSERC, SSHRC, CIHR	(many)	(varies)				

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SUNY Campuses

https://www.suny.edu/suny-news/press-releases/04-2020/4-21-20/nsf-awardees.html

SUNY NEWS / PRESS RELEASES / APRIL 2020 / 4-21-20 NATIONAL SCIENCE FOUNDATION AWARDEES

SUNY Recognizes National Science Foundation Awardees from Five Campuses

April 21, 2020

14 SUNY Students Win Graduate Research Fellowships and 13 Receive Honorable Mentions

SUNY Announces the Inaugural Winners of the Chancellor's Graduate Research Scholarship

Albany – State University of New York Chancellor Kristina M. Johnson today congratulated 14 students from five SUNY campuses who have been offered prestigious fellowships by the National Science Foundation's (NSF's) Graduate Research Fellowship Program (GRFP). At the same time, the NSF recognized 13 SUNY students with an honorable mention, also a significant national achievement. Historically, GRFP awardees and honorable mention recipients go on to make research breakthroughs, invent new technologies, win Nobel Prizes, teach in colleges and universities, found and lead companies, and head federal agencies.

"Every year since 1952, the NSF has empowered the future by recognizing and supporting early-career talent in science and engineering," said **SUNY Chancellor Johnson**. "I am proud to celebrate the accomplishments of these extraordinary SUNY students, who have already become leaders in their fields."

GRFP awards provide three years of financial support within a five-year fellowship period, which amounts to a $34,000 annual stipend and $12,000 cost-of-education allowance to the graduate institution. That support is for graduate study that leads to a research-based master's or doctoral degree in a STEM field. This year, GRFP fellowships were offered to 2,076 students around the country. Over 1,700 students were recognized with honorable mention.

SUNY also announced the inaugural winners of the Chancellor's Graduate Research Scholarship, established in 2019 by Chancellor Johnson, which provides $5,000 in flexible funds to SUNY graduate students and undergraduates who win prestigious federal fellowships and continue their studies in SUNY graduate programs. Four of the GRFP awardees and 10 of the honorable mention recipients received this award. CGRS funds can be used for research-related expenses and travel, professional development, or stipend support.

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QUESTIONS?

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