

# Broader Impacts Workshop

## NSF Graduate Research Fellowship Program

### Associate Dean Mulligan

- Award Info
- Myths and Facts
- Letter of Support

### Dr. Marc Benson, Research Development

- Broader Impacts: How will the general public benefit from your research?

### Student Panel

- Lisa Baik, Physiology and Biophysics
- Michael Diaz, Developmental and Cell Biology
- Susan Gil, Neurobiology and Behavior
- Crystal Reynaga, Ecology and Evolutionary Biology

# GRFP Key Elements



- Five Year Award – \$138,000
- Three years of financial support
  - \$34,000 Stipend per year
  - \$12,000 Educational allowance to institution per year
- International research opportunity through GROW (Grad Research Opport Worldwide)
- Access to XSEDE cyberinfrastructure resources

**Deadline for submission of applications in the life sciences is Oct. 26!!!**

# GRFP General Eligibility



- U.S. citizens, nationals, and permanent residents
- Early-career students
- Pursuing research-based MS or PhD in NSF fields
- Enrolled in accredited U.S. institution by fall 2016
- Applicants must **self-certify in the application** that they meet the GRFP Eligibility criteria

National Science Foundation Graduate Research Fellowship Program

Information: [www.nsf.gov/grfp](http://www.nsf.gov/grfp) and [www.nsfgrfp.org](http://www.nsfgrfp.org)

Apply at: [www.fastlane.nsf.gov/grfp/](http://www.fastlane.nsf.gov/grfp/)



# Complete Application

**Deadline for Life Sciences is Monday, 10/26/15**

## NSF FastLane

- Personal, Relevant Background and Future Goals Statement (3 pages; includes all refs. and figures)
- Graduate Research Statement (2 pages; includes all refs. and figures)
- Transcripts, uploaded into FastLane
- **Three** letters of reference required
- Additional information required for some candidates  
See Solicitation for eligibility requirements (available on [www.nsfgrp.org](http://www.nsfgrp.org))

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# GRFP & Biomedical Research

If you work in a **biomedical** research area, **emphasize basic scientific principles.**

**Avoid discussing “disease-related” aspects** of your research such as drug development, development of disease therapies, animal disease models.

“Research with disease-related goals, including work on the etiology, diagnosis or treatment of physical or mental disease, abnormality, or malfunction in human beings is normally not supported. Animal models of such conditions or the development or testing of drugs or other procedures for their treatment also are not eligible for support.”

# Graduate Division Resources:



## FUNDING

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[Fellowships & Awards](#)

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[Diversity Fellowships](#)

[Extramural Fellowships](#)

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## NSF - GRADUATE RESEARCH FELLOWSHIP PROGRAM (GRFP)

[View All Extramural Fellowships](#)

### Overview

The National Science Foundation (NSF) offers fellowships to students in the early stages of pursuing a research based Master's or Ph.D. degree. The Graduate Research Fellowship Program (GRFP) affords our nation's research leaders of tomorrow exceptional funding with 3 years of graduate support worth thousands of dollars.

[National Science Foundation - Graduate Research Fellowship Program \(NSF GRFP\)](#)

### Award Info

#### GRFP Fellows Receive the Following:

- ▶ Three years of support
  - ▶ \$34,000 annual stipend
  - ▶ \$12,000 cost-of-education allowance to institution
- ▶ Supercomputer access
- ▶ Opportunities to apply for the [Graduate Research Internship Program \(GRIP\)](#)
- ▶ Opportunities to apply for the [Graduate Research Opportunities Worldwide \(GROW\)](#)

# **NSF GRFP Fellowship: GRC Activities**

- **9/28 NSF GRFP Info Session**
- **9/29 Writing for Fellowships: The Personal Statement**
- **9/30 Writing for Fellowships: The Research Essay**
- **10/1 Advice from the Experts: NSF GRFP Faculty Reviewer Panel**
- **10/6 The Fellowship Application Experience Panel**
- **10/8 The Ford Foundation Fellowship**
- **10/15 Broader Impacts Fair**
- **10/26 Application Due**

## **FELLOWSHIP APPLICATION ADVISING HOURS:**

Make an appointment with Dr. Sandra Loughlin to discuss your fellowship application questions and receive feedback on your fellowship applications. Visit the GRC website to schedule an appointment at <http://www.grad.uci.edu/services/grc>

# NSF GRFP Fellowship: Graduate Division/GRC Resources

- Dr. Sandra Loughlin holds fellowship advising hours every Thursday from 1:30-3:00pm at the GRC. She is available to discuss application questions and provide feedback on fellowship applications. Schedule an appointment by calling 949-824-3849.
- Dr. Celina Mojica will be available to discuss application questions and provide feedback on applications. Email for appointment.
- Writing Consultants at the GRC: students may make an appointment by calling 949-824-3849.
- Fellowship Application Samples: Students may view successful NSF GRFP applications at the GRC

# NSF GRFP Fellowship: School Activities

## Proposal Writing Workshops

4206 & 4212 NSII

10/15 & 10/22 @ 4 - 6 PM

Writing workshop staffed by the Office of Research Development for the biological and biomedical sciences.

This session will focus on proposal feedback in a one-on-one or small group setting.

\*Contact Dr. Marc Benson for personalized proposal critiques.

[mabenson@uci.edu](mailto:mabenson@uci.edu), x 4-1709

# Recommendations for Letters of Support

## Select faculty that:

- have previously served as a research advisor
- are current research advisor
- were involved with your recruitment to UCI

## Also good choices:

- Directors of ORUs and Centers
- Research/NIH training grant directors
- distinguished senior faculty

**Letters MUST be received by November 5, 2015.**

**You must have at least THREE (consider asking for 4-5 letters).**

# Recommendations for Letters of Support

Each letter should directly address your **intellectual merit** and your **broader impacts**.

## Recommendation:

Write a **succinct** statement of your research proposal and your broader impacts in the request for a letter.

State that this information must be included in the letter.

Include instructions for letter writers in the request for a letter from program solicitation.

# Recommendations for Letters of Support

Provide a copy of Associate Dean Mulligan's guide for letter writers:

UNIVERSITY OF CALIFORNIA, IRVINE

BERKELEY • DAVIS • IRVINE • LOS ANGELES • MERCED • RIVERSIDE • SAN DIEGO • SAN FRANCISCO



SANTA BARBARA • SANTACRUZ

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(949) 824-5315  
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August 13, 2013

Re: Writing a letter in support of an NSF GRFP applicant for Faculty

Dear Faculty:

Submission of a letter on behalf of a NSF GRFP applicant is a critical part of a successful proposal. The content of the letter must be targeted to this particular competition. **Please read all the information below carefully before you begin.**

The NSF requires your letter be **ON LETTERHEAD**, and **TWO PAGES MAXIMUM**. Your letter should include your name and title, department, and institution or organization.

1). Faculty will first receive an email from the NSF indicating that an applicant has selected them to write a reference. You will need to follow the instructions therein to **REGISTER** for a special NSF ID in order to submit a letter on behalf of a student applicant. The deadline to respond is **8 PM EST (5 PM Ca time), November XX, 2013**. If you already have an NSF ID and Fastlane password or registered with the GRFP an earlier year, you still need to complete this step, as the NSF GRFP uses a different registration system.

**Note that the NSF is only accepting letters that come in by 8 PM EST on November**

- download from the **CMB/INP** web page
- obtained by email to **Gary Roman** or **Renee Frigo**
- directly from **Associate Dean Mulligan**

**Associate Dean Mulligan will send a memo to UCI faculty with this information in October**

# Myths & Facts

**MYTH: Students must have determined their thesis project before applying.**

**FACT: Students do not have to have a concrete research plan when applying for the NSF GRFP.**

NSF GRFP funds an individual, not a research project.

The research proposal is one of two components of the application.

The other focuses on prior research, and the candidate's personal narrative.

Students are not expected to commit to the proposed research in the application.

Reviewers are looking for demonstrated understanding of research design and methodology.

How the proposed research fits into applicant's larger narrative or trajectory of past research, personal history and future plans.

# Myths & Facts

**MYTH:** It is not worth reapplying if an application is turned down the first time.

**FACT:** If a student pays careful attention to the prior critiques, s/he has a good chance of success.

Students are eligible to reapply if they are in the second year of their first graduate degree program.

# Intellectual Merit Criterion – First Submission

**Review #1: Overall Assessment of Intellectual Merit**      Good

**Explanation to Applicant**      Applicant has a record of scientific productivity and letters of support are strong. **Research plan would be strengthened if written in a hypothesis-driven manner rather than a descriptive one.** Previous research experience could also be written in a more explicit and direct manner.

**Review #2: Overall Assessment of Intellectual Merit**      Good

**Explanation to Applicant**      Applicant is very bright and driven. Applicant has a very strong undergraduate academic track record in chemistry and programming. Applicant has strong prior research that has led to co-authorship on a recent publication and several poster presentations. Research plan proposes an interesting, original and ambitious project. **There is no specific mention of what hypotheses are to be tested and there is no mention of the challenges/problems that might be expected.**

# Intellectual Merit Criterion – Resubmission

**Review #1: Overall Assessment of Intellectual Merit** Excellent

**Explanation to Applicant** This application has many strengths. They include the academic success of the applicant; the previous research experience, pilot data, and productivity of the applicant; **the quality and relevance of the hypotheses- driven research proposal**; the excellence of the laboratory environment in which the applicant is doing the research; and the strong reference letters provided.

**Review #2: Overall Assessment of Intellectual Merit** Good

**Explanation to Applicant** The applicant brings a useful background in biophysical chemistry to a long-standing problem in neuroscience. Already having a strong set of quantitative skills is a great advantage in modern neuroscience.

# Broader Impacts Criterion – First Submission

**Reviewer #1: Assessment of Broader Impacts**

Fair

**Explanation to Applicant** Applicant presents a limited history of outreach by the standards of this competition. Application might be strengthened by explicitly describing the degree to which he was involved in chemistry demos as President of the chemical society. Such leadership roles are needed to make the application competitive. In addition, future plans in this area should be explicit, planning to participate in something already organized is not sufficient at this level.

**Reviewer #2: Assessment of Broader Impacts**

Fair

**Explanation to Applicant** Applicant has background experiences that give great promise for broader impacts. Applicant's participation in the SOLUR program and mentoring activities has made the applicant aware of the continued need of students from disadvantaged populations. However, applicant does not show evidence of significant leadership in contributions to encouraging diversity or integrating research and education.

# Broader Impacts Criterion – Resubmission

## Reviewer #1: Assessment of Broader Impacts

Very Good

### Explanation to Applicant

The applicant has a history of mentoring and outreach, which is to be commended. **In particular, their participation at Reddit Science is an excellent way to provide science information, and excitement, to the general public.**

## Reviewer #2: Assessment of Broader Impacts

Very Good

### Explanation to Applicant

Applicant has a very strong history of enhancing scientific understanding and integrating research and education. **Applicant has shown leadership in these areas** and has additional plans to expand online information and discussion of relevant scientific topics

# Intellectual Merit and Broader Impacts Criterion

## Assessment of Intellectual Merit

Good

### Explanation to Applicant

The applicant proposes to develop a FRET assay in HeLa cells and later in mouse cortical neurons as well as use biochemical methods to identify SIMs. **The application does not seem to have a hypothesis driven question and it is not clear how the two aims will contribute to our current understanding in the field.**

## Assessment of Broader Impacts

Very Good

### Explanation to Applicant

The applicant has a well established history of contributing to education and outreach to the general community. Current outreach efforts are somewhat less defined. **It is not clear how many activities were current or were planned for the future.**

# Intellectual Merit and Broader Impacts Criterion

## Assessment of Intellectual Merit

Excellent

### Explanation to Applicant

The applicant presents diverse research experience of both a basic and clinical nature. Results from a recent pilot study were used to support a NIH R01 submission from the laboratory. **However, the record for disseminating work is perhaps a bit sparse compared to the better applicants at this level.** The first authorship of a manuscript in preparation is noted, as is authorship of a poster presentation.

## Overall Assessment of Broader Impacts

Excellent

### Explanation to Applicant

The applicant shows a consistent and sustained record of volunteerism and outreach, both in and out of research. **Moreover, the applicant has taken founding and leadership roles in many of these activities, and continues to drive these activities, at the national level in some cases.** The level of sustained commitment is highly commendable and is consistent with individuals who have, and will continue to impact society.

# Intellectual Merit and Broader Impacts Criterion

## Assessment of Intellectual Merit

Excellent

### Explanation to Applicant

The applicant has an excellent academic record and received numerous awards. The applicant has previous research experience that resulted in presentations at institutional and national meetings and one coauthored manuscript that is currently in review. The research proposal is interesting although there is no overall hypothesis stated and the findings will ultimately only be of a descriptive nature which lessens the significance somewhat. **The applicant's letters of recommendation are all outstanding and offer strong evidence of the applicant's potential success.**

## Assessment of Broader Impacts

Excellent

### Explanation to Applicant

**The applicant's unique perspective on the challenges faced by individuals facing adversity is reflected in a heightened awareness of the importance of broadening opportunities for these groups.** The applicant has experience in education, scientific and community outreach and plans to continue participating in these activities during graduate school. **The applicant could improve the research proposal by explaining the potential impact on a broader audience.**

# Intellectual Merit and Broader Impacts Criterion

## Assessment of Intellectual Merit

Excellent

### Explanation to Applicant

The applicant has impressive research experience that includes a first author publication from work started as an undergrad. Her reference letters all speak to her motivation and dedication to research. Her proposal is comprehensive, and I especially appreciate her set of "Alternative Approaches" to try if her original line of experimentation yields no results.

## Assessment of Broader Impacts

Good

### Explanation to Applicant

The applicant is a first generation college student who participates in a variety of outreach and mentoring events, to promote science among underrepresented groups. While the applicant clearly feels strongly about supporting and promoting diversity in science, she does speak more about what she will do, instead of what she has done. The applicant does clearly articulate the broader impact her research would yield.

### Summary Comments

The intellectual merit for the project is clear. Applicant is a highly motivated individual, whose reference letters offer strong evidence for her potential success. Her leadership in promoting broader impacts could be strengthened.

# Intellectual Merit and Broader Impacts Criterion

## Assessment of Intellectual Merit

Very Good

### Explanation to Applicant

A "plan B" to block the actions of complement molecules would strengthen the proposal. She does describe an alternate set of experiments. She has strongly supportive letters in her file, including one from Reference 1. **Not included, is a letter from a faculty member whose work is also fundamental to her research plan.**

## Assessment of Broader Impacts

Excellent

**Explanation to Applicant** What a great statement-nicely organized. This reviewer actually got choked up at the end it. Funding this student is a must. She is a living example of broader impacts. Student is the first person in her family to attend college, let alone to be enrolled in a Ph.D. program. She attributes her finding this path of opportunities through participating in outreach activities designed to interest underrepresented minorities in science. She has had numerous laboratory experiences and arrives to graduate school well versed in experimentation and laboratory protocol. She has had the opportunities to mentor undergraduate student and other individuals and **she plans to continue her mentoring activities at UC Irvine.**

### Summary Comments

This program was made for students such as this one.

# Intellectual Merit and Broader Impacts Criterion

## Overall Assessment of Broader Impacts

Excellent

### Explanation to Applicant

The student's unique perspective on the challenges facing scientists and engineers from under-represented groups makes her work in teaching and tutoring to latino populations in her undergraduate career impressive. She has been active in promoting minorities in science at UCSD by participating in their welcome weekend. She has specific plans for continuing this work at UC Irvine. Her commitment to this work is evidenced by her extensive involvement in ABRCMS, and her being awarded the NIH MBRS award.

## Overall Assessment of Broader Impacts

Fair

### Explanation to Applicant

Although research proposed in this proposal has potential to understand signaling in cancer cell, the Broader impacts of the proposed research are not well developed in this proposal. The applicant proposes to involve undergraduate students in his research and mentor them.

# Intellectual Merit and Broader Impacts Criterion

## Overall Assessment of Broader Impacts

Poor

### Explanation to Applicant

Your enthusiasm for science and communication skills combined with your personal experiences would make you an ideal role model in outreach programs. Developing and discussing specific plans for outreach, mentoring, or other activities would significantly enhance this application.

## Overall Assessment of Broader Impacts

Fair

### Explanation to Applicant

The applicant brings a wealth of life experiences and an interesting path to graduate school, but specifics about how these steps address the broader impacts criterion are lacking in the personal statement and elsewhere. There is a plan to mentor students in the lab, but this is somewhat standard for a graduate student.

# Intellectual Merit and Broader Impacts Criterion

## Overall Assessment of Broader Impacts

Very Good

## Explanation to Applicant

While the candidate did not specifically detail his plan for broader impacts with respect to his graduate work, he has a rich history of outreach to underrepresented groups. His outreach work both with robotics and lego has been commendable, and it is likely he would continue with outreach in his new focus area.

## Broader Impacts Criterion

### Overall Assessment of Broader Impacts

Very Good

### Explanation to Applicant

The applicant has shown a great potential in integrating research. He also use excised his talent and made a great effort in the community outreach activities. The applicant is encouraged to involve more community outreach activities to impact a broader audience.