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NSF GRFP Information Session

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The University of Mississippi



**NSF GRADUATE RESEARCH FELLOWSHIP PROGRAM (GRFP)
INFORMATION SESSIONS**

AUG 31, SEPT 1, 2020

**Robert Doerksen, Ph.D.
Associate Dean of the Graduate School**

**Jason Hale, M.S.
Director of Research Development**

**with Annette Kluck, Nikki Reinemann-Gross, Thomas Werfel,
Brian Foster, Cole Stevens, Courtney Roper, & Vivian Ibrahim**

Housekeeping



- **Mute** your audio (until recognized to speak)
- **Share Video** if comfortable, bandwidth permitting
- **Raise your Hand** if you would like to speak
- **Use Chat** to ask questions in the meantime
 - Those with answers may type them into the chat as we go.
 - Other questions will be answered at the end of the session
- The slides (and possibly the recording) will be available by week's end at <http://research.olemiss.edu/presentations>

Info Session Goals



- **Understand** what GRFP Fellowships are
- Hear from GRFP experienced **UM Faculty**
- **Meet other students** thinking of applying
- Learn whether you are **eligible**
- Learn~ whether your **field of study** qualifies
- General idea of **how, where, and when to apply**
- Learn how NSF will **evaluate** your application
- **Get tips** on making a competitive application
- Answer your **questions**, or show you where to find answers and additional information & support

Welcome from Graduate School

1 or 2 minutes



Annette Kluck
Dean



Robert Doerksen
Associate Dean



THE UNIVERSITY of
MISSISSIPPI

GRADUATE SCHOOL

What are GRFP fellowships?



- Graduate **fellowships (scholarship)** funded by NSF
 - Investments in **YOU!**
 - Bets on the **future U.S. STEM workforce.**
- Provides **financial support** for 3 years of graduate school
- For students in **research-based STEM graduate programs** and **qualifying STEM research topics**
- Very **student-driven** and **flexible**
 - vs. typical “graduate assistantships” (faculty or department driven)
- Very **prestigious**, and **competitive**
 - **~16% of applications are awarded**
 - **Honorable Mentions** for meritorious, but unawarded, applications are still **significant national achievements!**

What GR Fellowships Offer?



Five Year Award – \$138,000

- 3 years of support towards graduate study (over 5 years)
 - **\$34,000 Stipend** per year
 - **\$12,000 Educational allowance** to institution
 - ✦ For tuition, fees, and other educational expenses
- Flexible choice of **project, advisor, & program**
- **Portability** to any accredited institution located in the US to pursue Master's or Ph.D. degree

1,600 fellowship awards expected in 2020!

Past UM NSF GR Fellows



Johnathan Hill

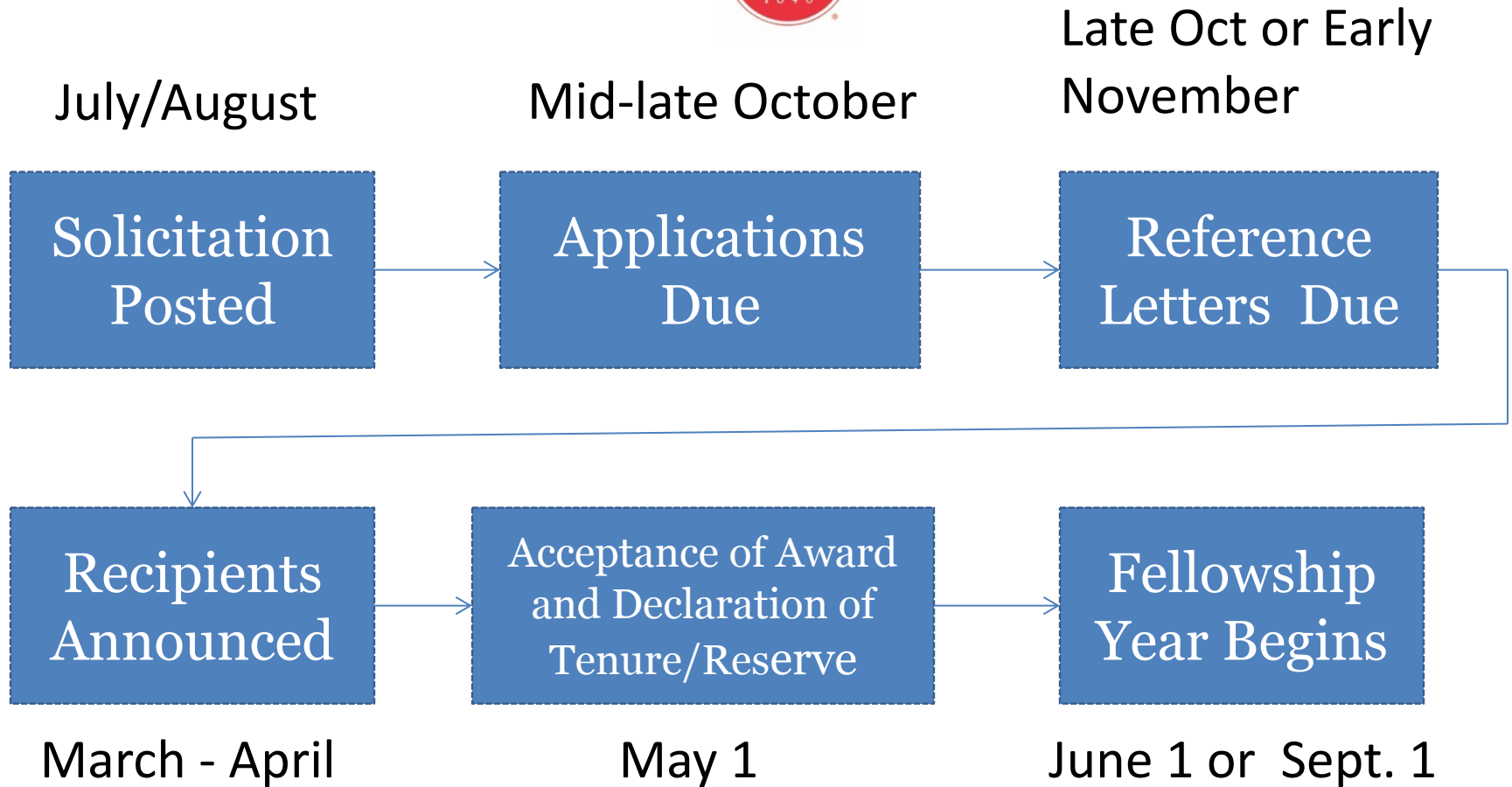
- Master of Arts Student in Teaching
- Undergraduate Degree: Math, Jackson State University
- Applied for GRFP in senior year



Amber Kay

- Ph.D. Student in Pharmaceutical Sciences
- Undergraduate: Biochemistry and Molecular Biology
Mississippi State University
- Applied for GRFP in senior year

GRFP Application Timeline



How to Apply?



NSF GRFP Program Page provides the following information:

- Link to **program guidelines/solicitation**
- Application deadlines (Oct 19 – Oct 22, 2020)
- Reference letter due date (Oct 30, 2020)
- **FAQs**
- List of Fellows and Honorable Mentions
- Other resources

https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=6201

GRFP Solicitation (NSF 20-587)



Provides the following information:

- Deadlines
- Program description
- Award information
- Eligibility requirements
- Application preparation
- Submission instructions
- Application review criteria

https://www.nsf.gov/publications/pub_summ.jsp?WT.z_pims_id=6201&ods_key=nsf20587

GRFP Application



Complete an Application Package:

- 1) Personal Information, Education, Work/Research Experience, Proposed Field of Study, Academic Honors, Publications
- 2) **Personal, Relevant Background and Future Goals Statement (3 pages)**
- 3) **Graduate Research Statement (2 pages)**
- 4) Transcripts (uploaded electronically)
- 5) Three letters of reference

See the most recent Solicitation (NSF 20-587) for app. details & requirements.

A competitive **Personal Statement**



- **3 pages max**
- **Experiences** (personal and professional) **contributing** to your **motivation** and **preparation** for **pursuing a STEM career**
- Previous **research/industrial/professional experiences**
 - *What was the project?*
 - *How did you become involved? Where was it done?*
 - *Why was this project worth doing?*
 - *What was your contribution to the project?*
 - *How did your part of the project fit into the whole?*
 - *What have you learned? Any advanced course work?*
- **Career aspirations** and **future goals**
 - *How have your experiences shaped your goals?*
- Address NSF's review criteria
 - Labeled Intellectual Merit section
 - Labeled Broader Impacts section

A competitive **Research Statement**



- **2 pages max**
- Describe your **Research Plan**
 - Communicate your **research idea** and **approach**
 - Explain your **research plan** and **methods**
 - What do you expect to **learn**?
 - How will you know if the project is **successful**?
 - What would you do **next**?
- Address NSF's review criteria
 - Labeled Intellectual Merit section
 - Labeled Broader Impacts section
- Communicate clearly for **non-specialists**
 - **Avoid jargon!**
 - Make your **contributions clear**

Who are You?

2 minutes



Zoom Poll: Who are you?

1. What is your classification as of today?
2. What is your graduate field of study, current or proposed?

Review Process



- All applications will be reviewed and rated **holistically** by **disciplinary** and **interdisciplinary scientists** and **engineers**, and **other professional graduate education experts**.

Know your audience. Write for your audience.

Standard NSF Review Criteria



Two National Science Board-approved review criteria:

- **Intellectual Merit**

How important is the proposed activity to advancing knowledge within its own field or across different fields?

- **Broader Impacts**

How well does the proposed activity benefit society or advance desired societal outcomes?

Intellectual Merit



Your potential to discover new knowledge

- Demonstrated **intellectual ability** (grades, curricula, awards...)
- Other evidence of your **potential for scholarly scientific study**, such as your ability to:
 - Plan and conduct research
 - Work as a member of a team as well as independently
 - Interpret and communicate research
 - Take initiative, solve problems, persist
- The **potential** of your **approach to your field of study** and your **Research Plan** to lead to new knowledge

Broader Impacts



- **Your** potential **impact on society**
- **Your research project's** potential **impact on society:**
why it's important

Societal benefits may include, but are not limited to:

- **Increasing participation of underrepresented groups:**
women, underrepresented minorities,
students w/ disabilities, veterans
- **Education outreach:** Mentoring; improving STEM education
- Increasing **public scientific literacy**; increased public
engagement with science and technology
- **Community outreach:** science clubs, radio, TV, blogs
- Potential to impact a diverse, globally competitive **workforce**
- **Increasing collaboration:** academia, industry, others

Intellectual Merit & Broader Impacts



Evidence of **intellectual merit** can be found in all parts of the application - Personal Statement, Research Plan, letters, experiences, awards, achievements, transcripts.

Likewise, evidence of **broader impacts** can be found in all parts of the application - Personal Statement, Research Plan, letters, experiences, awards, achievements.

However, the both the **Personal, Relevant Background, and Future Goals Statement**, as well as the **Graduate Research Plan Statement**, must **explicitly** address **Intellectual Merit** and **Broader Impacts** under **separate headings** to help reviewers evaluate these criteria.

Additional GRFP Review Criteria



- Applicants' potential to **advance knowledge** and to **make significant research achievements** and **contributions to their fields** throughout their careers.
- Reviewers are asked to assess applications using a **holistic, comprehensive approach**, giving balanced consideration to all components of the application, including the **educational and research record, leadership, outreach, service activities**, and **future plans**, as well as **individual competencies, experiences, and other attributes**.
- The aim is to recruit and retain a diverse cohort of early-career individuals with high **potential for future achievements**, contributions, and broader impacts in STEM and STEM education.

Tips for a competitive application

1 minute



- **Start early!** Look at the NSF GRFP website (www.nsfgrfp.org).
- Print, **read**, highlight, re-read, and refer often back to the latest **NSF Solicitation (NSF 20-587)** in preparing your application.
- Read the **Frequently Asked Questions (FAQs) (NSF 20-114)** and **call NSF** if something is confusing to you
- Describe your honors, experiences, presentations, and any publications (etc.) **clearly** for the reviewers.
- Select and confirm your reference letter writers and monitor receipt of their letters on the GRFP website.
- Share your application materials and the merit review criteria with your reference letter writers.
- Pay attention to NSF's merit review criteria.
- **Your statements should be interesting and clear. Ask several colleagues to read and comment on drafts.**
- **Leverage existing UM GRFP experience!**

Are You Eligible?

1 minute



- **U.S.** citizens, nationals, and permanent residents
- **Early-career**: senior undergraduates, baccalaureate recipients, or graduate students who have completed no more than ONE academic year of study at time of application
- in Science, Technology, Engineering, or Mathematics (**STEM**)
- To **ACCEPT** a fellowship offer, you must be **accepted** to a **qualifying graduate program**
- Must (be) **enroll(ed)** in a **full-time, research-based, M.S. or Ph.D.** degree program in **summer** or **fall** of **GRFP award offer year** (not necessarily at the time of application).
- **Professional** degree programs are **NOT** qualifying

GRFP Eligibility- Academic Levels

30 seconds



Academic Levels

Applicants compete against others from same Academic Level

- 1:** Seniors or baccalaureate recipients with no graduate study
- 2:** First-year graduate students.
- 3:** 2nd-year grad students (no more than 1 yr of graduate study)
- 4:** More than 12 months of graduate study with an interruption of greater than 2 years (*can have M.S. degree*)

How often can you apply?

30 seconds



Only one application per person per annual competition

Academic Levels

1: Seniors or baccalaureates with no graduate study

No restriction – can apply every year until enrolled in graduate school

2: First-year graduate students

Apply only once, in 1st or 2nd year

3: Second-year graduate students

No more than one year of graduate study as of August 1 of the year the application is submitted

GRFP Fields of Study

20 seconds



- Chemistry
- Computer & Information Systems
Science/Engineering
- Engineering
- Geosciences
- Life Sciences (includes Biological Sciences)
- Materials Research
- Mathematical Sciences
- Physics and Astronomy
- Psychology
- Social Sciences (includes Economics)
- STEM Education

NOT SUPPORTED

30 seconds



- Joint science-professional degree programs
 - e.g. MD/PhD, JD/PhD
- **Business administration** or **management**
- **Counseling, Social work**
- Education (except in science and engineering education)
- History (except in history of science)
- **Research with primarily disease-related goals**
- Clinical research, patient-oriented research, epidemiological and behavioral studies, outcomes research, health services, public health research, focus on disease etiology and treatment

Not Sure about Your Field?

30 seconds



- See Appendix at end of the NSF GRFP Solicitation
https://www.nsf.gov/publications/pub_summ.jsp?WT.z_pims_id=6201&ods_key=nsf20587

If you the proposed subfield is not covered by the one of the listed subfields, it may not be eligible for GRFP.

Share the solicitation in the Zoom chat now.

X. APPENDIX

Everyone look for your Field/Subfield.

NATIONAL SCIENCE FOUNDATION GRADUATE RESEARCH FELLOWSHIPS

Major Fields of Study

Note: Applications are reviewed based on the selection of a Major Field of Study. As an example, CHEMISTRY is a Major Field of Study, and Chemical Catalysis is a subfield under CHEMISTRY.

Selection of a Major Field of Study determines the application deadline, the broad disciplinary expertise of the reviewers who will review the application, and the discipline of the graduate program if the Fellowship is accepted. The subfield category designates specific expertise of the reviewers. Applicants can select "Other" if their specific subfield is not represented in the list of subfields under the Major Field of Study. The "Other" subfield category should be selected only if the proposed subfield is not covered by one of the listed subfields, and should not be used to designate a subfield that is more specific than the subfields listed. If the proposed subfield is not listed in the Appendix, it may not be eligible for Fellowship support.

Breakout Room Activity

12 minutes



In each room, a Faculty or Staff Member should take charge.

If no faculty or staff, then please take initiative and proceed.

Each person in the room should QUICKLY (in 30 to 40 seconds) share any or all of:

- Your Name and Current Academic Level
 - e.g., senior, 1st year graduate, 2nd year graduate.
- Current Academic Program (major, etc.)
- Proposed Program of Study (if known)

If there is time at the end after everyone has gone, discuss any of the following: Research Area of Interest (if known); Proposed graduate institution (if other than UM); has anyone submitted to GRFP before? *Return to the main room after 12 minutes.*

Zoom Poll: Are you eligible?

1 minute



Based on what you have learned so far, are you eligible to apply?

- Yes, I think I am probably eligible to apply this year.
- Maybe, but I'm not sure.
- No, I think I am probably NOT eligible to apply now.
- Other, or prefer not to answer.

GRF Ops Center

15 seconds



If in doubt whether your proposed program of study, or your proposed research topic, are considered SUPPORTED fields, contact the The Graduate Research Fellowship Operations Center.

The Graduate Research Fellowship Operations Center is responsible for responding to questions about the program.

For questions concerning eligibility and fields of study, contact the Graduate Research Fellowship Operations Center, (866) 673-4737, international (202) 331-3542, or info@nsfgrfp.org.

UM Faculty Perspectives

2 – 3 minutes



Molecular Biophysics and Engineering Lab

Home

Research

Publications

Teaching

Lab Members

PI

Joining the Lab

Nikki Reinemann-Goss

Assistant Professor of Biomedical Engineering

Affiliate Assistant Professor of Chemical Engineering

EDUCATION

2018 Ph.D. Chemical and Biomolecular Engineering, Vanderbilt University

2013 B.S. Chemical Engineering (Honors), University of Mississippi

2013 B.S. Chemistry (Honors), University of Mississippi

RESEARCH INTERESTS

- Investigating the biophysics of cytoskeletal hierarchy using optical tweezers, force spectroscopy, and fluorescence microscopy
- Systems that include molecular motors, proteins, microtubules, actin, and other cytoskeletal components
- Implications of their synergy in vital life processes such as cell division, motility, muscle contraction, etc.
- Using higher order *in vitro* systems to model physiologically relevant environments for testing cytoskeletal drugs and effects of mutations/disorders in disease states



Dr. Reinemann shares her perspectives as a former GRFP fellow.

UM Faculty Perspectives

2 – 3 minutes



Interdisciplinary NanoBioSciences Lab

Home

Research Overview

Publications

Teaching

People

Join the Lab!

Thomas Werfel

Assistant Professor of Biomedical Engineering

Joint Assistant Professor of BioMolecular Sciences

Affiliate Assistant Professor of Chemical Engineering

Education:

Postdoctoral Fellow, Vanderbilt School of Medicine, 2017-2018

Ph.D. Biomedical Engineering, Vanderbilt University, 2017

M.S. Biomedical Engineering, Vanderbilt University, 2015

B.S. Physics, Murray State University, 2013



**Dr. Werfel
shares his
perspective
as a former
GRFP
fellow.**

NSF GRFP Reviewer Perspectives

2 - 5 minutes



Cole Stevens

Assistant Professor of Pharmacognosy

stevens@olemiss.edu

www.stevenslab.com



Courtney Roper

Assistant Professor of
Environmental Toxicology

clroper@olemiss.edu

courtneyroper.wixsite.com/roper

ONSA can provide assistance!

3 minutes

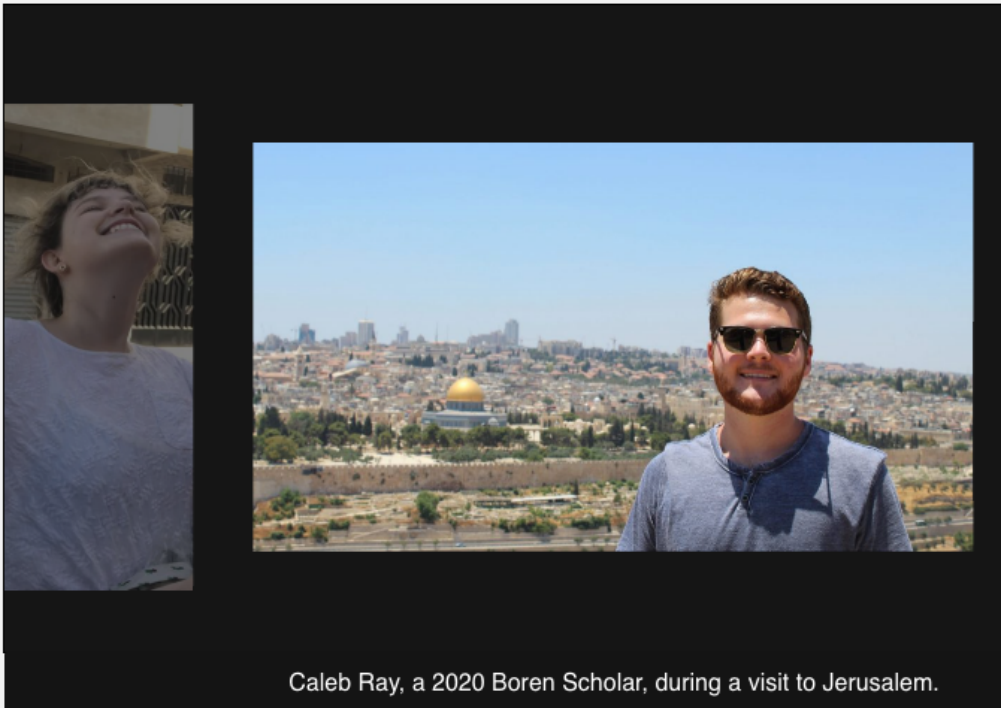


vibrahim@olemiss.edu

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Office of National Scholarship Advisement

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Caleb Ray, a 2020 Boren Scholar, during a visit to Jerusalem.

FOR ASSISTANCE

✉ Dr Vivian Ibrahim

☎ 662-915-1798

📍 Honors College 309

FAX 662-915-7739

TEL 662-915-1798



UM Faculty Perspectives

7 minutes?



Brian Foster

[Biography](#) | [Research](#) | [Publications](#) | [CV](#) | [Personal Website](#)

[Google Scholar](#)



Brian Foster

Assistant Professor of Sociology & Southern Studies

Ph.D, University of North Carolina Chapel Hill

Race, Culture, Inequality, Rural US South

Lamar Hall 521 | 662-915-6533

bofoster@olemiss.edu

Office Hours: By appointment

Courses

Soc 414 Race, Place, and Space (cross-listed as AAS 414, GSt 414, SSt 314)

SSt 101 Introduction to Southern Studies

SSt 102 The Southern Protest Mixtape

**Dr. Foster's recorded short videos
about his experience
as a GR Fellow.
These are very helpful
and linked from:**

<http://research.olemiss.edu/presentations>



Who Else Can Assist?



Jason Hale: Will review and provided feedback on any personal statements and/or research statements received by Sept 30, 2020 (email jghale@olemiss.edu).

Q&A and Discussion



GRF Winning Videos



The Secrets of Nitrogenase

<https://www.youtube.com/watch?v=vsiJTouHMg>

Whales in Fjords

<https://www.youtube.com/watch?v=S84GQL3IAjw>

Sonic Reef

<https://www.youtube.com/watch?v=tBCmIG7zKmU>



Good luck!

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