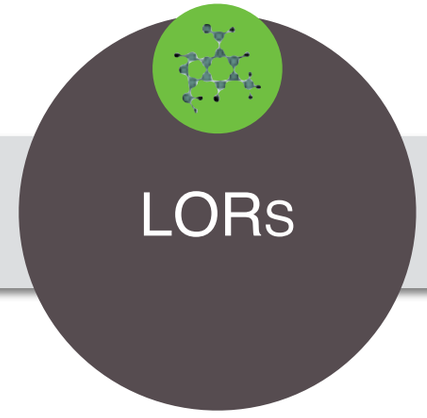
UNIVERSITY OF ARKANSAS

STEM Scholarship Info Session

Fall 2021 | Office of Nationally Competitive Awards

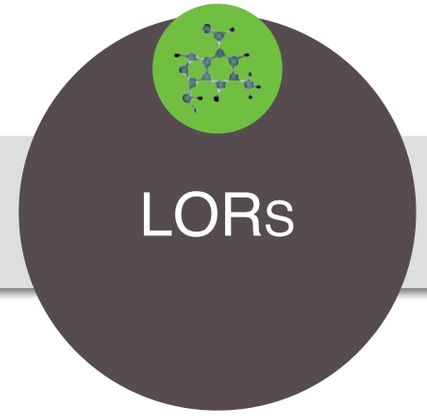
Letters of Recommendation



Who to ask for Letters of Recommendation

- **Tenured or tenure-track faculty (assistant, associate professor, etc)**
- **Faculty within or related to your discipline**
- **If you have a research mentor, they should be one of your letter writers**
- **If you have participated in an REU or another research opportunity outside of the UofA, these can be great faculty to ask for letters**

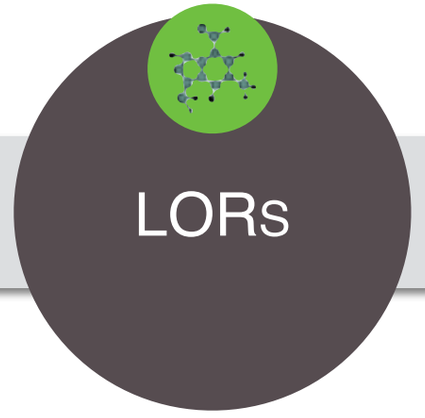
Letters of Recommendation



How to ask for Letters of Recommendation

- **Ask early**
- **Ask in-person (or via an online meeting)**
- **Provide recommenders with:**
  - **Annotated résumé**
  - **Transcript**
  - **Drafts of application materials**
  - **Any guidance given by the award or institution**

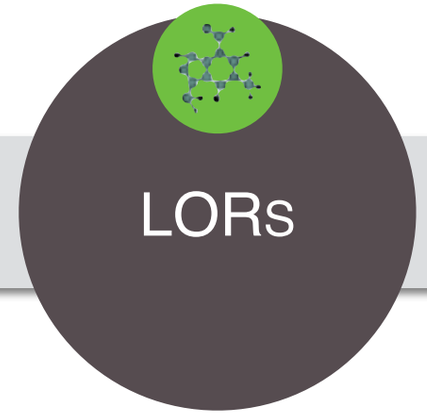
Letters of Recommendation



What should be included

- **Discussion of research or performance in class**
- **Quantitative measures (publications, presentations, GPA, scholarships, awards, other recognition)**
- **How they know you and your work**
- **Discussion of relevant activities and leadership**
- **Discussion of teamwork abilities**

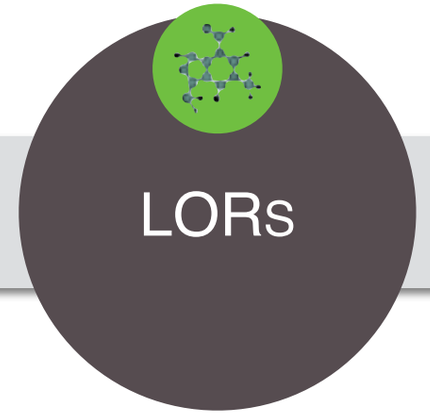
Letters of Recommendation



What should be included

- **Discussion of transferable skills:**
  - **Ability to think critically**
  - **Research skills**
  - **Creativity**
  - **Communication skills**
  - **Leadership experience**
  - **Teamwork abilities**
  - **Ability to cope with obstacles**
  - **Flexibility**

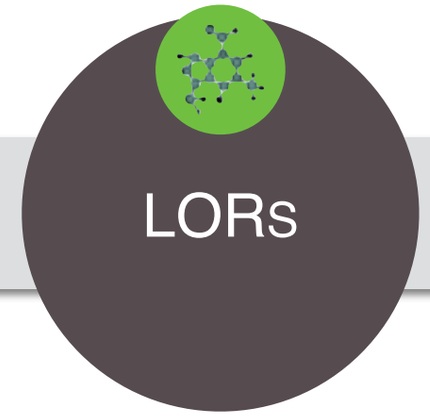
Letters of Recommendation



Reminders

- **Ask well in advance**
- **Ask in person (or via video call)**
- **Ask politely**
- **Give polite reminders (2 weeks before due date, 1 week before, etc)**
- **Remember that letters are confidential! Do not assist faculty in writing or revising them**

LETTERS OF RECOMMENDATION - GRFP



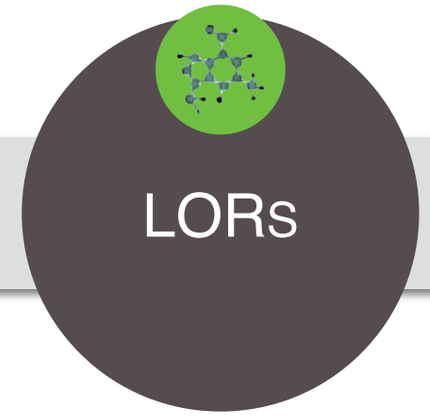
GRFP letters differ from regular graduate school letters

- Make sure your reference writers know about GRFP and NSF's Intellectual Merit and Broader Impacts criteria
- Ask if they think they know you well enough to write a strong letter
- Discuss with them why you think you're a good candidate for a GRFP (show them your statements before you apply)

For reference letter writers:

- GREs are not part of the application
- A strong letter can say things that students wouldn't say about themselves
- Do not overshadow the student if you describe their research

LETTERS OF RECOMMENDATION - GRFP



- **Three (3) reference letters are STRONGLY RECOMMENDED - you must register 3 recommenders in your application**
- Two (2) reference letters are **MANDATORY**
- List and rank up to 5 reference letter writers
  - Top 3 will be used
- Select your reference letter writers carefully
  - Familiarity with you as a person is important
  - Share personal and research statements with them
- View your “Application Package Status” in the GRFP site to monitor letter submission

No exceptions or extensions for Reference Letter deadline

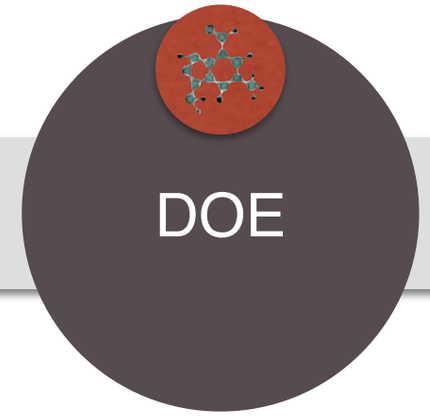
NIH Fellowships

Student achievement…
Mathias Bellaiche, 2013 Goldwater Scholar, was named an NIH MD/PhD Oxford Cambridge Scholar in 2014. Mathias is studying for dual degrees at the National Institutes of Health and Cambridge University.

National Institutes of Health Oxford-Cambridge Scholarship

- U.S. Citizen or permanent resident
- Tuition and stipend support for the duration of the program
- Biomedical research
- Two research mentors - one at NIH campus in Bethesda, MD; one at either Oxford or Cambridge
- PhD or MD/PhD options
- Deadline - December 1, 2021
- GRE scores not required
- MCAT scores required for MD/PhD Track 1 applicants only

SCHOLARSHIP BASICS—DOE

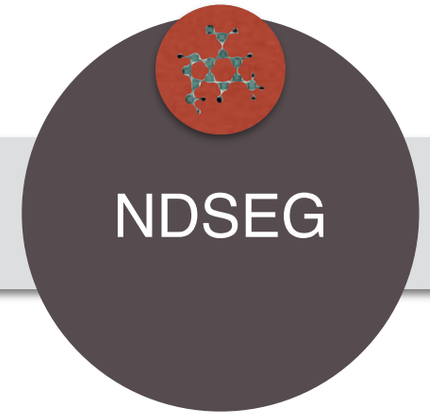


Department of Energy COMPUTATIONAL SCIENCE GRADUATE FELLOWSHIPS

- $38,000 stipend for up to 4 years
- Full tuition and fees
- Academic allowances for expenses
- Twelve-week practicum experience at one of 21 DOE national labs

Application will be available in late October (typically due in January).

SCHOLARSHIP BASICS—NDSEG



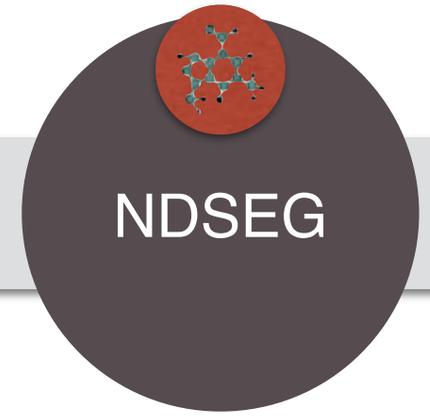
The National Defense Science and Engineering Graduate Fellowship Application will be due in December 2021 (date to be announced).

Fellows receive funding for up to three years.

- $38,400 yearly stipend
- Medical insurance support
- Full tuition and fees

GRE scores are not required.

SCHOLARSHIP BASICS—NDSEG



FIELDS OF STUDY
Aeronautical and Astronautical Engineering
Biosciences (includes toxicology)
Chemical Engineering
Chemistry
Civil Engineering
Cognitive, Neural, and Behavioral Sciences (except PsyD programs)
Computer and Computational Sciences
Electrical Engineering
Geosciences (includes terrain, water, and air)
Materials Science and Engineering
Mathematics
Mechanical Engineering
Naval Architecture and Ocean Engineering (includes undersea systems)
Oceanography (includes ocean acoustics, remote sensing, and marine meterology)
Physics (including optics)

SCHOLARSHIP BASICS—GATES CAMBRIDGE

GATES CAMBRIDGE

2016 civil engineering graduate Ryan DuChanois used his Gates Cambridge Scholarship to pursue an MPhil in engineering for sustainable development.

Gates Cambridge scholarships provide up to three years of funding for postgraduate study or research at Cambridge University.

Applications open in September 2021

Deadlines:
US Citizens - Wed., Oct 13

All other eligible applicants - either December 2021 or January 2022, depending on your course of study

SCHOLARSHIP BASICS—CHURCHILL

CHURCHILL

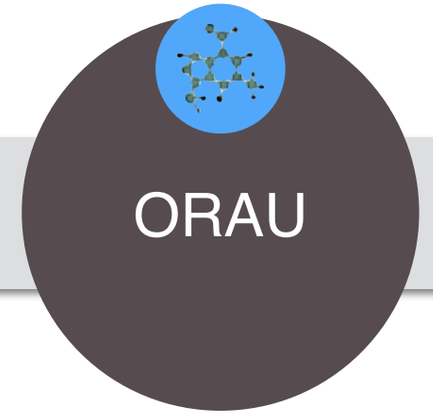
The Churchill Scholarship offers full funding for one year of postgraduate studies in the sciences at Cambridge University's Churchill College.

Deadline - November 1, 2021 (5pm eastern time)

The University of Arkansas is limited to two applicants per cycle.

If you intend to apply for both Gates Cambridge and Churchill, you ***must*** indicate Churchill College as your college of preference on your application to the University of Cambridge.

Oak Ridge Associated Universities

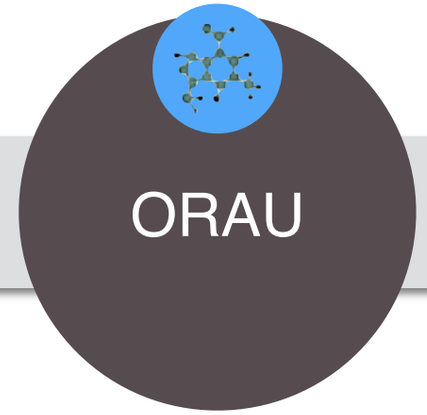


Founded in 1946 and partnered with Oak Ridge National Lab, ORAU is a consortium of more than 100 PhD-granting institutions.

ORAU provides a single resource hub for developing and administering over 9,000 various experience-based research opportunities.

Designed to “train the next generation of science and technology leaders,” ORAU serves a range of researchers, from undergraduates to current faculty.

Oak Ridge Associated Universities



ORAU offers internships, scholarships and fellowships, each of various tenures

Full catalogue of programing: http://www.orau.org

Oak Ridge Institute for Science & Education

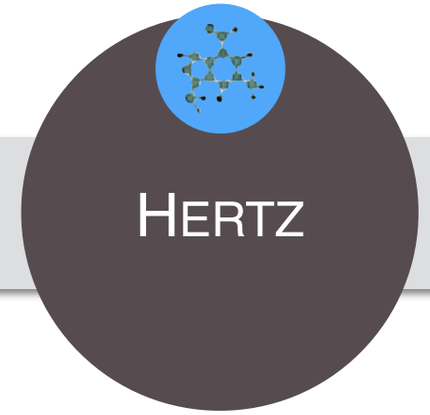
ORISE

The Oak Ridge Institute for Science and Education (ORISE) is a U.S. Department of Energy institute offering research and internship opportunities to STEM students.

ORISE offers opportunities for undergraduate, graduate, recent graduate, and postdoctoral students.

Learn more at orise.orau.gov

Hertz Foundation Graduate Fellowship



The Hertz Foundation Graduate Fellowship funds PhD study for students entering applied physical, biological, and engineering fields.

15-20 fellowships are awarded each year.

Seniors and first or second year graduate students are eligible to apply.

Must pursue graduate studies at a participating Hertz institution.

Applications are due October 29, 2021.

GRE scores are optional.

HERTZ FOUNDATION GRADUATE FELLOWSHIP

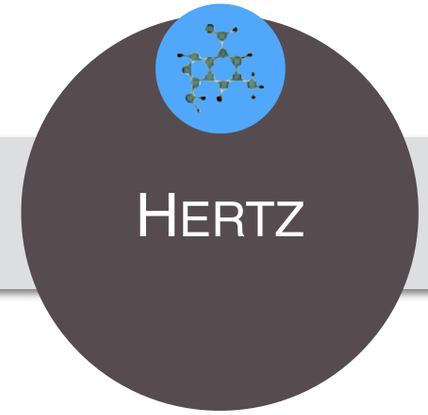
HERTZ

Hertz fellowships are awarded in one of two schemes:

Option 1: 5-year continuous Hertz funding
- $34,000/ 9-month personal stipend
- Full tuition equivalent
- Renewable up to 5 years

Option 2: 5 year coordinated Hertz funding
- $40,000/ 9-month personal stipend
- Full tuition equivalent
- Hertz funding period—2 years

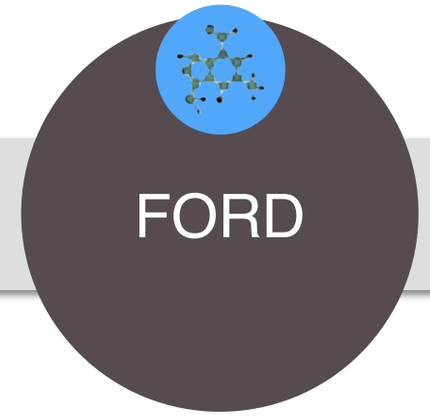
HERTZ FOUNDATION GRADUATE FELLOWSHIP



- Exceptional intelligence and creativity
- Excellent technical education
- Orientation and commitment to the applications of the physical sciences
- Extraordinary accomplishment in technical or related professional studies
- Features of temperament and character conducive to high attainment
- Appropriate moral and ethical values

Find more information at hertzfoundation.org

Ford Foundation Fellowships



The Ford Foundation funds PhD study for students in a variety of fields, including both STEM and the humanities

Offers support for students who are members of communities historically underrepresented among higher education professionals

The foundation offers a variety of types of support:

- Predoctoral fellowships
- Dissertation fellowships
- Postdoctoral fellowships

FORD FOUNDATION FELLOWSHIPS

The predoctoral fellowship funds approximately 60 scholars per year: $27,000 annual stipend/Renewable up to 3 years
Deadline: December 16, 2021

The dissertation fellowship funds approximately 30 scholars per year: $28,000 stipend/ 1 year
Deadline: December 9, 2021

The postdoctoral fellowship funds approximately 24 scholars per year: $50,000/ 1 year
Deadline: December 9, 2021

Learn more at sites.nationalacademies.org/pga/fordfellowships/index.htm

GEM Fellowships

GEM is a network of corporations, government labs, and top universities and research institutions that enables qualified students from underrepresented communities to pursue graduate education in applied science and engineering.

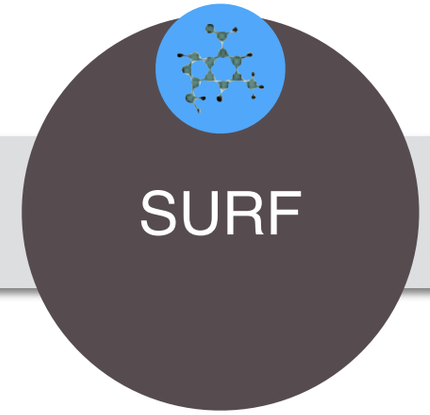
GEM Fellowships come in three designations:

- Full Fellowship (tuition, fees, living stipend, internship)
- Associate Fellowship (tuition, stipend)
- University Fellowship (tuition)

Principal focus is the provision of graduate fellowships at the MS and PhD levels coupled with paid summer internships.

Applications due November 15, 2021.

SCHOLARSHIP BASICS—SURF



The Student Undergraduate Research Fellowship program offers research funding to undergraduate students at Arkansas institutions of higher education.

Application deadline - October 15th, 2021

Eligibility:

- 3.25 GPA
- 30 hours completed
- Research mentor and current research project

PERSONAL STATEMENTS

The personal statement is:

- A picture
- An invitation
- An indication of your priorities and judgment
- An opportunity to indicate leadership or dedication to service
- A time to share your ability to deliver results, your strength of purpose, or your creativity

PERSONAL STATEMENTS

The personal statement is NOT:

- An academic paper with you as the subject
- A resume in narrative form
- A journal entry/or a time to confess
- A short story
- A dedication to your parents, your professors
- A plea for a scholarship
- An explanation of what you meant to do but did not do or did not do well

NSF Personal Statement

Tell your story; demonstrate your potential for STEM research:

- Experiences (professional and personal) that contributed to your motivation and preparation for pursuing a STEM career
- Previous research/industrial/professional experiences
  - What was the project, and what was your role?
  - How did you become involved? Where was it done?
  - Why was this project worth doing? What have you learned?
  - What was your contribution to the project?
  - How did your part of the project fit into the whole?
  - Any advanced coursework?
- Career aspirations and future goals
  - How have your experiences shaped your goals?

Clearly address NSF's Merit Review Criteria - Intellectual Merit and Broad Impacts - <u>under separate headings</u>

Opening Paragraphs

In looking back over three and a half years of college, I only regret that I have not been able to enroll in all the classes in which I was interested. When I entered college, I was overwhelmed by all the options open to me, but I thought four years would give me enough time to fit it all in. However, yesterday as I perused the catalog for spring semester classes, I realized that I will graduate in May without taking many of the other classes that I thought sounded interesting or fun. Although I feel frustrated at not being able to take everything, I do believe I have formed a solid foundation for myself in my two chosen majors, Math and Physics.

Opening Paragraphs

In looking back over three and a half years of college, I only **regret** that I have **not** been able to enroll in all the classes **in which** I was interested. When I entered college, I was **overwhelmed** by all the options open to me, but I thought four years would give me enough time to fit it all in. **However**, yesterday as I perused the catalog for spring semester classes, I realized that I will graduate in May **without** taking many of the other classes that I thought sounded **interesting or fun**. Although I feel **frustrated** at **not** being able to take everything, I do believe I have formed a solid foundation for myself in my two chosen majors, **M**ath and **P**hysics.

Opening Paragraphs

My interest in efficient water infrastructure has guided the story of my college career. As a first-semester freshman, I listened to a faculty member in my department discuss the importance and implication of civil engineering on a society. He addressed how we ensure safety, provide for the needs of the people, and are at heart science lovers caring for people in the most tangible way. This discussion helped me realize that I could use civil engineering as a catalyst for service. The faculty member's presentation ended with a picture of a woman leaning down and drinking from a well. The directness and simplicity of the image instilled in me a new thought. . . .

Opening Paragraphs

I began to suspect that the solutions to the world's needs were far more open ended than I had first thought. This understanding perpetuated my interest in efficient technology and innovation to see the world's needs, particularly The National Academy of Engineering's "Grand Challenge" of providing universal access to clean water. Since that influential presentation, I have evolved this interest through experiences that both directly relate to universal water access as well as outreach to the general needs of society in a sustainable manner.

Opening Paragraphs

Personal Statements

Being an immigrant from Germany, I battled with the initial hardship of mastering English, learning the American school system, and finding scholarships, grants, and research programs that do not have a citizenship requirement. Nonetheless, I maintained my vision that I will make a difference in people's lives. As a son of a physicist and a nephew of a thirty-year Green peace activist, I developed a passion for learning the mechanics of the world from an early age. I combined my desire for making an impact and my enthusiasm for science by attending the University of Arkansas to pursue a career in improving the material properties of photovoltaic devices. Solar panels have always fascinated me because they are self-contained and literally last a lifetime, making them excellent candidates to be used anywhere around the world.

Opening Paragraphs

Personal Statements

The wind whipped around me, taking any body heat not already stolen by the sub-zero temperature. On a December night during my sophomore year, I was on the roof of Kimpel Hall, our tallest campus building, setting up the University's ten-inch Meade telescope to make photometric observations of eclipsing binary stars. I thought back to the instructions Dr. Lacy had given me that September, when I began the independent observation class. The rooftop seemed so pleasant then . . . .However, I now despised every screw and bolt I had to tighten into place. It must have taken twice the usual ninety minutes to set up the telescope—fortunately the long winter nights game me more viewing time. I would take out the freezing wrench, pull off my gloves, tighten the bolt, blow warm air on my hands, then stick them back into the gloves. Every 10 minutes or so I would run down the flight of stairs back into the heated building. At that point I lost any delusion of grandeur about the romance of astronomy. This, I found out, was what separated stargazers from astronomers.

Advice & Application Review

Suzanne McCray
Director

smccray@uark.edu

Jonathan Langley
Associate Director

jtlangl@uark.edu

Emily Wright
Associate Director

evoight@uark.edu