

MIDSTATES CONSORTIUM
for MATH AND SCIENCE
Symposium



THE UNIVERSITY OF
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How to continue your research training:
attracting funding and considering whether
graduate school is right for you

Biological Sciences Division
College Center for Research & Fellowships
ccrf.uchicago.edu

Dr. Nichole Fazio, Director of CCRF
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Presentation and panel

- Introduction to sampling of national funding opportunities that support your research
- Opportunities for graduate school funding and other postgraduate experiences that highly value research experience
- Graduate student panel: deciding if graduate school is right for you and navigating the graduate school application process



Standard dossier for national fellowships, competitive post-graduate research opportunities, & graduate school

- Application with bio-data, official transcripts, short statements about career objectives
- Curriculum Vitae (CV) that focuses on your academic and research accomplishments
- Research Proposal/Statement of Grant Purpose
- Personal statement or Motivation Statement
- Case for the selected program(s)
- Exceptional letters of recommendation (average is 3; can be as many as 8)
- In person, panel interviews in some cases



Sample Deadlines

- **Goldwater** Campus Endorsement deadlines are often in November: (2nd and 3rd year)

Application due in your 4th year/year before you begin graduate school:

- **Gates-Cambridge:** Mid-October each year
- **NSF GRFP:** October (dates vary based on discipline)
- **Churchill** campus endorsement deadlines: October each year
- **Knight-Hennessy:** Late September; Stanford early deadline (November)

Application processes that begin SPR 3rd year/4th year/alum:

- **Fulbright:** varies, but many institutions begin processes in the SPR or SU leading up to early October deadline
- **UK open awards requiring endorsement** (Rhodes, Marshall, Mitchell): varies, but many institutions begin processes in the SPR or SU leading up to early October deadline



A Selection of Opportunities



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Supports Undergraduate Research/STEM

GOLDWATER SCHOLARSHIP (U.S.)

- The purpose of the Goldwater is to provide a continuing source of highly qualified scientists, mathematicians, and engineers by awarding scholarships to college students who intend to pursue careers in these fields. Students must show a significant record of involvement in undergraduate research leading to advance studies in their field of choice. *Application made as undergraduate sophomore or junior for support while an undergraduate.* \$7500 award. More information: <http://www.act.org/goldwater/index.html>

ASTRONAUT SCHOLARSHIP (U.S.)

- The Astronaut Scholarship Foundation was created to ensure that the United States would maintain its leadership in science and technology by supporting some of the very best science and engineering college students. Through the garnered support of former astronauts, industry leaders, educational institutions, and patrons, the Astronaut Scholarship Foundation awards merit-based scholarships to the best and brightest university students who excel in science, technology, engineering and mathematics (STEM). \$10,000 award. *Application made as undergraduate.* More information available on the program's website: <https://astronautscholarship.org/>



Funded Summer Research Programs

NATIONAL SCIENCE FOUNDATION REU PROGRAMS(U.S.)

- Provides funded summer research experiences in STEM and some social science fields across the US. Searchable opportunities database here: https://www.nsf.gov/crssprgm/reu/reu_search.jsp

AMGEN SCHOLARS PROGRAM (U.S./International)

- The Amgen Scholars U.S. Program provides hundreds of selected undergraduate students with the opportunity to engage in a hands-on research experience at some of the nation's leading educational institutions. Amgen Scholars will have the opportunity to take part in important university research projects, gain hands-on lab experience and contribute to the advancement of science; interact with and receive guidance from faculty mentors, including some of the nation's top academic scientists; and attend scientific seminars, workshops and other networking events. More information here: <http://amgenscholars.com/>

DAAD RISE (Germany)

- Provided funded summer research experiences in science and engineering in Germany. More information available here: <http://www.act.org/goldwater/index.html>



Graduate School

NATIONAL SCIENCE FOUNDATION GRADUATE RESEARCH FELLOWSHIPS (US) :

- The **National Science Foundation's Graduate Research Fellowship Program (GRFP)** helps ensure the vitality of the human resource base of science and engineering in the United States and reinforces its diversity. The program recognizes and supports outstanding graduate students in NSF-supported science, technology, engineering, and mathematics disciplines who are pursuing research-based master's and doctoral degrees at accredited US institutions. The NSF welcomes applications from all qualified students and strongly encourages under-represented populations, including women, under-represented racial and ethnic minorities, and persons with disabilities, to apply for this fellowship. *Application made as undergraduate senior support of graduate studies or as a first-year graduate student.* More information available on the program's website: <http://www.nsfgrfp.org/>

KNIGHT-HENNESSY SCHOLARS PROGRAM TO STANFORD

- The Knight-Hennessy Scholars Program is designed to build a multidisciplinary community of Stanford graduate students dedicated to finding creative solutions to the world's greatest challenges. The Knight-Hennessy Scholars program will identify a group of 100 high-achieving students from around the world with demonstrated leadership and civic commitment to receive full funding to pursue a wide-ranging graduate education at Stanford. Website: <https://knight-hennessy.stanford.edu/>





Oxbridge (MD/PhD)

NIH Oxford Cambridge Fellows Program (US/UK)

- An accelerated, individualized doctoral training program for outstanding science students committed to biomedical research careers. The program is based on the British system in which student perform doctoral research without required formal courses other than those students choose to take in relationship to their own research interests. Students are typically on an MD/PhD track and have already developed a passion for science through engagement in summer, job related, or undergraduate research programs. Complete application materials here: <http://oxcam.gpp.nih.gov/index.asp>

PAUL & DAISY SOROS (U.S.)

- The **Soros Fellowship for New Americans** supports up to two years of graduate or professional school study in the United States. The award covers one-half tuition plus a maintenance grant of \$20,000. Thirty awards are granted annually. More information: <https://www.pdsoros.org/>



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Open-Field (research experience expected)

CHURCHILL (Churchill College, Cambridge):

- The **Churchill Scholarship** funds a year of post-graduate study at Cambridge University for students in mathematics and the sciences. It is tenable at Churchill College, Cambridge. <http://www.winstonchurchillfoundation.org/>

GATES-CAMBRIDGE (Cambridge)

- The **Gates-Cambridge Scholarship** was established in 2000 and funds postgraduate degrees in all disciplines. While at Cambridge, scholars pursue full range of subjects available at the University and are spread through its departments and Colleges. In addition to academic achievement; Gates Scholars are expected to develop as global leaders. <http://www.gatescambridge.org/>



Open-Field (research experience expected)

RHODES SCHOLARSHIP (Oxford)

- **Rhodes Scholars** are chosen not only for their outstanding scholarly achievements, but for their character, commitment to others and to the common good, and for their potential for leadership in whatever domains their careers may lead. The Rhodes Trust, a British charity established to honor the will and bequest of Cecil J. Rhodes, provides full financial support for Rhodes Scholars to pursue a degree or degrees at the University of Oxford. <http://www.rhodesscholar.org>

BRITISH MARSHALL (UK)

- **Marshall Scholarships** support US citizens of high ability to study for a degree in the United Kingdom. Up to forty Scholars are selected each year to study at graduate level at an UK institution in any field of study, fully funded for two years. As future leaders, with a lasting understanding of British society, Marshall Scholars strengthen the enduring relationship between the British and American peoples, their governments and their institutions. <http://www.marshallscholarship.org/>



*Open-Field (STEM encouraged;
(research experience expected)*

FULBRIGHT (World-wide)

- The **Fulbright US Student Program's** Full Grant option affords one-year of funded research/study of the students design but with affiliation at universities, research institutes, etc. Applicants design their own projects in concert with advisers at foreign universities or other institutes of higher education or research. Website: <http://us.fulbrightonline.org/>

DAAD (GERMANY)

- DAAD Study Scholarships provide an opportunity to conduct research or study abroad in any field for one year. Grantees conduct independent research or complete graduate degree programs.
Website: <https://www.daad.org/en/>



Is graduate school right for you?

Panel

Chris Craddock, Molecular Genetics & Cell Biology

Jen Ding, Neurobiology

Nicole Ladd, Biochemistry & Molecular Biochemistry

Katie Barkley, Biosciences

Kevin Dooley, Microbiology



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Questions?

Other resources:

<http://ccrf.uchicago.edu/undergraduate-research-uchicago/all-stem>
<http://ccrf.uchicago.edu/undergraduate-research-uchicago/research-databases>

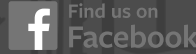
Searchable open source national fellowship databases:

<http://ccrf.uchicago.edu/search>
<http://scholarships.berkeley.edu/scholarships/deadline>



PURPOSE
PASSION
PATH

HM 5th
West
Tower



College Center for RESEARCH & FELLOWSHIPS

UNDERGRADUATE RESEARCH
NATIONALLY COMPETITIVE FELLOWSHIPS,
GRANTS & POSTGRADUATE OPPORTUNITIES

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CURIOSITY
INQUIRY
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GRD101: Preparing for the Graduate School Application Process

Dr. Nichole Fazio, Director, CCRF

CCRF: Online at

<https://ccrf.uchicago.edu>

By email: nfazio@uchicago.edu

By phone: 773-702-7157

Office Location: HM 502 (West Tower)

Graduate school is a serious commitment.

- Consider your options carefully and give yourself time to reflect.
 - 1) Key questions
 - 2) How/where to begin the search
 - 3) Timetables and deadlines
 - 4) What is required for an application
 - 5) Letters of recommendation
 - 6) Purpose statement
 - 7) Resources



Questions to consider:

- Will a graduate degree enhance or narrow my employment prospects?
- Do I need to attend right away?
- Does my past academic record suggest potential success for graduate study?
- Is a Master's degree enough, or will I need to pursue a Doctorate?
- How will I choose where to go?
- How will I afford it?



Where to begin in searching for and evaluating programs:

- Your own faculty, PIs and research mentors, post-docs and graduate students, DUS, in your discipline/department.
- UChicago alum.
- Your bibliographies (*where* are the scholars you are reading and using for your own research enterprise).
- Online CVs/academic resumes of the professionals and academics you admire (*where* did they pursue graduate study and did they seek a masters' and/or PhD?).
- Institutional websites – consider reaching out to the department's director of graduate studies, who can often also connect you with current graduate students.
- Databases and resources provided through the national associations for your discipline (American Historical Association has a searchable database).
- Graduate school online portals, ranking sites and Google (due-diligence required).



Factors to consider when evaluating programs:

- Program curriculum
- Faculty
- Research or specialty training support
- Program reputation
- Cost
- Campus facilities and graduate student life
- Career services
- Geographic location



Time Table: Third Year

- Identify appropriate schools for your interests and potential faculty advisors. Develop and prioritize a list of programs to apply to.
- Take admissions test(s) if ready. Otherwise begin preparation process.
- Request letters of recommendation.
- Begin writing application statement/essay.
- Develop alternative plans if you don't get into your top choice program (e.g. Fulbright, research assistantship, one-year master's degree, etc.)
- Identify potential writing samples, portfolio projects or other examples of your work and revise/edit appropriately.



Time Table: Fourth Year

(Summer before / Fall / Wntr)

- Have application statement/essay critiqued by a faculty.
- Select appropriate writing sample.
- Complete financial aid forms and apply for relevant scholarships. National scholarship application deadlines often happen *before* graduate school deadlines.
- Visit top choices, if possible.
- Take admissions test(s) and request delivery of scores *before* deadline.
- Submit completed applications.
- Ensure transcripts and letters of recommendation are submitted to programs before deadlines.



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General Deadlines

- Application portals will open in early to mid-summer of the year you will apply.
- National scholarships/fellowships for graduate funding (domestic/international) deadlines mid-September and mid-November, with earlier campus deadlines.
- Standardized tests should be taken far enough in advance to allow you to submit those scores *before* your graduate school deadline.
- Deadlines in the US fall between late November and early February
- Invitations to interview and admission decisions often occur in March/April with an expectation of commitment about a month later; international programs have modified versions of the above.



What is needed for an application:

- *Time* to evaluate the selected programs
- Understanding of the time-line (deadlines, testing dates, interviews)
- Admission tests (GRE, LSATS et al.)
- Academic Curriculum Vitae (CV)
 - (1) Education (University only), (2) Honors/Awards, (3) Teaching/Research/Publication/Presentations, (4) Campus/Community Leadership and Service, (5) Relevant Professional Experience, (6) other (but specific skills) – international engagement, language, computer skills particular to your area of study (STRATA, R, etc. – *do not* list Microsoft suite, social media, publishing program experience).
- Statement of Intent, also called a Purpose Statement*
 - Be very mindful of your own program's expectations with essays; some will require a type of personal statement but this generally takes the form of an intellectual biography/personal purpose statement.
- A Research Proposal (usually only for PhD track programs)
- Letters of Recommendation (2-4); most if not all, should come from academic voices
- Official transcripts
- Writing sample
- Interviews
- Application fee/waiver



Letters of Recommendation

- 2-4 letters required; confirm with each institution.
- Request letters from people who know you well, not who are well-known. They should be able to write *in-depth* letters about you and your potential for success in graduate studies.
- Majority should be ‘academic’ voices – faculty (any level) or research mentors. No graduate students, advisors, peers.
- Etiquette: ask at least 30-days in advance and provide a program description, current CV, and detailed instructions for submission.



Statement of Purpose

- State your purpose in graduate study.
- Speak to the area of study in which you wish to specialize.
- Address intended future use of your graduate study: clear vocational goals.
- Your special preparation and fitness for your study in the field.
- Any special conditions that are not revealed elsewhere in the application (e.g. 35 hour/week workload outside of school.
- Address why them?



What are graduate programs looking for in candidates?

There's no single, simple answer to this question. Some factors that enter into the admission considerations include:

- **Intellectual flexibility:** Take care not to be too wedded to a specific question or approach - as teachers, they want to know you are still open to learning more.
- **Are you a good fit?** Remember that selection committees are not just evaluating your potential. They also want to be sure that they have the intellectual resources to help you succeed.
- **Will your chosen advisor(s) be available?** Your potential mentor may be overcommitted supervising other dissertations, planning an extended sabbatical, or preparing to retire.



Questions?

To set up an advising appointment use our “Contact Us” page:

<http://ccrf.uchicago.edu/contact-us>

Or book through Appointment Manager



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Recommendation Letters 101

The College Center for Research & Fellowships
(CCRF) & the Center for College Student
Success (CCSS)

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CCRF Staff

Nichole Fazio

Director, College Center for Research & Fellowships

Nicholas Morris

Assistant Director, College Center for Research & Fellowships

Opportunities that require good letters of recommendation:

- Applications for campus awards, honors, scholarships
- Applications for Study Abroad programs and funding
- Summer research experiences (eg NSF REUs)
- Nationally competitive scholarships, fellowships, and grants
- Nationally competitive and highly selective internship programs (eg White House Internship program, The Presidential Fellows, Congress Bundestag – CYBX program)
- Graduate and Professional School
- *Note: traditional employment and internships require names of references, not letters.*

Why good letters of recommendation are critical to your success:

- They indicate your potential for future success, by referencing your past success.
- They affirm that you have made important connections with faculty in your chosen discipline and/or professionals in your field of interest.
- They affirm particularities about you and your experience (eg research skills, community service, leadership, academic performance, overcoming challenges).
- They provide key details that your own written material will not.

Common myths:

- All professors write good letters.
- My professor knows me well enough to write a good letter.
- My professor knows how important this is for my future.
- One mediocre letter won't impact my chances for success.

Choose wisely:

- Choose your letter-writers carefully and based on how well they know you, *not* on how well they are known.
- Pick the best people, not the most convenient.

Help ease their burden:

- Make sure they know everything that they should address.
- Provide them with comprehensive information about you and the opportunity.

Manage the process:

- Provide them with deadlines, submission guidelines.

Choose wisely:

- *The usual suspects:* faculty in your discipline, the thesis or research mentor/principle investigator, other academics who can speak to your intellectual preparedness.
 - **Faculty** = teaching faculty (lecturers, assistant, associate, tenure track); research faculty; faculty at other institutions.
 - **Faculty** ≠ graduate students, preceptors, post-docs, academic advisors, career advisors
 - *Ask yourself:* Would it look strange if someone *didn't* write for you?
- *The unusual suspects:* Former employers, internship coordinators, a leader at a place where you volunteer, academic advisors
 - *Ask yourself:* Who, among those you know well, can best attest to the major points of the specific opportunity?

They should know you:

- Choose people who know you well and, ideally, in more than one way.
- Choose people who like you and with whom you get along.
- Choose people who can confirm, evaluate and contextualize your efforts.
- Do not choose people simply because they are well-known.
- Letters should be written/submitted confidentially; DO NOT agree to write a draft of the letter for their review.

Making the initial 'ask': 2+ months in advance; longer if before summer break

- Word it carefully and consider how/when you make the ask.
- CCRF prefers an in-person ask but if you email consider:

'I am writing to ask you a quick question: I am applying for 'ABC' opportunity this year (deadline XYZ) and I would like to request a letter of recommendation. Would you be willing and able to write a **strong** letter in support of my candidacy?'

Help ease their burden: *at least 4 weeks in advance follow-up with an in-person meeting.*

- Provide them with relevant details about the opportunity, with links.
- Provide drafts of your application materials – particularly your essays – a CV (academic resume), unofficial transcripts.
- If relevant, provide them with a list of specific things they should address (service record, research, leadership).
- The quality of your letter will depend on your history with the writer and the quality of the materials you provide. *This is why you must plan ahead.*

Manage the process:

- Provide clear instructions on how they will submit – online, pdf, by email, post.
- Tell them who should the letter be addressed to – give them the correct salutation, name of scholarship, and description of the audience.
- Give them a false-deadline of one week before the actual deadline. In many (most) cases, there is no grace period for a late letter. A missing letter will result in your ineligibility.



Take responsibility:

- Track the progress of their letters through to the end of the process (deadline day).
- Send them gentle reminders two-weeks out from the deadline.
- *Use the phone* if you have not received any word from them via email that things are in order (especially if it is the week of the deadline).
- Say ‘thank you’ (a hand-written note is especially thoughtful and appropriate; an email will do).
- Follow-up with them about the results.



Remember:

- A good letter can be recycled for multiple opportunities.
- Don't assume this is a burden to them (it is part of their job); faculty generally enjoy supporting the students they believe will go on to be successful.
- Don't assume that they know you comprehensively; ease their burden.
- Afford them the chance to say 'no' by using the word 'good' in your initial request. They may simply not have the time or feel they know you well enough. Let them decide.
- Maintain your relationships; an out-of-the-blue request from someone they haven't heard from in two years will likely compel a 'no'.



Connect with Us!

Join the Listserv: <https://ccrf.uchicago.edu>

Schedule an individual advising appointment:
<http://ccrf.uchicago.edu/contact-us>

Offices located in Harper Memorial Library

5th Floor, West Tower

Offices 502 & 503

