Grants Basics – Federal Funding for Grad Students and Postdocs

Tuesday, July 10th, 1:00pm
Holden FLTC

Outline

- General overview
- NIH Structure and Fellowships
- NSF Fellowships
- Timeline for writing a fellowship
- Tips on how to write
- Available resources

Quick Grant Facts

Types of Federal Funding:

- NIH Training Grants: T32
- Individual NIH Fellowships: F31, F30, F32, F99/K00
- NIH Career Development Awards: K99/R00, K01
- Individual NSF Fellowships
- Other federal agencies: DOD, DOE, USDA, etc.

Most common is an individual fellowship that pays a stipend

Career development and fellowship grants provide <u>you</u>:

1. Money for living

2. Money for science

3. Money for development: Tuition (PreDocs & PostDocs)

4. A pathway to independence

5. Marketability for getting the next position

Understanding the NIH

Our mission:
- to seek fundamental knowledge about the nature and behavior of living systems and
- the application of that knowledge to enhance health, lengthen life, and reduce illness and disability.

27 Institutes and Centers (IC):
Each have different:
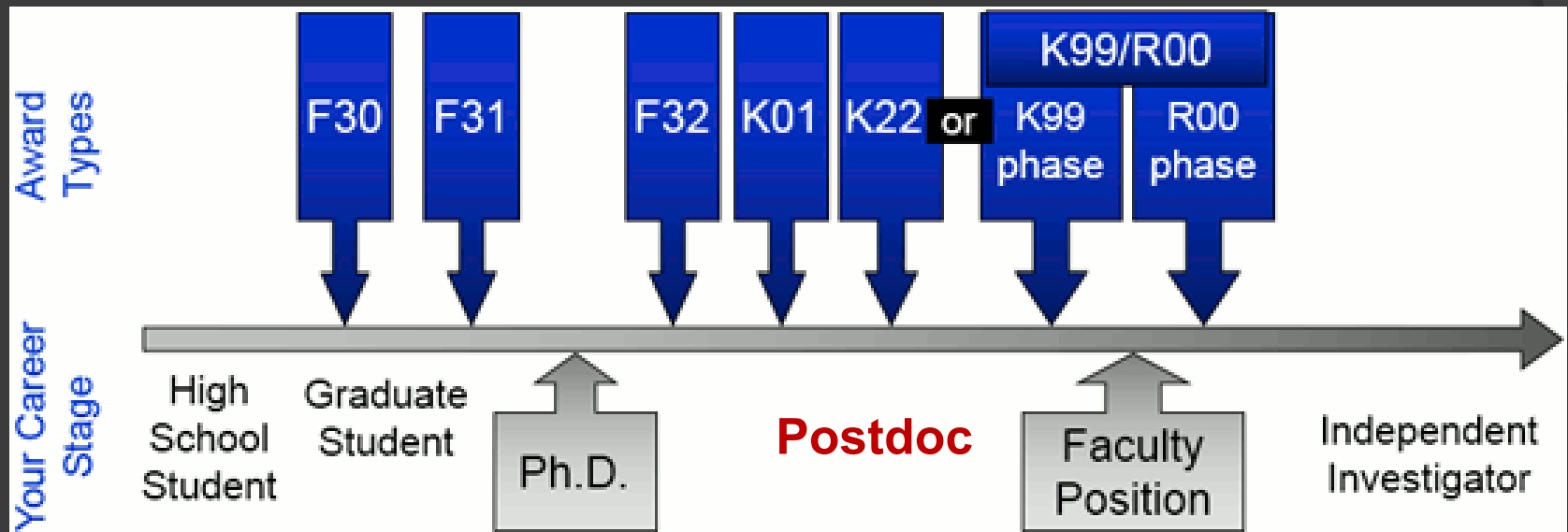- Missions and priorities
- Budgets
- Funding Strategies

Funding Opportunities (FOA):
- Grants.gov
- NIH Guide for Grants and Contracts
- Issued by each IC, often multiple ICs participate

Types of FOA:
- PA – Program Announcement
- Parent Announcement – type of program announcement, usually many IC, e.g. F32, K99
- RFA - Request for Application

NIH Research Funding Support by Career Stage

F99 / K00 is a pilot program

NIH Institutional Training Grants – T32

NIH National Research Service Awards (NRSA) Institutional Training Grants – T32

Approx. 42 at WashU (~150 Predoc and Postdoc slots):

crtc.wustl.edu/otg/washington-university-training-grants

Restrictions:

- US Citizen or Green Card Holder
- Time limits: 3 years as a Postdoc on NIH fellowship, 5 years as a Predoc
- Your PI must be affiliated with the T32
- Your research needs to fall within the scope
- Application process

NIH Predoctoral Fellowships

NIH NRSA Individual Predoc Fellowships

F31- PhD	The purpose of this NRSA F31 award is to enable promising predoctoral students to obtain individualized, mentored research training from outstanding faculty sponsors while conducting dissertation research in scientific health-related fields relevant to the missions of the participating NIH ICs... **grants.nih.gov/grants/guide/pa-files/PA-18-671.html**
F31 – PhD Diversity	The purpose of this NRSA F31 is to Promote Diversity in Health-Related Research award is to enhance the diversity of the health-related research workforce by supporting the research training of predoctoral students from population groups that have been shown to be underrepresented in the biomedical, behavioral, or clinical research workforce, including underrepresented racial and ethnic groups and those with disabilities. **grants.nih.gov/grants/guide/pa-files/PA-18-666.html**
F30 – MD/PhD	The purpose of the Kirschstein-NRSA, dual-doctoral degree, predoctoral fellowship (F30) is to enhance the integrated research and clinical training of promising predoctoral students, who are matriculated in a combined MD/PhD or other dual-doctoral degree training program (e.g. DO/PhD, DDS/PhD, AuD/PhD, DVM/PhD), and who intend careers as physician/clinician-scientists... **https://grants.nih.gov/grants/guide/pa-files/PA-16-305.html**

Eligibility:

- US Citizen or Green Card Holder
- Can only hold an NIH Predoc fellowship for 5 years total (including TG time)
- Three annual deadlines to apply: April, August, December 8
- F31 to Promote Diversity: NOT-OD-18-129

NIH Predoctoral Transition Fellowship

NINDS Blueprint Diversity Specialized Predoctoral to Postdoctoral Advancement in Neuroscience (D-SPAN) Award F99/K00

grants.nih.gov/grants/guide/rfa-files/RFA-NS-18-007.html

NCI cancer.gov/grants-training/training/funding/f99

Provides: Up to 2 years of dissertation research, plus up to 4 years of mentored postdoctoral research career development support.

Eligibility and Deadlines differ, check details online!

NIH Postdoctoral Fellowships

NIH NRSA Individual Postdoc Fellowships – F32

grants.nih.gov/grants/guide/pa-files/PA-18-670.html

The purpose of the Kirschstein-NRSA postdoctoral fellowship is to enhance the research training of highly promising postdoctoral candidates who have the potential to become productive, independent investigators in scientific health-related research fields relevant to the missions of the participating NIH ICs. **Applications are expected to incorporate exceptional mentorship.**

Eligibility:

- US Citizen or Green Card Holder
- Can only hold a Postdoc fellowship from NIH for 3 years total (including TG time)
- Three annual deadlines to apply: April, August, December 8
- Need at least 3 letters of recommendation

NRSA Payback for T32 and F32 NRSA Fellowships:
www.nhlbi.nih.gov/research/funding/research-support/t32/faqs/payback

NINDS Postdoctoral Fellowship

NINDS NRSA Individual Postdoc Fellowships – F32

grants.nih.gov/grants/guide/pa-files/PAR-16-458.html

The purpose of this award is to support outstanding scientific training of highly promising postdoctoral candidates with outstanding mentors. Candidates are eligible to apply for support from this program from ~12 months prior to the start of the proposed postdoctoral position to within 12 months after starting in postdoctoral position…

Eligibility:

- US Citizen or Green Card Holder
- Can only hold a Postdoc fellowship from NIH for 3 years total (including TG time)
- Deadlines, see NOT-NS-18-061
- Difficult to resubmit if you don't start early
- Need at least 3 letters of recommendation

NIH Career Development Awards

NIH Pathway to Independence K99/R00

grants.nih.gov/grants/guide/pa-files/PA-18-397.html – Clinical Trial
grants.nih.gov/grants/guide/pa-files/PA-18-398.html – not Clinical Trial

The purpose of the NIH Pathway to Independence Award (K99/R00) program is to increase and maintain a strong cohort of new and talented, NIH-supported, independent investigators. This program is designed to facilitate a timely transition of outstanding postdoctoral researchers with a research and/or clinical doctorate degree from mentored, postdoctoral research positions to independent, tenure-track or equivalent faculty positions. The program will provide independent NIH research support during this transition in order to help awardees to launch competitive, independent research careers.

Provides: Up to 2 years of mentored postdoctoral training, plus up to 3 years of support as a tenure-track assistant professor.

Eligibility:

- No citizenship requirements
- Three annual deadlines to apply: February, June, October 12
- Resubmission/Revision deadlines: March, July, November 12

NIH Director's Early Independence Award Program

Early Independence Award DP5 – RFA-RM-18-010

The program supports exceptional investigators who wish to pursue independent research directly after completion of their terminal doctoral/research degree or clinical residency**, thereby forgoing the traditional post-doctoral training period and accelerating their entry into an independent research career**.

Due Dates: Sept 2018 (Letter of Intent due 1 month before)
Eligibility: No Citizenship Requirement; 12 months before or after terminal degree; Two applicants per institution (internal university nomination process)
Duration: 5 years
Requirements: 3-5 letters of reference, institutional support

Two phases of review

commonfund.nih.gov/earlyindependence/index

Some NIH Policies

**Always check "Related Notices" for any changes to the grant mechanism or NIH policy changes that will affect your application.

- NRSA Stipend Levels grants.nih.gov/grants/guide/notice-files/NOT-OD-18-175.html

- Ethics Requirements:
    - Responsible Conduct of Research (RCR)
    - NEW Rigor and Reproducibility → also new requirements for grant submission nih.gov/research-training/rigor-reproducibility
    - OVCR runs Ethics seminars

- BioSketch Format update (Contributions to Science section)

- Limits on Post-submission material grants.nih.gov/grants/guide/notice-files/NOT-OD-17-035.html

- Parental Leave Policy for NRSA Fellows grants.nih.gov/grants/guide/notice-files/NOT-OD-18-154.html

- Full-time Training Guidance grants.nih.gov/grants/guide/notice-files/NOT-OD-17-095.html

- How to Apply Guides grants.nih.gov/grants/how-to-apply-application-guide.html

NSF Graduate Research Fellowship Program

NSF GRFP nsfgrfp.org

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 United States institutions.

Three-year stipend of $34,000

Eligibility:
- US Citizen or Green Card Holder
- Can only apply once during grad training (1st or 2nd year)

Application Information:
- Research Plan
- Personal, Relevant Background, and Future Goals Statement
- Reference Letters
- Academic Transcripts

Deadlines: October 2018 (deadline varies by field)

NSF Postdoctoral Fellowships

nsf.gov/funding/education.jsp?fund_type=3

Postdoctoral Research Fellowships in Biology (PRFB)

"The fellowships **encourage independence at an early stage of the research career** to permit Fellows to pursue their research and training goals in the most appropriate research locations regardless of the availability of funding for the Fellows at that site."

Applications address questions that fall into certain areas, read the solicitation and talk to the program directors!

Stipend allowance is $54,000 plus $15,000 for research and training allowance.

Eligibility:

- US Citizen or Green Card Holder
- Only 6-12 months of postdoc training at time of application

Deadline: November 6, 2018

nsf.gov/publications/pub_summ.jsp?ods_key=nsf18086
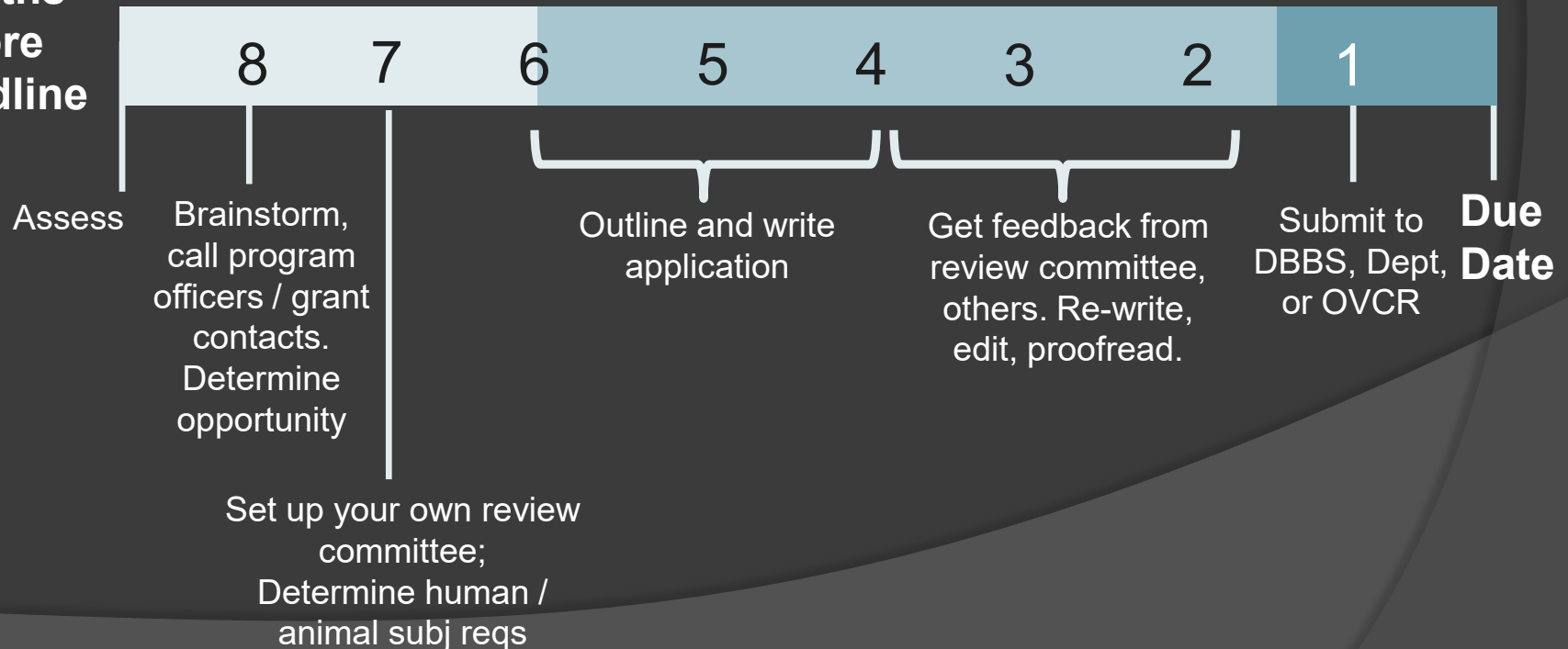
Other Federal Postdoctoral Funds

- USDA – Agriculture and Food Research Initiative (AFRI)
  - nifa.usda.gov/program/afri-education-workforce-development
  - Pre and Postdoctoral Grants
  - Less than 3 years of postdoc experience

- Department of Defense (DOD/CdMRP)
  - cdmrp.army.mil/funding/prgdefault
  - Usually need to have less than 4 years of postdoc experience
  - Only certain areas of research have postdoc grants

Grant Preparation

When to start?

- Writing, assembling package and submitting takes at least one month
- Pay attention to eligibility and time in training, 5 year postdoc term limit
- Read announcements carefully as these change
- Remember – For NIH F and K awards, the review process takes 9 months

Months before deadline

8	7	6	5	4	3	2	1

Assess

Brainstorm, call program officers / grant contacts. Determine opportunity

Set up your own review committee; Determine human / animal subj reqs

Outline and write application

Get feedback from review committee, others. Re-write, edit, proofread.

Submit to DBBS, Dept, or OVCR

Due Date

Grant Preparation

What is required?
- data, good idea, research plan worth exploring
- Mentoring plan with your PI
- Letters of recommendation
- Right funding source
- Navigating the application process

How to be successful?
- Choosing the right source
- Addressing a BIG question – for postdoc funding
- Impact of project (incremental is risky)
- Good mentor is invaluable

Find & Understand NIH Funding Opportunity Announcements (FOA)

- NIH posts all funding opportunity announcements (FOAs) in:
  - Grants.gov
  - NIH Guide for Grants and Contracts

- Take a tour of an annotated FOA for tips and key information
  - http://grants.nih.gov/grants/Annotated_FOA.pdf
  - Section IV. Application and Submission Information includes announcement-specific instructions that may differ from the application guide instructions

http://grants.nih.gov/grants/how-to-apply-application-guide/prepare-to-apply-and-register/find-and-understand-foas.htm

Parts of an NIH Application

- Project Summary/Abstract
- Project Narrative
- Applicant Background & Goals for fellowship/career development training
- Specific Aims
- Research Strategy
- Responsible Conduct of Research training
- Biographical Sketch
- Institutional Environment & Commitment to Training
- Letters of Support
- Budget
- For K Awards Only: Mentoring Plan & Mentor Statement(s)

https://grants.nih.gov/grants/how-to-apply-application-guide/format-and-write/page-limits.htm#fell

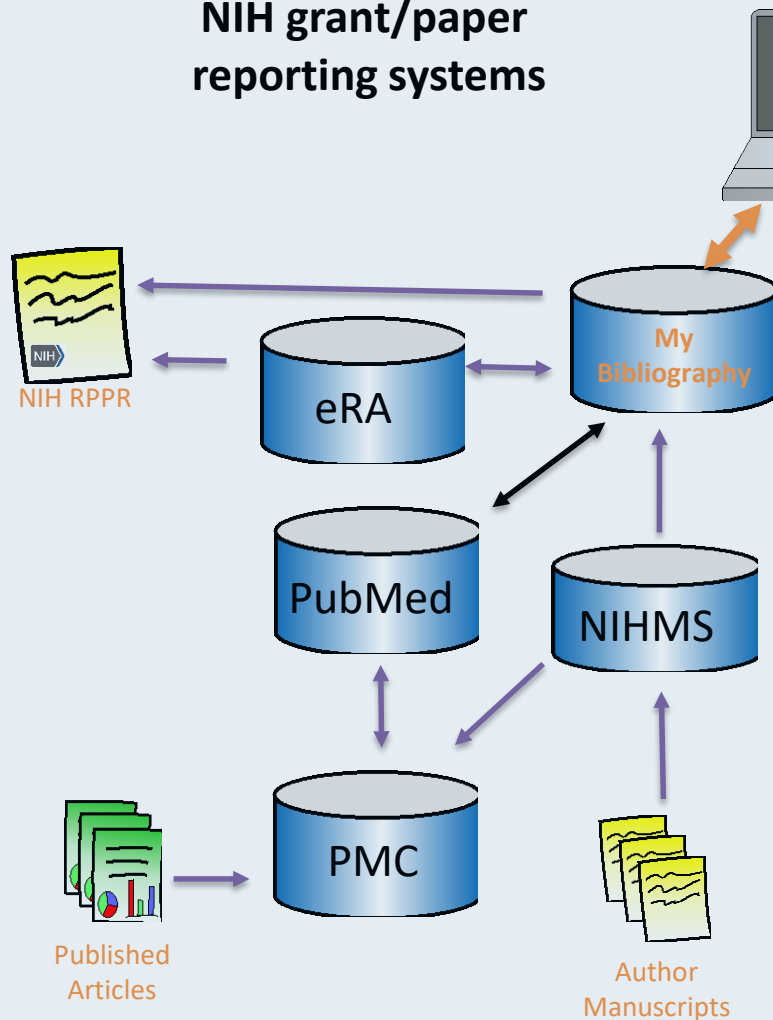# NIH Biosketch

Allows applicants to:

- describe the magnitude and significance of their scientific contributions (including publications)

- provide more detailed information about their research experience in the context of the proposed project

  - A. Personal Statement

  - B. Positions and Honors

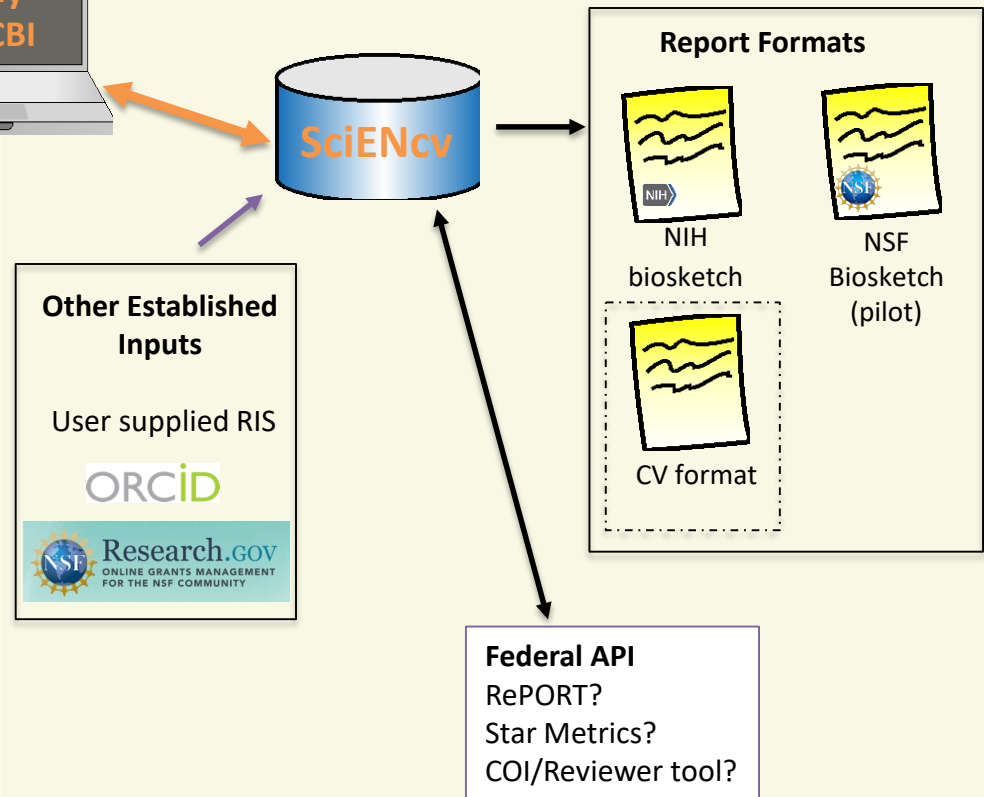 - C. Contributions to Science

  - D. Scholastic Performance

http://grants.nih.gov/grants/guide/notice-files/NOT-OD-15-032.html

SciENcv = Science Experts Network Curriculum Vitae
Leveraging existing data to support applications, reporting and collaboration

Basic structure for research grants and all fellowships:

- **This is what I want to do,**

- **This is why it is important,**

- **I'm the best investigator for the project-- You should send $$!**

Grantsmanship Tips

- **A clean, well-written, easy to follow application**

- **Fellowships fund <u>YOU</u> and your <u>TRAINING</u>**
  - **Demonstrate your potential for a scientific research career**
  - **Training plan and mentor statements are crucial**

- **For Research Statement**
  - Significance and impact
  - A strong premise leading to exciting ideas
  - Clarity of the project's rationales and goals
  - Realistic aims and timelines
  - Rigorous experimental approaches
  - Noted limitations of the study
  - Reasonable alternatives

Writing Survival Tips

- Write regularly in a dedicated time/place

- Set realistic goals, allow enough time

- Use place fillers when you can't think of the right word/idea – Keep writing & revise it later.

- End each writing session by listing next steps, writing into the next section

- Ignore self-criticism, recognize what you've accomplished and keep going

Campus Resources

<u>Websites:</u>

Postdocs - <u>postdoc.wustl.edu/items/funding-resources</u>

DBBS Predocs - <u>dbbs.wustl.edu/curstudents/StipendBenefitsandGrants/Pages/GrantsManagementServices.aspx</u>

Research Office (OVCR) - <u>research.wustl.edu/funding/identify-funding</u>

Clinical Research Training Center's Office of Training Grants - <u>crtc.wustl.edu/otg</u>
(Grants Library, Mock Study Section)

<u>Newsletters:</u>

- Bi-weekly Postdoc Update - <u>postdoc.wustl.edu/items/newsletter</u>

- OVCR Funding newsletter - <u>internalselections@wustl.edu</u>

- Research News - <u>research.wustl.edu/?s=research+news</u>

General Resources

<u>Websites:</u>

Science - sciencemag.org/careers/where-search-funding

UPenn - med.upenn.edu/postdoc/postdoc-funding.html

NIH Reporter - projectreporter.nih.gov/reporter.cfm
NIH Success Rates - report.nih.gov/NIHDatabook/

NSF Award Search - nsf.gov/awardsearch/advancedSearch.jsp
NSF Dear Colleague Letters - nsf.gov/news/news_summ.jsp?cntn_id=131983

The NIH and NSF websites have a lot of information on all grant steps, start your preparation there.

<u>Newsletters:</u>

- Weekly NIH Funding Notices - grants.nih.gov/grants/guide/WeeklyIndex.cfm

- Professional societies

Upcoming Grants Series

July 17 - The Review Process for NIH Fellowships
1-2pm in Holden, FLTC

July 24 - Private Foundation Funding Basics
1-2pm in Holden, FLTC

NSF GRFP & NIH Writing workshops in the fall!
        Website will be updated soon:
engineering.wustl.edu/research/research-development-administration/Pages/graduate-research-fellowship-workshops.aspx