2019 Graduate School Workshop Series

- September 24, 2019: Introduction to Grant Writing
- October 15, 2019 (2-4 p.m.): National Science Foundation Proposals
- November 14, 2019 (1-3 p.m.): National Institute of Health Proposals
Today's Presentation

- Initial Comments on Grant Writing
- Types of Grant Funding
- Sources of Grant Funding
- Obtaining Grant Funding/Searching for Funding Opportunities
- Grant Terminology
- Tips for Successful Grant Writing
- Questions/Discussion
Initial Comments on Grant Writing
• Knowing how to write grants is important to professional development and career advancement.

• Knowing how to write grants is important to innovative, cutting-edge research, outreach, training and instruction, and program development.

• Effective grant writing is both an art and science.

• Locating information on funding resources and opportunities requires a strategy.
Further . . .

- **Become a savvy seeker, gatherer, and evaluator of grants-related information**
- Identify grant reviewers in your department/center/other unit and seek to gain their insights and suggestions
- **Interdisciplinarity is increasingly prevalent in both research and funding announcements—requires familiarity with different “languages”, methods, professional networks, resources**
- Practice, practice, practice
Use Over and Over Again Today

- College Research Office Submission Process Networking
- Seek/Ask for Help Plan Ahead Fellowshipships/Pre- and Post-doc Research Grants
- Training Grants Email Alerts Read Announcements/RFAs Carefully
- Proofread, proofread, proofread and review, review, review pre-submission
Types of Grant Funding
Types of Grant Funding

- Grant Forms
  - Research
  - Fellowship/dissertation grant
  - Contract
  - Gift

- External/Internal Funding Types
  - Research grant
  - Travel grant
  - Conference grant
  - Curriculum development grant
  - Dissertation grant
  - Postdoctoral research grant

- External vs. internal
**Uses for Grant Money**

**Increasing scrutiny re use of grant funds; budget oversight typically by PI**

- **As Graduate Students**
  - Stipend/Summer Salary
  - Tuition
  - Materials (incl. Equipment)
  - Project-related Travel
  - Subject Payments
  - Access to Equipment
  - Undergraduate Research Assistants (wages)

**Government grant funds will not** pay for…

- Books or other publications
- Professional society memberships
- Lab refreshments
- Travel from home to lab
- Furniture for the lab
- Equipment that is not research-project related
- Express mail (Fed Ex)
- Personal computers
- Staff support

- There are always exceptions – the key is “project-related”
Sources of Grant Funding
Sources of Grant Funding

- State and Federal Governments
- Military
- Corporations
- Foundations
- Professional and Other Organizations
- Internal Funds (available at the University)
Obtaining Grant Funding: Seven Basic Steps
- **Step 1**: Determine why you need grant money (big plans/dreams—still room in research for dreamers!!)

- **Step 2**: Generate a fundable idea

- **Step 3**: Generate a realistic, responsible budget

- **Step 4**: Identify grant/funding opportunities that fit steps 2 and 3 as well as fit your project idea/topic
◊ **Step 5:** Draft the proposal/research plan

◊ **Step 6:** Develop the full proposal
  - Is this a unique, innovative, fundable project idea?
  - Strategize! Network! Seek collaborators!
  - Get as much advice and assistance as you can when applying for a grant
  - Expect to be turned down before attaining success

**Desired Outcome!!**

◊ **Step 7:** Get the grant, conduct the research, and decide on next steps
Searching for Funding Opportunities
Finding External Funding

1: **Search Online Funding Opportunity Databases** and Consult College Research Offices, Other Research Units, and colleagues

- NSF, NIH, Energy, Education, USDA, etc.
- Grants.gov
- Foundation Center; Chronicle of Philanthropy
- Others

2: **Set up Funding Alerts**

Funding alerts are email notifications of new funding opportunities in specific fields or from individual sponsors. Many alerts can be customized.
Find Funding

Find

SciVal Funding

Penn State now utilizes SciVal Funding. First-time users must create a log in while accessing the site from within the Penn State network. For questions or assistance accessing SciVal Funding, please contact Michelle Hutnik. Instructions for creating your account are available here.

For a list of sponsors collected by SciVal and information on finding funding or support, please click here.

Penn State Limited Submission Program (PSU Only)

Commonwealth of Pennsylvania Sources

- Pennsylvania Bulletin (information and rulemaking)
- Department of Environmental Protection
- Federal Business Opportunities (FedBizOpps.gov)
- Federal Register
- Foundation Center
- GrantsNet
- Grants.gov
- National Science Foundation Update E-mail Subscription
- Science.gov
Sources of Grant Funding:
Federal Funding

- Federal agencies—the easiest to search for opportunities
- More uniform in:
  - Grant submission process
  - Web information available
  - Regularity of procedures
- Must submit to the right section of an agency
- NIH: e.g., NIDA F, Health Services, NIDA K, Training and Career Awards
- NSF: e.g., Social, Behavioral & Economics
Foundations

- ~ 70,000 Foundations
- Identify Foundations most relevant to your work
- Several types of Foundations:
  - National
  - Community
  - Corporate
  - Family
  - Special purpose/specific focus
WHAT INFORMATION DO YOU NEED?

• **Scope of agency/opportunity:**
  • Map to your working idea
  • $ limit
  • Deadline date, duration of research project
  • Any local demands or expectations?
  • Proposal format rules/procedures
  • Criteria/probability for funding

• Any current relevant RFAs or RFPs?

• Read all announcements carefully
Important!!

It is very, very important to keep up-to-date about funding priorities of funders, which can change from year to year; types of grant mechanisms; funders’ budgets (especially federal and state); forms for proposal submission; policy and submission changes; etc.
Grant Terminology
Grant Terminology

- Sponsor
- PI = Principal Investigator
- Co-I = Co-Investigator
- Postdoctoral Fellow (senior personnel)
- Research Associate (senior personnel)
- Research Assistant (senior personnel)
- Consultant
- Subcontractor/subaward
- Prime or lead institution
- Percent effort
Grant Terminology

**Budget Terminology**

- **Direct costs**
  - Salary (AY [sabbatical and course release] and summer)
  - Fringe benefits (the AY and Summer rates)
  - Other direct costs

- **Modified Total Direct Costs (MTDC)** (total direct costs, minus equip., tuition, rental costs offsite, portion of each subgrant/subaward <$25K, etc.)

- **Indirect costs** (aka Facilities and Administrative or F&A costs) – rates vary by institution and type and location of research

- **Total costs** = direct costs + indirect costs

- **Unallowable costs** (e.g., alcohol, food, staff, etc.)

- **Cost sharing** – asking the institution to split costs with the funding agency (aka: matching funds)
Tips for Successful Grant Writing
Revisions and resubmissions are part of your long-term journey; build them into your agenda.

Develop a network of colleagues and others who will read and review your work critically and carefully.
• Grants are not often awarded the first time AND

• Not often awarded to first-time investigators, BUT:

  • **NIH Early Stage Investigator policy**—Major initiative to enhance peer review process to "fund the best science, by the best scientists, with the least amount of administrative burden."

  • **New Innovator Award**

  • Increase in federal efforts to encourage grantsmanship by first-time researchers overall, especially in light of recent studies of grant success
• While all grant applications are different
• Create boilerplate language, revising as necessary for specific RFAs/program announcements/funding opportunities
  • Prior research experience
  • Short-term research goals
  • Long-term career goals
  • Current project and expected outcome(s)
  • Biosketch (differs for each funder)
• Details are important
• Show some thought, planning
• Get feedback from experienced writers and reviewers
Typical Sections of a Grant Proposal

• Cover Page (Face Page, cover letter, etc.)
• Abstract (Summary, description)
• Table of Contents
• Research Plan (project description, narrative, methodology) – structure varies by program/agency
• Timeline or work plan
• Listing of personnel and their effort on the project
• Biosketches (vitae, resumes)
• Prior research or project funding (current and pending support, other support)
• Budget and budget justification
• Facilities and Resources
• Appendices (attachments—yes or no)
Tips for Successful Grant Writing

1. Understand how time, money, and project scope of work all fit together

2. Be creative — Think outside the box. The right RFA may not currently be “out there”, so you may need to tweak your research ideas/approach to fit announcements but never “chase” funding

3. Know how to “market” your project to the appropriate agency/agencies

4. Know current priorities for funding agencies

5. Read the guidelines and find help to understand them

6. Rules, forms, and procedures change quickly
Tips for Successful Grant Writing

7. Spend your money wisely, guided by what you proposed
8. Go for grants rather than contracts (contracts have more restrictions)
9. Revisions — respect reviewer comments and address them
10. Start small and build
11. Start early on grants/proposals — VERY EARLY
12. Make friends with a good research/ grants administrator
13. Develop collaborative relationships with colleagues — keep interdisciplinary opportunities/approaches in mind
14. Develop a sequential plan for funding that includes independent and collaborative research
15. Publish and otherwise become well-known in your field
16. Expect (and do what is necessary) to obtain a strong record of funding OVER TIME
17. Seek internal funding to get projects started or to start new lines of research
18. Get to know program officers who manage the programs to which you will apply
19. Get feedback whenever and wherever you can on your grant proposals
20. Be persistent and don’t give up; persistence pays off
• Avoid jargon

• Be concise—today’s page limits requires effective, efficient communication

• Remember that grant reviewers are most likely generalists—write your proposal text accordingly

• Good grant writing requires consistency and thoroughness

• Reviewers care about proofreading and attention to detail, as your final steps
Next Steps
Begin to plan, and then discuss research funding needs and opportunities with:

- Other faculty in your department/program
- Other faculty who have successfully received external/internal grant funds
- Other research assistance units, such as your college research office at your institution
- Research consortia/centers/institutes
Identify the Key Research Support Units at Your Institution

**College Research Offices:**
- Information About Funding Agencies
- College Support
- Budget and Management Planning
- Final Proposal Preparation & Associated Technical Assistance
- Proposal Submission and Grants Management

**Department Research Support**

**College-based Research Centers:**
- Programmatic Research Development in Theme Areas
- Interdisciplinary Partnerships & Resources
- Information about Funding Opportunities within Theme Areas

**Office of Sponsored Programs/University Research Office**
Penn State Office of Sponsored Programs

http://www.research.psu.edu/osp/index.html

List of College/Campus/Consortia Research Administrators

http://www.research.psu.edu/offices/osp/negotiators
DISTINGUISH YOURSELF IN THREE EASY STEPS

ORCID provides a persistent digital identifier that distinguishes you from every other researcher and, through integration in key research workflows such as manuscript and grant submission, supports automated linkages between you and your professional activities ensuring that your work is recognized. Find out more

1. REGISTER  Get your unique ORCID identifier Register now! Registration takes 30 seconds.

2. ADD YOUR INFO  Enhance your ORCID record with your professional information and link to your other identifiers (such as Scopus or ResearcherID or LinkedIn).

3. USE YOUR ORCID ID  Include your ORCID identifier on your Webpage, when you submit publications, apply for grants, and in any research workflow to ensure you get credit for your work.
Requirement for ORCID iDs for Individuals Supported by Research Training, Fellowship, Research Education, and Career Development Awards Beginning in FY 2020

Notice Number: NOT-OD-19-109

Key Dates
Release Date: July 10, 2019

Related Announcements
NOT-OD-13-114

Issued by
National Institutes of Health (NIH)
Agency for Healthcare Research and Quality (AHRQ)
Centers for Disease Control and Prevention (CDC)

Purpose
By way of this Notice, NIH, AHRQ, and CDC announce that individuals supported by research training, fellowship, research education, and career development awards will be required to have ORCID iDs (Open Researcher and Contributor Identifiers) beginning in FY 2020.

Background and Related Information
ORCID iDs are unique, persistent digital identifiers that distinguish individual investigators and can be used to connect researchers with their contributions to science over time and across changes of name, location, and institutional affiliation. These free identifiers are assigned and maintained by the non-profit organization ORCID.

In response to recommendations from the Advisory Committee to the NIH Director and the National Science and Technology Council's Working Group on Research Business Models that federal agencies adopt tools and approaches to simplify applicant reporting and improve the tracking of career outcomes, NIH introduced the option for PD/PIs and other users to associate an ORCID identifier with their eRA Commons Personal Profile in 2017. Since that time, more than 30,000 eRA Commons Profiles have been linked to ORCID iDs.

In addition, more than 7,000 journals now use ORCID iDs and, with the permission of users, can automatically populate ORCID user accounts with their citations when they publish. Federal grant applicants can also link their ORCID accounts with SciENcv (Science Expert Network Curriculum Vitae), to simplify the creation of biosketches for grant applications.
Questions?

Thank you!!

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