Finding Research Funding: an Overview

This topic area will be addressed by focusing on the following four subtopics related to finding funding for your research:

- Funding from Federal Agencies,
- Funding from Foundations,
- Funding in the Humanities, and
- Funding for Less Well-Supported Research Areas.

These subtopic areas share characteristics as the following definitions and discussion of common terms should clarify:

- There are two major research funding paths open to new faculty: one involves responding to an agency-published research solicitation, and the other involves following agency-specific guidelines for the submission of unsolicited or investigator-initiated research proposals. *New faculty should explore and understand both of these funding mechanisms*.
- Funding announcements, or solicitations, may be referred to differently by various agencies, including Request for Proposals (RFP), Funding Opportunity Announcement (FOA), Program Announcement (PA), or Broad Agency Announcement (BAA), among others*. We will refer to those here as the RFP*. RFPs contain the key information you will need to submit a proposal, and their role will be addressed in a subsequent section.
- Most university research is funded by federal agencies, but an important research role is also played by foundations, industry, state agencies, and private sources, among others.
- In the humanities and humanities-related social sciences, research funding for scholarly work often comes from libraries, collections, associations, museums, and related institutions, all addressed more fully below.

While the universe of research and educational grant opportunities from federal, state, and local agencies, foundations, professional associations, and industry is very large, it shrinks quickly when you cull out the agencies, programs, and solicitations *without relevance to your research interests*. Once you define your disciplinary area of expertise and your research interests within that area, *your funding universe will become very small, very quickly*, perhaps amounting to only a few agencies, a few program areas within any particular agency, and fewer solicitations within that program area. This also applies to foundations and the above-mentioned humanities funders.

As a new faculty member, it is important that you learn how to identify research and educational funding opportunities immediately upon their announcement. This will gain you valuable time for preparing your proposal. This added time may give you a decisive advantage in the competition for these awards. It allows you to assess the

requirements for responding to a solicitation, to make a measured decision about whether or not to pursue it, and to undertake your response with sufficient time remaining for developing and writing a competitive submittal .

As a new faculty member, most funding opportunities that will fit your research expertise and interests will likely come from a subset of the over 24 federal agencies that post upcoming solicitations to **Grants.gov**, or perhaps a few foundations that fund research specific to your discipline, e.g., social science, education, humanities. Your funding focus will likely remain on research grants specific to your discipline. However, in some disciplines, you may also explore educational grants, or hybrid grants that integrate research and educational objectives. These are the three most common grant categories pursued by university faculty. Determining where your search for funding will begin is a function of your research goals and performance expectations, likely related to third-year review and promotion and tenure. Your objective is to map these criteria to possible sources of research support through published solicitations from federal funding agencies.

Keep in mind, however, that significant funding opportunities for your research may also come from writing unsolicited proposals, a topic that will be addressed herein as a specific topic in a subsequent section. For example, roughly 50 percent of NSF and 80 percent of NIH research funding is awarded through the unsolicited proposal process, e.g., **NIH Parent Announcements** for unsolicited or investigator-initiated proposals. Other funding opportunities may come from foundation funding, another topic addressed separately below.

When first identifying research funding, note the part of the research spectrum (basic, applied, applications, contract, etc.) that best defines your expertise, capacities, and interests. This will likely be significantly influenced by departmental expectations defined in the hiring process, as well as advice on research from an assigned or requested faculty mentor(s) or a department head or chair. ***Does the department favor certain types of grants over others?***

For example, departments frequently encourage new faculty in the technical disciplines to focus first on research grants rather than educational grants such as undergraduate research, curriculum development, or K-12 partnerships, whereas education, social, and behavioral sciences departments may have tenure expectations advanced by these educational grants, particularly in those areas where education is a research area, e.g., cognition and student learning. Hybrid grants that integrate research and education vary significantly by agency, but a sufficient number of them will have a primary focus on research along with an educational component.   So you can use multiple determining factors and criteria such as those mentioned above first to filter your search parameters for finding funding opportunities and second to narrow your search to funding opportunities that best fit your career expectations as a new faculty member.

Another important distinction to make when identifying potential federal funding agencies is ***to note how and whether each agency restricts the definition of various general research areas to one that is unique to that agency's mission***. For example,

several federal agencies support research in biochemistry , including NSF and NIH, but the NSF objectives are not (like those at NIH) conjoined to human diseases or medical outcomes. Moreover, many of the major umbrella research topic areas funded across many federal agencies, e.g., climate change, water, sustainability, energy, critical infrastructures, homeland security, materials, smart grid, etc., are often uniquely and tightly aligned with their research investment priorities as driven by one or more agency strategic plans or research roadmaps. Your capacity to note these distinctions is an important part of your overall funding strategy.

As an individual researcher, you have the most nuanced understanding of the particular research solicitations or unsolicited opportunities most relevant to your career objectives. Therefore, it is helpful to recognize that you can do the best job of identifying funding of possible interest to you by "packing your own funding chute." Develop your own search and organizational protocols for finding and categorizing research funding opportunities. This is very easily done.

Who Funds What? A Quick Guide

Funding Agency and Funding Links	What They Fund	Comments
National Science Foundation (NSF)	Research in science, mathematics, engineering, social science, and education. STEM education initiatives. Fellowships, instrumentation.	Largest funder of academic research. Tend to fund basic research. Will not fund human disease-related research or research in the humanities.
National Institutes of Health (NIH) **RFAs** **PAs**	Basic and applied research related to human health, including social science research. Fellowships, instrumentation, training grants.	Part of Department of Health and Human Services. Research must have implications for enhancement of health, lengthening life, and reduction of the burdens of illness and disability.
Department of Education **IES** **OPE**	Research on education from pre-school through higher education, adult education	Main research programs funded through Institute for Education Research(IES) and Office of Postsecondary Education (OPE).
Congressionally Directed Medical Research Program (CDMRP)	Disease-related research. Diseases of focus selected each year by Congress.	Includes grant categories for high-risk research and new investigators.
Agency for International Development (USAID)	Applied research and development to evaluate new products, tools, approaches and interventions focusing on health concerns in developing countries (includes behavioral research).	**Collaborative Research Support Programs** partners with Land Grant Universities to strengthen agriculture in developing countries.
U.S. Department of Agriculture National Institute of Food and Agriculture (NIFA) **Agriculture and Food Research Initiative** (AFRI)	Funds a wide range of food and agriculture research, including biotechnology, genomics, pest management, biofuels, childhood obesity and more. Funds fellowships.	Most research funding through AFRI. Also teams with other agencies (NSF, DoD) for some grant programs.
Economic Development Agency (EDA)	Funds projects to stimulate job creation, economic development, and innovation (institutional projects)	Part of Department of Commerce. Funds collaborations between university and industry (entrepreneurship and small business development)
National Institute for Standards and Technology (NIST)	Funds research related to materials, manufacturing, information technology, measurement, and standards	Part of Department of Commerce. Most of research is intramural, but they do funds some extramural research, particularly in collaboration with NIST researchers.
Department of Defense - **AFOSR** - **ONR**	Fund basic and applied research related to the mission of each service. In addition to physics,	Research offices are AFOSR (Air Force), ARO (Army), ONR (Navy), DARPA (high-risk, high-payoff research for all

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- **ARO** - **DARPA** - **NSA**	materials, mathematics, computer science, etc., they may fund some life science and psychology (e.g., human cognitive and behavioral modeling)	services), NSA.
Agency for Healthcare Research and Quality (AHRQ)	Funds research to improve quality, safety, efficiency and effectiveness of health care.	Part of Department of Health and Human Services. Current funding priorities include health issues of minorities, health information technology, health care system redesign, and more.
Substance Abuse and Mental Health Services Administration (SAMSA)	Implementation grants for mental health and substance abuse services	
Administration for Children and Families (ACF)	Funds research to promote the economic and social well-being of families, children, individuals, and communities. Funds fellowships.	Most of the grants are implementation rather than research grants. Be sure to look for grants related to research.
Centers for Disease Control (CDC) - **National Institute for Occupational Safety and Health**	NIOSH funds research to identify occupational populations at risk, develop methods for measuring exposures to hazards and detecting adverse health effects, determine the prevalence and incidence of occupational hazards, understand the etiology of occupational diseases and injuries, and reduce or eliminate exposures to hazards.	Part of Department of Health and Human Services. Procedures are similar to NIH
Environmental Protection Agency (EPA)	Funds research to improve EPA's scientific basis for making decisions on environmental issues	STAR grants, fellowships, research, small business grants
National Aeronautics and Space Administration (NASA)	Funds research related to NASA's space mission (also funds some STEM education programs)	Description of programs released annually in large ROSES solicitation.
Department of Energy – Office of Science	Funds basic research related to energy, including advanced computing, biological and environmental research, basic energy sciences, high energy physics, nuclear physics, and more.	Offer new investigator-type grants in the various program areas.
Department of Energy – National Energy Technology Laboratory (NETL)	Funds research related to energy, including solid state lighting, smart grid, electric vehicles, clean coal, and other technologies	
Department of Energy -	Funds research related to clean	

Funding Agency and Funding Links	What They Fund	Comments
Energy Efficiency and Renewable Energy (EERE)	energy technologies, including solar, wind, water, biomass, geothermal, and hydrogen & fuel cells.	
National Oceanic and Atmospheric Administration (NOAA) - **Office of Education**	Fund research on the structure and behavior of the ocean, atmosphere, and related ecosystems. Also fund education and scholarships related to their mission.	Part of the Department of Commerce
National Endowment for the Arts (NEA)	Funds fellowships and projects in the arts (including theater, arts education, dance, literature, folk arts, music, and more)	
National Endowment for the Humanities (NEH)	Funds fellowships, humanities initiatives, collections and education in the humanities	
Institute for Museum and Library Services (IMLS)	Funds activities including professional development, conservation, collections management, informal learning, community engagement, and more.	
Nuclear Regulatory Commission (NRC)	Funds education, minority serving institutions, research on nuclear materials safety, and other nuclear-related issues.	
Housing and Urban Development (HUD) - **Office of University Programs**	Funds some research on housing and urban issues and policy analysis. Mainly funds dissertation research.	Most grants are not research related, but they do fund some research out of the Office of Policy Development and Research (PD&R)
Department of Justice - **National Institute of Justice**	Funds physical and social science research, development, and evaluation projects about criminal justice. Also funds fellowships.	
Department of State - **Fulbright Program**	Most grants fund cultural exchanges, fellowships	Funds opportunities for faculty to conduct research abroad.
Department of Transportation - **Research and Innovative Technology Administration** (RITA)	Funds research to bring advanced technologies to the transportation system. Funds university transportation centers.	
Department of the Interior **Bureau of Indian Affairs** **Bureau of Land Management**	Each of these bureaus funds projects specific to its mission. Overall agency goals focus on resource protection, resource use, recreation, and serving	

Funding Agency and Funding Links	What They Fund	Comments
Bureau of Ocean Energy Management, Regulation and Enforcement **Bureau of Reclamation** **National Park Service** **Office of Surface Mining, Reclamation and Enforcement** **U.S. Fish and Wildlife Service** **U.S. Geological Survey**	communities.	
Robert Wood Johnson Foundation	Funds projects to improve the health and health care of all Americans.	
Bill and Melinda Gates Foundation	Funds research related to global health, poverty and development and education.	Many of the grants are for implementation rather than research. Be sure to look for opportunities that target research.

Funding from Federal Agencies

To begin with, all federal research agencies post new funding solicitations to **Grants.gov**. Grants.gov offers both **RSS feeds and email alerts** that notify you daily of new grant opportunities based on advanced search criteria you select when you subscribe to the alerts (e.g., agency or agencies, funding opportunity number, funding instrument type, eligibility, or subagency). It is also important to subscribe to the "**modified opportunities alert**" that notifies you of any modifications to open solicitations. *This is particularly important for solicitations that stay open for an entire fiscal year*, e.g., broad agency announcements (BAAs) from the defense agencies that may change research priority areas during the open period, or make other modifications that impact how you write the project narrative. Finally, all of these electronic alerts can be saved in a folder to give you a chronological record of funding directions and recurring open periods on solicitations published annually.

In some cases, solicitations by federal agencies may also be published to **FedConnect** and **Federal Register**. This will be *in addition to and not a replacement* for publication in **Grants.gov**. For example, the Department of Energy may publish the entire downloadable solicitation in **FedConnect** and the Department of Education will publish in **Federal Register**, but in both cases a hot link to these sites will be provided in the **Grants.gov** announcement.

Moreover, many of the federal research agencies will also have agency-specific RSS and email alert systems for notification of funding opportunities posted to the agency website, e.g., **NSF** and **NIH**. In other cases, it is helpful to bookmark agency sites that continuously update funding information, e.g., **EPA**, **DARPA**, **DOE**, **ONR**, **DoED**, **NIST**, etc.. This is particularly helpful for the federal mission agencies, e.g., DOD, EPA, NOAA, DARPA, etc., where large, multiple research program areas within a single agency function with significant autonomy. Also, remember that Google is your friend. A simple Google search on **"RSS feeds at 'agency name'"** or some modification of this search string specific to your research domain or program office within an agency will likely retrieve the information you need.

These agency websites are a robust complement to Grants.gov and an excellent source of funding information and related funding resources. Another advantage to subscribing to agency-specific electronic alerts is that you can also receive information such as agency reports, agency presentations, strategic plans and roadmaps, research alerts, and changing research investment priorities, etc. that can help clarify the agency's mission and culture, thereby aiding you to write a proposal that clearly describes the significance and impact of your research on the mission of the agency. *This is a key competitive factor in writing a successful proposal.*

Funding from Foundations

Funding from foundations typically represents a much smaller part of a university research portfolio than does funding from federal agencies. Foundation funding is most often of interest to a much smaller subset of faculty. In most cases, the application process differs significantly from those directed to federal agency solicitations. Some colleges, e.g., education, and some disciplines, e.g., social and behavioral sciences, may locate more opportunities in foundation funding specific to their research domain, e.g., **Spencer Foundation**, than other colleges and disciplinary departments. Regardless, in most cases, foundation funding will be at significantly lower levels than funding from federal agencies. Moreover, foundations have specific protocols for seeking research and education funding, in some cases including published solicitations with defined eligibility guidelines specific to preselected university applicants, or ongoing programs in specific disciplines. For example, the **Camille and Henry Dreyfus Foundation** funds chemical sciences and chemical engineering.,

   It is particularly important when seeking foundation funding to understand the mission and agenda of the foundation. For example, the **Russell Sage Foundation** and the **Social Science Research Council** are devoted to research in the social sciences, whereas the **Howard Hughes Medical Institute** funds biomedical research grants for individuals and science education grants for institutions. The **W. M. Keck Foundation** focuses on science, engineering, and medical research and undergraduate education. The Robert Wood Johnson Foundation funds grants in seven program areas related to health and health care. However, many smaller foundations will often restrict eligibility based on mission and agenda-specific factors. Geographic restrictions on eligible applicants, for example, is one of the more common restrictions for this funding group.

   Finding funding from foundations is always tightly linked with becoming knowledgeable about a foundation's mission and agenda. This can be accomplished in several ways, including exploring the foundation website, reading the foundation's annual report on funded projects, reading publications of disciplinary colleagues and scholars whose research has been funded by the foundation, talking to colleagues who have been funded by the foundation or may have served as a reviewer for the foundation, and exploring links at the **Foundation Center**. *It is always helpful to talk to a program officer at a foundation to get a deeper and more nuanced understanding of its mission-specific agenda and application process.* Foundations can range from the very large (**Gates**, **Ford**, **Rockefeller**) to the very small. Understanding the mission and agenda of small foundations can sometimes be more challenging, but one good starting point is the **990 Finder** at the Foundation Center website. The 990-PF is the information return U.S. private foundations file with the Internal Revenue Service. This public document provides fiscal data for the foundation, names of trustees and officers, application information, and a complete grants list.

Funding in the Humanities

Research funding of interest to university faculty in the humanities is most often focused on *scholarly research*.   In most cases, funding for scholarly research differs from the research funding sought by faculty in the technical disciplines and the social and behavioral sciences. It differs as well from the funding sought by institutions with a humanities mission focus, such as museums or other cultural institutions, and programs that seek funding to promote the humanities to a wide public audience or advance it through teacher training. Funding from the National Endowment for the Humanities (NEH) or the U.S. Department of Education (DoED), for example, often has this objective. Moreover, depending on the institution, the research interests of faculty in the humanities may not be as well understood, and hence not as well promoted or supported by university research offices more familiar with supporting faculty research in the technical disciplines.

Funding for scholarly research in the humanities is distributed widely across a vast number of museums, libraries, collections, centers, archives, associations, endowed programs, and institutes, to name only a few sources. Moreover, compared to the technical disciplines, the dollar amounts for scholarly research in the humanities are small and often do not allow for charging indirect costs. In many cases, depending on institutional protocols, funding to faculty in the humanities goes directly to the faculty member rather than the institution.   How this works on your campus is something to discuss with your sponsored projects office or similar research support office, often under the office of vice president for research.

The largest federal funder of the humanities is NEH, but supporting faculty scholarly research is only one part of how that agency supports the humanities. Other federal agencies fund humanities-related activities, *as opposed to scholarly research*, including U.S. Department of Education and the Department of Interior Heritage Programs.   The Department of State funds scholarly research through the **Fulbright Program**.

There are several good starting places for finding funding for scholarly work in the humanities, including **Humanities Funding and Research** by the **Humanities Resource Center Online.** Many universities and humanities centers at universities have excellent web sites that offer exhaustive listings of opportunities for research funding in the humanities. For example, the following websites provide a good starting point that will quickly become a cascade of opportunities as you follow embedded links: **Fellowship and Grant Opportunities for Faculty Humanities and Social Sciences**; **Humanities Funding Sources A-to-Z**; **Duke University Funding Alerts; Humanities Funding Listed by Johns Hopkins University**; and **ASU Institute for Humanities Research**.