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Federal Programs Providing Support for International Collaborations

Prepared by Lewis-Burke Associates LLC September 2015



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Overview

With research becoming increasingly global, it is important that universities are aware of the federal funding opportunities to support international collaboration. This document provides an overview of federal programs and initiatives that support international research and education. International collaboration is vital to address global research questions, share resources, and ensure access to world-leading expertise. Given the current tight fiscal environment, global partnerships enable U.S. researchers to leverage additional resources to benefit society and the economy in the U.S.

The examples mentioned in this document demonstrate the relevant priorities for international collaboration within each agency. While this is not a comprehensive analysis, it includes key programs that have been consistently awarded over the past several years. As the span of these opportunities demonstrates, international research interest is incorporated across many disciplines and takes on various different forms. However, the main aims of the international programs outlined in this document are:

- To enable access to foreign researchers and facilities
- To support large-scale research
- To work on projects **in international development** and other areas that require a global approach
- To provide an international experience for students and researchers.

Most of the opportunities included in this report are directed towards U.S. institutions and individuals, and do not in general directly fund foreign researchers. The federal government programs listed below are organized by the agency that runs the program. A program summary, eligibility requirements, size of the program, approximate size and type of award, due dates, and other special considerations are provided for each program. Additionally, relevant websites are included as a source for more detailed information.

All grants offered by the federal government are listed on <u>www.grants.gov</u>, a government funding opportunity database. To find a given grant opportunity on grants.gov, select the "Search Grants" tab and a variety of search options should appear, including agency, category, and eligibility.

The availability of funds for federal grants is dependent on annual appropriations. Due to budgetary constraints, many federal agencies have had to limit extramural funds. As a result, some grants previously offered annually have been currently suspended or reduced. The most current information on the funding status of individual programs can be found on the websites listed for each grant.

As stated above, this is not an exhaustive list and Lewis-Burke is happy to provide additional information on international funding opportunities as requested.

Department of Education

The Department of Education funds higher education international initiatives through International and Foreign Language Education (IFLE)¹ programs in the Office of Postsecondary Education. These programs include both domestic and overseas programs. Domestic programs are designed to strengthen the capability and performance of American education in foreign languages and in international studies. Overseas programs are intended to improve secondary and postsecondary teaching and research concerning other cultures and languages, training of specialists, and the American public's general understanding of the peoples of other countries. Details of funding opportunities to support international collaboration are given below, and a full list of international programs is available at http://www2.ed.gov/about/offices/list/ope/iegps/index.html#programs.

IFLE programs are authorized under the *Higher Education Act (HEA)*, the last iteration of which was passed in 2008. Members of the House and Senate are currently drafting an *HEA* reauthorization bill, though it is unlikely to pass before the current authorization expires at the end of FY 2015. In the event that a reauthorization is not passed by then, the programs listed below will still be included in the spending measure that Congress will need to enact in order to keep the government operational beyond September 30, 2015.

National Resource Centers (NRC) Program

- Overview: The NRC program is an interdisciplinary program to establish and operate language and area or international studies centers at U.S. institutions of higher education that will serve as national resources for teaching modern foreign languages. NRCs will also teach full "understanding of areas, regions, or countries in which the language is commonly used; research and training in international studies; language aspects of professional and other fields of study; and instruction and research on issue in world affairs."
- Eligibility: U.S. institutions of higher education or consortia of institutions of higher education are eligible to apply.
- Award/Program Size: For FY 2014, \$22.7 million was allocated for an estimated 105 awards. This program operates on a four-year cycle, with the next competition planned for FY 2018.
- Due Date: The most recent deadline was June 30, 2014.

Source: http://www2.ed.gov/programs/iegpsnrc/index.html

American Overseas Research Centers

- Overview: The American Overseas Research Centers program seeks to establish or operate overseas research centers that promote postgraduate research, exchanges, and area studies, and are focused on a specific nation or region. Most of the centers include a historical or archaeological component.
- Eligibility: Individual U.S. institutions of higher education or consortia of institutions of higher education that receive the majority of their funding from public or private U.S. sources, have a

¹ <u>http://www2.ed.gov/about/offices/list/ope/iegps/index.html</u>

permanent presence in the country in which the center is located, and non-profit institutions with 501(c)3 status.

- Award/Program Size: In FY 2014, \$649,700 was appropriated for this program to support 10 ongoing grantees.
- Due Date: The last competition was in FY 2012, and the next competition is anticipated to be in FY 2016.

Source: http://www2.ed.gov/programs/iegpsaorc/index.html

Foreign Language and Area Studies (FLAS) Fellowships Program

- Overview: This program provides academic year and summer fellowships to institutions of higher education to assist exemplary undergraduate students and graduate students undergoing training in modern foreign languages and related area or international studies.
- Eligibility: U.S. institutions of higher education are eligible to apply. Institutions conduct competitions to select eligible undergraduate students and graduate students to receive fellowships. Students are eligible for fellowships if they are citizens, nationals, or permanent residents of the U.S.
- Award/Program Size: FLAS grants are awarded to institutions for a four-year project period. In FY 2014 the average award was \$266,000 with a total of 108 new awards made.
- Due Date: The FY 2014 competition deadline was June 20, 2014.

Source: http://www2.ed.gov/programs/iegpsflasf/index.html

Fulbright-Hays Doctoral Dissertation Research Abroad

- Overview: This program provides grants to colleges and universities to fund individual doctoral students who conduct research in other countries in modern foreign languages and area studies for periods of six to 12 months.
- Eligibility: U.S. institutions of higher education are eligible to apply. Graduate students in doctoral programs in the fields of foreign languages and area studies must apply through the institutions in which they are enrolled. Students are eligible to receive a fellowship if they are citizens, nationals, or permanent residents of the U.S.
- Award/Program Size: In FY 2015, an estimated 90 new fellowships totaling \$3 million will be awarded. The average fellowship award is estimated to be \$33,463.
- Due Date: Competitions are held annually. The application deadline for the last competition was April 28, 2015.
- Special Attention: Eligible students must be planning a teaching career in the U.S. upon graduation.

Source: http://www2.ed.gov/programs/iegpsddrap/index.html

Fulbright-Hays Faculty Research Abroad Fellowship Program

• Overview: This fellowship program provides grants to colleges and universities to fund faculty to conduct research abroad "in modern foreign languages and area studies to improve their skill in

Lewis-Burke Associates LLC September 2015 languages and their knowledge of the culture of the people of these countries." Funding is available to support fellowships abroad for periods of 3 to 12 months.

- Eligibility: U.S. institutions of higher education are eligible to apply. Faculty are eligible to receive a fellowship if they are citizens, nationals, or permanent residents of the U.S.
- Award/Program Size: In FY 2010, 18 new fellowships to 15 institutions were awarded with an average award size of \$77,925. Total funding of \$1.4 million was available.
- Due Date: It is uncertain when the next competition will be held.

Source: <u>http://www2.ed.gov/programs/iegpsfra/index.html</u>

Fulbright-Hays Group Projects Abroad Program

- Overview: This program provides grants that support foreign projects in "training, research, and curriculum development in modern foreign languages and area studies for teachers, students, and faculty engaged in a common endeavor." Four type of projects are supported through this program:
 - Short-Term Seminar Project To promote the integration of international studies into social sciences and humanities curricula throughout the U.S. school system; to increase language/cultural competency; and to focus on a particular aspect or area study.
 - Curriculum Development Project To get material for curriculum development in modern foreign language and area studies; and to use and disseminate new knowledge and techniques across the U.S.
 - Group Research or Study Project For a group of at least three participants to undertake research or study outside of the U.S. for a minimum of 12 weeks in humanities, social sciences, foreign languages, and/or area studies.
 - Advanced Overseas Intensive Language Training Project To undertake advanced indigenous language training that is not available in the U.S.
- Eligibility: All participants must be U.S. citizens, nationals, or permanent residents and employed or studying full-time. For full eligibility information, see http://www2.ed.gov/programs/iegpsgpa/projecttypes.html.
- Award/Program Size: In FY 2015, an estimated \$1.36 million is available to support 16 awards through this program. The estimated average award size is \$85,097.
- Due Date: The application deadline for the FY 2015 competition was March 23, 2015.

Source: http://www2.ed.gov/programs/iegpsgpa/index.html

Fulbright-Hays Seminars Abroad – Bilateral Projects

- Overview: This program provides "short-term study and travel seminars abroad for U.S. educators in the social sciences and humanities for the purpose of improving their understanding and knowledge of the peoples and cultures of other countries." There are typically seven to ten seminars per year, each with 14-16 participants. The FY 2015 seminar, to be held in China, will focus on Elementary and Secondary Level (K-12).
- Eligibility: Eligible participants include elementary school teachers, middle or high school educators, administrators or curriculum specialists, librarians, museum educators or media or resource specialists in the fields of social sciences, humanities, including languages, as well as

faculty or administrators from public or private, two- or four-year institutions of higher education whose discipline is related to social sciences, humanities, languages, and/or area studies.

- Award/Program Size: In FY 2015, an estimated \$411,448 is available to support one new award.
- Due Date: Competitions are held annually, and the FY 2015 deadline was April 1, 2015.

Source: http://www2.ed.gov/programs/iegpssap/index.html

Department of Energy

There are limited programs within the U.S. Department of Energy (DOE) that exclusively support international researcher-to-researcher collaborations. However, DOE does oversee international research and outreach programs that are generally large international collaborations developed through a high level, formal, and often political process. Examples include the U.S.-China Clean Energy Research Center and the U.S.-India Energy Cooperation Initiative, which attempt to engage foreign partners in clean energy research. International collaboration can often be more easily facilitated through the DOE National Laboratories, many of which engage directly with foreign governments and agencies to allow U.S. researchers to access overseas facilities.

The Office of International Affairs (IA) at DOE is the primary office responsible for managing DOE's international initiatives. IA coordinates the diverse elements within DOE to craft cohesive, agency-wide strategies for approaching global energy-related issues that also align with the Administration's priorities. IA helps broker bilateral and multilateral agreements with foreign governments or international agencies for the purpose of spurring collaboration in clean energy, climate research, technology development, and nuclear security.

More information on IA is available at <u>http://energy.gov/ia/office-international-affairs</u>.

Department of Health and Human Services

The Department of Health and Human Services (HHS) has also expanded its focus on international activities under the Obama Administration. The Office of Global Health Affairs is the lead policy office for HHS global health initiatives, and serves a predominantly coordinating and informational role. Additional information about specific programs and partnerships administered by the office is available at: <u>http://www.globalhealth.gov/global-programs-and-initiatives/</u>. The lead agency for research in HHS is the National Institutes of Health (NIH).

National Institutes of Health

Fogarty International Center (FIC)

• Overview: International efforts at the National Institutes of Health (NIH) are coordinated by the Fogarty International Center (FIC) which is dedicated to advancing the mission of NIH by supporting and facilitating global health research, building international partnerships, and

Lewis-Burke Associates LLC September 2015 training the next generation of scientists to address global health needs. Most active FIC awards support collaboration between U.S. institutions and low- and middle-income countries (LMIC) to develop research and training in scientific areas particularly relevant to global health. FIC also supports fellowship and scholarship awards that provide career development opportunities to individual scientists.

- Eligibility: Eligibility requirements vary by program, but most awards are open to U.S. institutions with a demonstrated collaboration with LMIC institutions. Some of the larger FIC funding competitions are limited, requiring applicants to first apply and receive a R21 planning grant before they are permitted to apply for the companion R01. U.S. citizens are eligible for most of the FIC fellowship and scholarship programs that support individual researchers.
- Award/Program Size: FIC was appropriated \$68 million in FY 2015 and the center traditionally leverages its funding by releasing a number of solicitations in conjunction with other NIH institutes and centers.
- Due Date: Due dates vary by program. See individual funding opportunity announcements for specific details.

Selected examples of currently open FIC research and training awards:

- Brain Disorders in the Developing World: Research Across the Lifespan (BRAIN) http://www.fic.nih.gov/Programs/Pages/brain-disorders.aspx
- Global Infectious Disease Research Training Program (GID)
 http://www.fic.nih.gov/Programs/Pages/infectious-disease.aspx

Source: http://www.fic.nih.gov/Programs/Pages/default.aspx

NIH-NSF Ecology and Evolution of Infectious Diseases (EEID) Program

- Overview: As a collaboration between FIC, the National Institute of Allergy and Infectious Diseases and the National Institute of General Medical Sciences (NIGMS) at NIH, the National Science Foundation (NSF), EEID "supports efforts to understand the underlying ecological and biological mechanisms that govern relationships between human-induced environmental changes and the emergence and transmission of infectious diseases. The highly interdisciplinary research projects funded under this program apply both ecological and biomedical methods, and study how environmental events such as habitat alteration, biological invasion, climate change, and pollution alter the risks of emergence and transmission of viral, parasitic, and bacterial diseases in humans and other animals. Projects are encouraged to consider how integrated environmental and biomedical approaches to infectious diseases may enhance our ability to predict and control them."
- Eligibility: Applications from U.S. and foreign institutions are eligible. Application submission and peer review is through NSF, but likely NIH awardees will be asked to reformat their applications for NIH processing. Potential applicants are "strongly encouraged to contact NIH or NSF program officials prior to submitting an application."
- Due Date: The deadline for the FY 2016 awards is November 18, 2015.

Sources: <u>http://www.fic.nih.gov/Programs/Pages/ecology-infectious-diseases.aspx;</u> <u>http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5269</u>

National Institute on Drug Abuse (NIDA) International Program

- Overview: International research supported by NIDA is primarily funded though domestic grants with foreign components, meaning a principal investigator from a U.S. institution would collaborate with a researcher at a foreign institution. The NIDA International Program is soliciting proposals for International Research Collaboration on Drug Abuse and Addiction Research to support projects that take advantage of "special opportunities outside of the U.S.," including "access to unusual talent, resources, populations, or environmental conditions" that could advance scientific discovery.
- Eligibility: Applications from U.S. and foreign institutions are eligible. Research projects should be conducted in whole or in part outside the U.S. by investigators at U.S. institutions in partnership with investigators from other countries.
- Award/Program Size: Award sizes vary between R01, R21, and R03 funding mechanisms. Application budgets for the R01 are not limited. For the R21, direct costs are limited to \$275,000 over a two-year period, but no more than \$200,000 in direct costs is permitted per year. For the R03, direct costs are limited to \$100,000 over a two-year project period, with no more than \$50,000 in direct costs allowed per year.
- Due Date: Applications are due in three annual cycles with due dates in February, June, and October.

Sources: <u>http://www.drugabuse.gov/international/research-funding-landing;</u> <u>http://international.drugabuse.gov/research-funding/funding-sources/nida-international-program-</u> announcements

- R01: <u>http://grants.nih.gov/grants/guide/pa-files/PA-15-142.html</u>
- R21: <u>http://grants.nih.gov/grants/guide/pa-files/PA-15-143.html</u>
- R03: <u>http://grants.nih.gov/grants/guide/pa-files/PA-15-141.html</u>

National Institute on Alcohol Abuse and Alcoholism (NIAAA) International Program

- Overview: NIAAA promotes international research by funding collaborations between alcohol research investigators at U.S. institutions with those at foreign institutions. The research topics supported "cover the full spectrum of alcohol research from basic science to clinical, public health, and health services research, including HIV/AIDS." NIAAA's current International Research Collaboration on Alcohol and Alcoholism (U01) solicitation will provide funds for collaborative research activities undertaken jointly by U.S. and non-U.S. laboratories in order to expand the research capabilities of both countries.
- Eligibility: U.S. and foreign institutions are eligible to apply.
- Award/Program Size: Applicants may request up to \$250,000 in direct costs per year for a maximum award project period of five years.
- Due Date: Applications are due in three annual cycles with due dates of February 5, June 5, and October 5.

Sources: <u>http://www.niaaa.nih.gov/grant-funding/funding-opportunities/international;</u> <u>http://grants.nih.gov/grants/guide/pa-files/par-11-282.html</u>

Department of State

The U.S. Department of State offers funding opportunities for education and exchange programs through its Bureau of Educational and Cultural Affairs (ECA). While the Obama Administration has been supportive of educational and cultural exchange programs and touted their ability to foster international relationships, in recent years, funding for ECA has remained relatively stable. The agency's flagship program is the Fulbright Awards, which support 8,000 new grants annually. A number of other smaller exchange programs exist and agency officials are often willing to meet with faculty to discuss their research and its effects on policy development. Over in FY 2015, educational and cultural exchange programs received approximately six million in funding from the federal government. A searchable database of exchange programs is available at

http://exchanges.state.gov/us/search/solr/?f[0]=bundle%3Aexchange_program.

In addition to programs for U.S. scholars and educators (outlined below), ECA maintains numerous programs for foreign academics and professionals, many of which involve a residency at a U.S. institution of higher education. Hosting an exchange for an individual or group of foreign scholars can elevate a university's reputation within the Department of State and strengthen its ties to the agency, potentially leading to future funding and partnership opportunities. If interested in hosting foreign faculty participating in Department of State sponsored programs, you should reach out to ECA to highlight university strengths and resources. Additional information is available on the ECA website at <u>http://exchanges.state.gov/</u>.

Beyond exchange opportunities, agency officials are often willing to meet with faculty to discuss their research and its effects on policy development. Similar to USAID, meetings should target State Department officials assigned to the country or region in which the faculty member works.

Fulbright U.S. Scholar Program

- Overview: The U.S. Scholar Program sends roughly 800 U.S. researchers to about 130 countries each year, where they carry out research or teach in a wide range of academic and professional fields. The program has several different types of awards, including the Fulbright Flex Awards, the Fulbright Postdoctoral and Early Career Awards, the Salary Supplement Stipend, and the Teaching English as a Foreign Language Award. The duration of these awards is between two months and one year. There is also a Fulbright Visiting Scholar Program to bring foreign scholars to conduct post-doctoral research at U.S. institutions.²
- Eligibility: The Fulbright U.S. Scholar Program is open to U.S. citizens with a Ph.D. or equivalent.
- Award/Program Size: The Fulbright award stipend depends on the country in which the work will be carried out and the type of award.
- Due Date: Completed applications are due on August 3 with awards granted between January and June.

Source: http://exchanges.state.gov/us/program/fulbright-us-scholar-program

² <u>http://exchanges.state.gov/non-us/program/fulbright-visiting-scholar-program</u>

Fulbright U.S. Student Program and Foreign Student Program

- Overview: This program is an international educational exchange program designed to increase mutual understanding between Americans and people of other countries. The program provides participants, chosen for their academic merit and leadership potential, with the opportunity to study, teach, and conduct research, exchange ideas, and work on shared international concerns. Fulbright projects span every major discipline, and recipients carry out a wide variety of unique projects and activities while on their grant.
- Eligibility: The Fulbright U.S. Student Program offers fellowships for U.S. graduate students and young professionals to study, conduct research, or teach English abroad. The Fulbright Foreign Student Program offers opportunities for foreign graduate students to study, conduct research, or teach their native language in the U.S. U.S. applicants (U.S. citizens) apply either through their university or college or at-large to the cooperating agency responsible for the program in which they are interested. Non-U.S. applicants (non-U.S. citizens) apply to either the Fulbright Commission in their country of citizenship or the U.S. Embassy in their country of citizenship (in countries where there is not a Fulbright Commission).
- Award/Program Size: Awards are dependent on location; applicants should contact relevant program officers for more information. Programs last between six months and one year.
- Due Date: Applications are due October 13, 2015 for the U.S. Student Program.

Source: <u>http://eca.state.gov/fulbright/fulbright-programs/program-summaries/student-program;</u> <u>http://exchanges.state.gov/non-us/program/fulbright-foreign-student-program</u>

Fulbright Regional Network for Applied Research (NEXUS) Program

- Overview: The NEXUS program provides support to establish a network of junior scholars, professionals, and mid-career researchers to participate in a year-long multidisciplinary team project. Up to 20 individuals, including a fourth from the U.S. and a half from other Western Hemisphere countries collaborate in projects on: Renewable Energy, including Micro-Grid Innovations; Social and Behavioral Adaptation to Climate Change; Measuring Climate Change and its Impact (Metrics and Standards); Climate Change and Food and Water Security.
- Eligibility: Applicants must be from Latin America, Canada, the Caribbean or the United States, and must be "rising scholars or practitioners active in the academic, public or private sectors."
- Award/Program Size: NEXUS scholars receive \$35,000. The program lasts for approximately ten months.
- Due Date: The competition is now closed and information is not currently available on the timing for the next competition.

Source: <u>http://exchanges.state.gov/us/program/fulbright-regional-network-applied-research-nexus-program; http://www.cies.org/program/fulbright-nexus-regional-scholar-program</u>

National Endowment for the Humanities

The National Endowment for the Humanities (NEH) is one of the largest funders of humanities research and education programs in the U.S. Given the nature of humanities research, a number of programs and initiatives include an international component or focus. Two such opportunities are described below. For more information on opportunities available and potentially new ideas for international collaborations, it is best to contact the relevant NEH program officer.

Digging into Data

- Overview: The Digging into Data Challenge aims to address "how 'big data' changes the research landscape for the humanities and social sciences." Digging into Data will consider which new computationally based research methods are needed to maximize the massive amounts of digital data available. The overall aim is to create a new research infrastructure for the 21st century. For this program, applicants will develop international teams with researchers from at least two teams. Ten international funding agencies, representing Canada, the Netherlands, the United Kingdom, and the U.S, participated in the last solicitation, which supports projects by international teams.
- Eligibility: Eligibility requirements follow those of the national funding agency. For example, for U.S. participants, the lead investigator would receive the grant from NSF, NEH or the Institute of Museum and Library Services (IMLS), and would be required to adhere to the relevant agency rules and procedures.
- Award/Program Size: Award amounts from each national funding agency vary.
- Due Dates: This program has not been funded since 2013 and its fate is ultimately unclear.

Sources: http://www.neh.gov/grants/odh/digging-data-challenge; http://www.diggingintodata.org/

Collaborative Research Programs

- Overview: Collaborative Research Grants support "interpretive humanities research undertaken by a team of two or more scholars, for full-time or part-time activities for periods of one to three years." Eligible projects include research projects, conferences, and archaeological projects among others.
- Eligibility: Applicants must be a U.S. nonprofit organization; however, collaborators can be from other countries.
- Award/Program Size: Awards are made for a minimum of one year and up to a maximum of three years. Typically, funding ranges from \$25,000 to \$100,000 per year. Specifically, conference awards last for at least one year and range from \$15,000 to \$65,000 per grant.
- Due Dates: The deadline is December 9, 2015 for projects that will begin in October 2016. Historically, the funding ratio for this competition has been ten percent with around 13 awards granted per year.

Source: <u>http://www.neh.gov/grants/research/collaborative-research-grants</u>

National Institute of Standards and Technology

International activities at the National Institute of Standards and Technology (NIST) are coordinated by the Office of International Affairs (OIA)³. OIA acts as a contact point for all foreign visitors coming to NIST, provides advice for NIST researchers travelling abroad, and coordinates NIST involvement in

³ <u>http://www.nist.gov/iaao/intlaffr.cfm</u>

bilateral science and technology agreements. While the programs described below are for NIST researchers, the opportunities are included as information for any faculty collaborating with NIST researchers.

Foreign Guest Researcher Program

- Overview: The Foreign Guest Research Program enables researchers from abroad to work in collaboration with NIST scientists. OIA helps successful applicants with all policy and procedural issues.
- Eligibility: Foreign guest researchers fall into the following three categories:
 - "Those supported by their home institution
 - Researchers supported through bilateral programs or international organizations
 - Direct scientist-to-scientist collaboration or support."
- Award/Program Size: In general, guest research support is provided by a sponsoring company or organization. NIST sometimes can assist with modest U.S. living expenses.
- Due Date: For information regarding the due dates, applicants should contact the points of contact for the Foreign Guest Researcher Program available at the link below.

Source: <u>http://www.nist.gov/iaao/intlaffr.cfm#foreign</u>

Foreign Visitor Program

- Overview: OIA coordinates the short term visits of foreign visitors to NIST; longer visits are supported through the Foreign Guest Research Program (above).
- Eligibility: Support is open to foreign researchers; a two week advance notice is requested.
- Award/Program Size: No funding is available, although NIST will host technical meetings according to the interests of the visitor.
- Due Date: For information regarding due dates, applicants should contact the points of contact for the Foreign Visitor Program available at the link below.

Source: http://www.nist.gov/iaao/intlaffr.cfm#visitor

National Science Foundation

The National Science Foundation (NSF) provides a variety of opportunities for U.S. researchers to pursue international research collaborations and international staff or student exchange. In general, any new grant proposal submitted to NSF may include an international component where appropriate. In addition to broad support, international collaboration is also supported through more focused initiatives that are described below. Generally, NSF will fund the U.S. researcher or student while collaborators in partner countries will be funded through their own national funding.

International activities within NSF are coordinated by the Office of International Science and Engineering (OISE)⁴. OISE promotes international collaboration across NSF directorates and programs. OISE runs a

⁴ <u>http://www.nsf.gov/div/index.jsp?div=OISE</u>

number of programs as well as provides supplemental funding⁵ to existing grants for international activity. International supplements are one of the most straight forward mechanisms to support international collaboration. It is worth noting that international activities within NSF are increasingly becoming embedded within the directorates. NSF strongly recommends that Principal Investigators (PIs) speak with the relevant program or OISE regional/country program officer prior to submitting an international proposal.

Partnerships for International Research and Education (PIRE)

- Overview: OISE's flagship and most competitive international program, PIRE seeks to catalyze a higher level of international engagement in the U.S. science and engineering community by supporting innovative, international research and education collaborations. PIRE supports large scale projects on the institution to institution scale. While previous PIRE solicitations have focused on specific NSF research priority areas, such as the Science, Engineering, and Education for Sustainability (SEES) initiative, the most recent solicitation is open to "all areas of science and engineering research which are supported by the NSF." NSF partners with a number of foreign funding agencies, who may provide additional project funding.
- Eligibility: Only one proposal may be submitted per institution. The latest solicitation included additional funding from foreign funding agencies to PIs in those countries; local eligibility rules apply in those cases.
- Award/Program Size: In the latest solicitation, \$10-\$15 million is available annually to support 10-15 projects. Average funding is around \$4-\$5 million per award.
- Due Dates: For the most recent solicitation, preliminary proposals were due October 21, 2014 with full proposals due May 15, 2015.

Sources: <u>http://www.nsf.gov/pubs/2014/nsf14587/nsf14587.htm</u> *and* <u>http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505038&org=OISE&from=home</u>.

Research Coordination Networks (RCN)

- Overview: The RCN program uses novel networking strategies to advance a field or create a new direction in research or education. RCNs are supported through NSF discipline programs and provide funding to establish new collaborations including those across international boundaries. RCNs support researchers to share information, collaborate on ongoing research, to develop new collaborations, and advance research and education through the sharing of ideas and best practices. NSF has created a targeted RCN track to support Undergraduate Biology Education (RCN-UBE), which focuses on "any topic likely to lead to improved participation, learning, or assessment in undergraduate biology curricula" and increases collaboration between BIO and EHR. Other cross NSF program that support RCS include the Dynamics of Coupled Natural and Human Systems (CNH) and the Ecology and Evolution of Infectious Diseases (EEID) Programs.
- Eligibility: Standard NSF eligibility criteria apply see relevant program for RCN participation.

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https://www.fastlane.nsf.gov/NSFHelp/flashhelp/fastlane/FastLane_Help/fastlane_help.htm#supplemental_fundi ng_request_introduction.htm

- Award/Program Size: Funding of \$7.5-\$12.5 million is available pending the availability of funding to support 15-25 awards. This varies across disciplinary research programs and RCN tracks.
- Due Date: Full proposals are accepted anytime and should be submitted to a participating program (see the specific program website for submission dates). The RCN-UBE track deadline is January 6, 2016, then January 4, 2017.

Source: <u>http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=11691</u> *and* <u>http://www.nsf.gov/pubs/2015/nsf15527/nsf15527.htm</u>.

Science Across Virtual Institutes (SAVI)

- Overview: The SAVI program aims to bring together international teams of researchers both physically and virtually to work collaboratively on problems of mutual interest. NSF will support the U.S. participants as a supplement to an existing grant or as a full proposal to an existing NSF program. Projects aim to "enhance research collaboration; data sharing; networking; and technical exchanges of students, post docs, and junior faculty across borders." It is recommended that PIs speak with the relevant program officer before submitting a proposal; in a number of cases the RCN program above may be more suitable. Information on the existing SAVI awards is available at http://www.nsf.gov/news/special_reports/savi/awards.jsp.
- Eligibility: The NSF general eligibility requirements apply to SAVI.
- Award/Program Size: Awards vary from \$50,000 to \$400,000 per year for up to five years. There is no set budget for SAVI, as awards are made through relevant discipline programs.
- Due Dates: Proposals are accepted at any time.

Source: http://www.nsf.gov/news/special_reports/savi/index.jsp.

International Research Experience for Students (IRES)

- Overview: This program supports groups of U.S. undergraduate or graduate students conducting research abroad in collaboration with foreign investigators.
- Eligibility: Proposals must be submitted by a U.S. institution, organization, or professional society. Award recipients must be U.S. citizens or permanent residents.
- Award/Program Size: NSF expects to award 12 awards of up to \$250,000 each over three years. NSF expects approximately \$2.25 million in total funding.
- Due Dates: Proposals are due annually on the third Tuesday in August.

Source: <u>http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=12831</u>.

East Asia and Pacific Summer Institutes for U.S. Graduate Students (EAPSI)

• Overview: This fellowship program introduces graduate students to East Asia and Pacific science and engineering through first-hand research experiences and exposure to science policy, scientific infrastructure, society, culture, and language. Institutes are located in Australia, China, Japan, South Korea, New Zealand, Singapore and Taiwan and occur each summer between June and August.

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- Eligibility: Applicants must be enrolled in a research-oriented master's or Ph.D. program at a U.S. institution and pursuing studies in fields of science and engineering supported by NSF. Applicants must be U.S. citizens or permanent residents.
- Award/Program Size: There are an estimated 200 awards annually. The program provides a \$5,000 stipend, a roundtrip international airline ticket, and a pre-departure orientation in the Washington, D.C. area. Foreign co-sponsoring organizations will provide additional support to cover EAPSI students' living expenses abroad for the summer institutes.
- Due Date: The deadline for applications to participate in the following summer institute is the second Thursday in November each year.

Source: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5284.

Graduate Research Opportunities Worldwide (GROW)

- Overview: GROW is an effort to support international research collaboration through the NSF Graduate Research Fellowship Program (GRFP). GROW will enable NSF supported Graduate Research Fellows (GRFs) to spend between three and twelve months in a partner country. GROW will add an international component to the GRF that will prepare Fellows to successfully engage in the global research environment by providing access to leading researchers and facilities around the world at an early stage of their career. The GROW program currently enables collaborations with Australia, Austria, Brazil, Chile, Denmark, Finland, France, India, Ireland, Japan, South Korea, Netherlands, Norway, Singapore, Sweden, and Switzerland.
- Eligibility: GROW is open to current GRFs.
- Award/Program Size: GROW awards will include a \$5,000 travel supplement from NSF, plus an additional stipend from the host agency in the partnering country for living expenses. Details for each partner country are different; links to country specific information is available at http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=6201&org=DGE.
- Due Dates: To be announced expected to be fall of 2015.

Source: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=6201&org=DGE.

Catalyzing New International Collaborations (CNIC)

- Overview: CNIC awards provide a small amount of funding to support planning visits abroad for U.S. researchers to develop full research proposals that will be submitted to NSF at a later date. Before submitting a proposal, PIs should contact the relevant NSF program office to decide if CNIC is suitable for their project.
- Eligibility: NSF general eligibility requirements apply to CNIC.
- Award/Program Size: "CNIC is temporarily suspended due to higher-than-anticipated application rates and inadequate funds, proposals may be submitted in the future and will be considered if funds are available."
- Due Dates: No future due dates have been announced to date.

Source: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=12815

U.S. Agency for International Development

In partnership with the Department of State, the U.S. Agency for International Development (USAID) is responsible for implementing the nation's global development agenda. Under the current administration, global development policy continues to be seen as a tool of diplomacy. In the last few years, USAID has developed a reform agenda to improve efficiency and effectiveness, build new partnerships, and focus on innovation and results. Actions pertaining to the academic community include: increased reliance on evidence-based work (through rigorous research findings); new programs to build local and country-level capacity; and more work with a larger number of small organizations.

One of the main ways that USAID engages with universities is through the U.S. Global Development Lab (USGDL), created in April of 2014. USGDL's mission is two-fold: "To produce breakthrough development innovations by sourcing, testing, and scaling proven solutions to reach hundreds of millions of people" and "To accelerate the transformation of the development enterprise by opening development to people everywhere with good ideas, promoting new and deepening existing partnerships, bringing data and evidence to bear, and harnessing scientific and technological advances." ⁶

In terms of international research and science programs, USAID is working to:

- "Empower developing country scientists to build the capacity of their own countries and address critical development challenges with innovative solutions
- Leverage the expertise, investments, and resources of U.S. government science agencies to more effectively tackle the global challenges faced by both the U.S. and developing countries
- Use science and technology as a common language for enhanced bilateral engagement that strengthens the global scientific and research ecosystem
- Build robust interpersonal relationships, which foster broader scientific progress
- Drive innovation through supporting new endeavors in science and technology"⁷

Also of interest, USAID recently established a Higher Education Coordinator position in April of 2015 to "improve awareness of USAID opportunities and increase engagement avenues for the agency."⁸ This position will work broadly across the agency to promote collaboration with universities.

While USAID issues periodic solicitations for targeted research, much of the funding authority lies within individual missions throughout the world. With this in mind, it is important for interested faculty to begin making contact with personnel in appropriate USAID bureaus and country missions in order to highlight their research.

Partnerships for Enhanced Engagement in Research (PEER)

• Overview: PEER is a collaborative program between NASA, NIH, NSF, Smithsonian Institution, USDA, and USGS. The program is managed by the National Academy of Sciences (NAS). Specifically, PEER is a competitive program that supports researchers in developing

⁶ <u>https://www.usaid.gov/GlobalDevLab/about</u>

⁷ <u>http://www.usaid.gov/what-we-do/science-technolog-and-innovation/international-research-science-programs</u>

⁸ <u>https://www.usaid.gov/news-information/press-releases/apr-10-2015-dr-barbara-o-schneeman-joins-usaid-higher-education-coordinator</u>

countries while conducting research and capacity-building. This research and capacity-building must focus on USAID priority areas. With these specific areas, the PEER program has both broad solicitations, as well as country and regional solicitations that target specific needs.

- Eligibility: PEER will directly fund scientists in developing countries. Eligible countries are determined by the focus area of the grant solicitation. These international scientists may partner with researchers supported by NASA, NIH, NSF, Smithsonian, USDA, and USGS as a PEER collaborator.
- Award/Program Size: Typically, PEER awards last for one to three years. Awards granted to a single institution range from \$40,000 to \$80,000 per year and awards to multiple institutions range from \$80,000 to \$120,000 per year.
- Due Date: Solicitations are typically announced each year in the fall and have individual due dates. The next solicitation is expected to be announced in October of 2015.

Source: <u>http://sites.nationalacademies.org/pga/dsc/peer/index.htm;</u> <u>https://www.usaid.gov/what-we-</u>do/GlobalDevLab/international-research-science-programs/peer

Development Innovation Ventures (DIV)

- Overview: DIV aims to develop new solutions to global development challenges that have the
 potential to change millions of lives at a fraction of the normal cost. DIV supports new,
 potentially transformative projects that are rigorously tested, and scales solutions to
 demonstrate effectiveness. Projects may be technical solutions as well as new business models,
 processes, or new combinations of existing practices. DIV runs a competition for ideas, seeks
 input from a range of stakeholders, and then supports projects at three stages:
 - Stage One Proof of concept projects.
 - Stage Two For larger, country-scale projects, that include rigorous testing to ensure the solution works at the larger scale. Stage 2 projects should have met the requirements for Stage 1.
 - Stage Three For much larger projects to extend projects that already have proven success to a much larger scale.
- Eligibility: Applications are welcome from many different organizations including: U.S. and non-U.S. organizations, individuals, non-profits, as well as for-profits. These organizations must be located in a USAID country.
- Award/Program Size:
 - Stage One These projects range from \$25,000 to \$150,000 per project.
 - Stage Two These projects range from \$150,000 to \$1,500,000 per project.
 - Stage Three These awards range from \$1,500,000 to \$15,000,000 depending on category of award.
- Due Date: Applicants may submit a letter of interest at any time. DIV has several closing dates. More information on this is available on the website.

Source: https://www.usaid.gov/div/about; https://www.usaid.gov/div/model

Environmental Protection Agency

The U.S. Environmental Protection Agency (EPA) collaborates with international partners to address a wide range of global environmental issues in the following priority areas:

- Making a Visible Difference in the Environment Across Communities
- Addressing Climate Change and Improve Air Quality
- Taking Action on Toxics and Chemical Safety
- Protecting and Expanding Access to Clean Water
- Launching State, Tribal, and Local Partnerships
- Embracing EPA as a High Performing Organization
- Working Toward a Sustainable Future

EPA has limited extramural opportunities for university researchers, as EPA utilizes its own labs and federal experts. However, EPA will occasionally release opportunities to complement EPA research efforts. A notable past example of an extramural international funding opportunity includes the "Joint U.S.-UK Research Program: Environmental Behavior, Bioavailability and Effects of Manufactured Nanomaterials." The solicitation ended in 2009. More information on this program is available at http://www.epa.gov/ncer/rfa/2009/2009_uk_nano.html.

Source: http://www2.epa.gov/aboutepa/epas-themes-meeting-challenge-ahead

Department of Defense

The Department of Defense (DOD) funds research that is relevant to its mission, predominately drawing from engineering, computer/information science, and physical sciences researchers from the U.S. While DOD research is often proprietary and performed to enhance U.S. national security, service branch and agency research offices throughout DOD maintain a limited suite of international programs designed to keep the U.S. military at the forefront of technological advancement and innovation. Many of DOD's international research and exchange opportunities are targeted at internal scientists or other DOD personnel, although opportunities exist for external faculty members to engage. Beyond international research programs, DOD also facilitates employee and academic exchanges to boost cooperation with allies on science and engineering issues. Select topics on which DOD has recently engaged in international research include climate change, clean energy, cybersecurity, and pandemic diseases. As with other DOD funding opportunities, a key way to engage is to build relationships with relevant program officers.

It should be noted that DOD is more selective in what it funds internationally due to the sensitive nature of work involving U.S. national security and funded projects can be subject to restrictions. With that said, international research and education supported by the service branch research offices includes:

• Air Force Office of Scientific Research: The Air Force Office of Scientific Research (AFOSR) funds multiple research and exchange programs with international partners. Chief among these efforts are AFOSR Detachments in Tokyo, London, and Santiago designed to give AFOSR on the ground presence in key regions for scientific collaboration. These Detachments are collocated with Army and Navy international offices, and they administer programs ranging from support

Lewis-Burke Associates LLC September 2015 for conference attendance to direct research funding. More information is available at http://www.wpafb.af.mil/library/factsheets/factsheet.asp?id=8971.

- Army Research Laboratory: Similar to AFOSR, the Army Research Laboratory (ARL) maintains International Technology Centers (ITCs) in Tokyo, London, and Sao Palo with the goal of fostering scientific collaboration with overseas research partners. Codified international activities are relatively new for ARL, having been formally launched in 2011. Each of the ARL directorates that participates is connected with the ITCs, and information about specific opportunities for engagement can be obtained through ARL program managers. Additionally, ARL maintains bi- and multi-lateral research partnerships with a host of U.S. allies in targeted areas. More information available at http://www.arl.army.mil/www/default.cfm?article=569.
- Office of Naval Research: The Office of Naval Research (ONR) also oversees an aggressive portfolio of international scientific programs through its ONR-Global initiative (ORNG). Key components of ONRG include the Naval International Cooperative Opportunities in Science and Technology Program (NICOP), which supports international research collaborations in areas of interest to ONR; a Visiting Scientist Program (VSP), which supports short-term visits to the U.S. for international scientists working in priority areas for ONR; and a Collaborative Science Program (CSP), which supports international workshops and conferences bringing together global researchers working in support of ONR science priorities. More information on each of these programs, including application instructions, is available at http://www.onr.navy.mil/Science-Technology/ONR-Global.aspx. Researchers can also submit inquires to ONRG.ContactUS@mail.mil to be connected with the appropriate ONR program

National Aeronautics and Space Administration

manager for their international interests.

The National Aeronautics and Space Administration (NASA) conducts space exploration work in five principal categories: Science, Aeronautics, Space Technology, Exploration, and Operations. While NASA participates in many international collaborations, these tend to be driven by high-level agreements on specific scientific or human exploration missions such as Mars rovers or the International Space Station. Individual researchers can apply to participate in these missions through membership on science definition teams or by being a part of an instrument development team. NASA does not have any programs designed to fund international collaborations for individual researchers.

National Oceanic and Atmospheric Administration

The mission of National Oceanic and Atmospheric Administration (NOAA) is to understand and predict changes in the Earth's environment and to conserve and manage coastal and marine resources. NOAA is organized according to line offices, including the National Weather Service, the National Ocean Service, and the Office of Oceanic and Atmospheric Research, among others. The Office of Oceanic and Atmospheric Research, which is where the majority of NOAA's extramural research funding is maintained, is organized into three general research topic areas: Climate Research; Weather and Air Quality Research; and Ocean, Coastal and Great Lakes Research.

Given the global nature of NOAA's research, international collaborations are key. However, the majority of NOAA research funding is intramural and international collaborations tend to take the form of government-to-government agreements on topics such as Cooperation on Space Weather⁹.

European Commission

Horizon 2020

From 2014 to 2020, the European Union (EU) will fund research and development through its new Horizon 2020 initiative, which will have a total budget of \$107 billion (€80 billion). While most of this funding is to support researchers within the EU, there are some opportunities for U.S. researchers to participate. Eligibility varies for each program and individual solicitation; therefore, researchers must check relevant funding opportunities to determine eligibility. Horizon 2020 also provides the opportunity for U.S. researchers to collaborate with major EU research projects through new or existing awards from U.S. funding agencies.

Horizon 2020 has three main program sections: Excellent Science¹⁰, Industrial Leadership¹¹, and Societal Challenges¹². More detail on the program sections is provided below:

- **Excellent Science** includes the following programs:
 - European Research Council (ERC) –supports individual researchers from anywhere in the world to carry out transformative, multi-disciplinary research in new and emerging fields; researchers must be based at an eligible EU research organization to carry out their project
 - Future and Emerging Technologies (FET) aims to transfer the knowledge created within the EU science base into a competitive advantage
 - Marie Skłodowska-Curie Actions (MSCA) supports transnational, inter-sectoral and interdisciplinary mobility for all stages of the research career
 - European Research Infrastructures, including e-Infrastructures supports the implementation and operation of the European Strategy Forum on Research Infrastructures (ESFRI) roadmap and other world-class research infrastructures
- **Industrial Leadership** aims to increase the speed of development of new technologies and innovations to support tomorrow's business; it includes the following programs:
 - Information and Communication Technologies
 - Nanotechnologies, Advanced Materials, Advanced Manufacturing and Processing, and Biotechnology
 - o Space
- **Societal Challenges** provides a challenge-based approach to bring together resources and expertise across different fields, technologies and disciplines, and includes the following programs:
 - Health, Demographic Change and Wellbeing
 - Food Security, Sustainable Agriculture and Forestry, Marine, Maritime and Inland Water Research and the Bioeconomy

⁹ http://www.noaanews.noaa.gov/stories2012/pdfs/UK-

NOAA%20Joint%20Statement%20_cleared%20by%20Sir%20JB%2021%20june.pdf

¹⁰ http://ec.europa.eu/programmes/horizon2020/en/h2020-section/excellent-science

¹¹ http://ec.europa.eu/programmes/horizon2020/en/h2020-section/industrial-leadership

¹² <u>http://ec.europa.eu/programmes/horizon2020/en/h2020-section/societal-challenges</u>

- Secure, Clean and Efficient Energy
- Smart, Green and Integrated Transport
- o Climate Action, Environment, Resource Efficiency and Raw Materials
- Europe in a changing world Inclusive, innovative and reflective societies
- Secure societies Protecting freedom and security of Europe and its citizens

More information on Horizon 2020 is available at http://ec.europa.eu/programmes/horizon2020/en/.