WICHITA STATE UNIVERSITY
RESEARCH AND TECHNOLOGY TRANSFER

Funding Bulletin

January 13th, 2017 (Vol. 4, No. 7)

Funding Information

To receive funding information, please contact funding@wichita.edu.

NOTICE – Notification for the current Funding Bulletin is sent via email. To be added to the electronic mailing list, send an email message to: *funding@wichita.edu.* Leave the subject line blank. In the message area, type: *sub funding bulletin.* To unsubscribe, type: *unsub funding bulletin.*

The selected compilation of funding opportunities is provided by RTT's Pre-Award Services as a resource for Wichita State University Researchers. We encourage you to utilize the campus subscription to PIVOT to find funding opportunities specifically tailored to your research area based on keywords you provide. PIVOT is easy to use and offers other valuable services that are helpful to researchers. Access is available at: *http://pivot.cos.com/home/index* or you may contact *funding@wichita.edu* to have a custom search ran.

Click on the links below to go directly to the named section included in this edition's bulletin

How to Apply

Proposal development requests should be sent to *proposals@wichita.edu.* Please click on the following link for information regarding proposal submission at WSU:

http://webs.wichita.edu/?u=WSURESEARCHADMIN&p=/Proposals/PreAwardServices/

WICHITA STATE UNIVERSITY
RESEARCH AND TECHNOLOGY TRANSFER

OFFICE OF RESEARCH WORKSHOPS

For more information contact Jana Henderson at jana.henderson@wichita.edu or 978-3285.

For complete schedule go to: http://webs.wichita.edu/?u=wsuresearchadmin&p=/researchworkshops/

WORKSHOP TITLE	DATE	TIME	ROOM	DESCRIPTION
Conflicts of Interest, Financial Conflicts of Interests & Management Plans	Jan. 20	1:00 – 2:30 p.m.	405 Jardine Hall	Please join the Compliance team to hear about Conflicts of Interest, Financial Conflict of Interest reporting required by Public Health Services Agencies, and Management Plans.
IP Disclosure Form Open Lab	Feb. 7	2:00 – 4:00 p.m.	215 Devlin Hall, 2nd Floor	Come with your questions and get assistance completing an IP disclosure form for your ideas, technology, curriculum, research and more. ***This is a come and go lab with no registration required.***
IRB Open Lab	Feb. 13	10:00 – 11:30 a.m.	405 Jardine	The IRB Administrator will be holding Open Labs this fall for Faculty, Staff or Students who have questions about the new forms or about their study in general. ***This is a come and go lab with no registration required.***
Research Compliance Open Lab	Feb. 15	9:00 – 11:00 a.m.	Devlin Hall Innovation Hub	The Research Compliance Office will hold an open lab for questions regarding hiring foreign nationals; shipping or receiving items from outside the US; international travel; review of Research projects for export compliance; conflicts of interest & management plans. ***This is a come and go lab with no registration required.***

WICHITA STATE UNIVERSITY
RESEARCH AND TECHNOLOGY TRANSFER

INTERNAL OPPORTUNITIES

Award for Research/Creative Projects (ARC)
Wichita State University
Due Date: 2/3/2017

Award for Research/Creative projects provide salary/fringes of $3,000* for 2 months, plus $1,000 for other operating expenses (total of $4,000) to enable faculty to pursue research or creative projects during the summer.

Flossie E. West Foundation Award
Wichita State University
Due Date: 3/3/2017

The Flossie E. West Memorial Foundation provides support for research relating to the study and cure of cancer. Multiple grants may be awarded for up to approximately $25,000 dependent on foundation funds. Awards are intended as seed money to develop pilot data for proposals to be submitted to governmental agencies, foundations, or industries. Funds are restricted to WSU faculty project expenses.

For more information on these internal awards, visit:
http://webs.wichita.edu/?u=wsuresearchadmin&p=/orainternalgrants/orainternalgrants/

LIMITED SUBMISSIONS

Limited submission programs have sponsor restrictions on the number of proposals that may be submitted by a single institution and will require institutional screening to determine which applications will be submitted. Karen Davis, Director of Pre-Award Services, is the internal coordinator for limited submission programs. Please notify *proposals@wichita.edu*, by the internal Notice of Intent (NOI) due date listed in the Funding Bulletin if you wish to submit a limited submission program. **Because many limited submission programs often have short turnaround times, it is important that researchers also periodically check the Office of Research's *Limited Submission Opportunities* webpage for additional opportunities that may not have made it into the bulletin. There are currently *eleven* open limited submission competitions:**

(1) Undergraduate Education Program
Keck Foundation, W.M.
Due Date: Internal NOI 1/13/2017; Pre-application Counseling 1/1/2017 – 2/15/2017; Phase 1 Application 5/1/2017; Full Proposal 8/15/2017

The foundation established this program to promote distinctive learning and research experiences in science, engineering and the liberal arts.

This program aims to:
- Foster new levels of student engagement and understanding, especially through active learning and collaborative curriculum development;
- Expand interdisciplinary activities in balance with needs of each discipline;
- Incorporate research activities into the curriculum and raise the bar of expectations regarding publications and presentations by undergraduates;
- Enhance science and technology literacy for students in all disciplines; and
- Develop new ways to simulate critical thinking and other core competencies of a liberal arts education.

Applicants may submit one request per grant cycle. Initial contact from a multi-unit organization (such as a college, university or agency branch location) must be coordinated through the institution's central development office.

- **URL:** *http://www.wmkeck.org/grant-programs/undergraduate-program*

(2) Camille Dreyfus Teacher-Scholar Award
Dreyfus Foundation, Inc., Camille and Henry
Due Date: Internal NOI 1/13/2017; Nomination 2/10/2017

The awards program supports the research and teaching careers of talented young faculty in the chemical sciences. The program provides discretionary funding to faculty at an early stage in their careers. Criteria for selection include an independent body of scholarship attained within the first five years of their appointment as independent researchers, and a demonstrated commitment to education, signaling the promise of continuing outstanding contributions to both research and teaching. ***Institutions may submit only one Dreyfus nomination annually.***

- **URL:** *http://www.dreyfus.org/awards/camille_dreyfus_teacher_award.shtml*

(3) Grants to Organizations
Graham Foundation for Advanced Studies in the Fine Arts
Due Date: Internal NOI 1/20/2017; 2/25/2017 *(Application available on 1/9/2017)*

For organizations, the foundation's priorities are to:
- assist with the production and presentation of significant programs about architecture and the designed environment in order to promote dialogue, raise awareness, and develop new and wider audiences;
- support them in their effort to take risks in programming and create opportunities for experimentation;
- recognize the vital role they play in providing individuals with a public forum in which to present their work; and
- help them to realize projects that would otherwise not be possible without the foundation's support.

Overall the foundation is most interested in opportunities that enable it to provide critical support at key points in the development of a project or career. The foundation offers Production and Presentation Grants to organizations. These grants assist organizations with the production-related expenses that are necessary to take a project from conceptualization to realization and public presentation. These projects include, but are not limited to, publications, exhibitions, installations, films, new media projects, conferences/lectures, and other public programs. Projects must have clearly defined goals, work plans, budgets, and production and dissemination plans. ***An organization or academic department/unit may only apply for one grant per year. (In the case of large institutions with multiple departments, a subsidiary department/unit may apply for one grant per year. For example, an academic department/unit at a university may apply for one grant per year.)***

- **URL:** *http://www.grahamfoundation.org/grant_programs/?mode=organization*

(4) NSF Scholarships in Science, Technology, Engineering, and Mathematics (S-STEM)
National Science Foundation (NSF)
Due Date: Internal NOI 1/13/2017; Full Proposals 3/29/2017

The NSF Scholarships in Science, Technology, Engineering, and Mathematics (S-STEM) program addresses the need for a high quality STEM workforce in STEM disciplines supported by the program and for the increased success of low-income academically talented students with demonstrated financial need who are pursuing associate, baccalaureate, or graduate degrees in science, technology, engineering, and mathematics (STEM). Recognizing that financial aid alone cannot increase retention and graduation in STEM, the program provides awards to Institutions of Higher Education (IHEs) to fund scholarships and to advance the adaptation, implementation, and study of effective evidence-based curricular and co-curricular activities that support recruitment, retention, transfer, student success,

academic/career pathways, and graduation in STEM. The program encourages collaborations among different types of partners: Partnerships among different types of institutions; collaborations of STEM faculty and institutional, educational, and social science researchers; and partnerships among institutions of higher education and local business and industry. The program seeks: 1) to increase the number of low-income academically talented students obtaining degrees in STEM and entering the workforce or graduate programs in STEM; 2) to improve the education of future scientists, engineers, and technicians, with a focus on low-income students; and 3) to generate knowledge to advance understanding of how factors or evidence-based curricular and co-curricular activities affect the success, retention, transfer, academic/career pathways, and graduation in STEM of low-income students. ***An Institution may submit one proposal from each constituent school or college that awards degrees in an eligible field.*** **NSF 17-527**

- **URL:** *https://www.nsf.gov/pubs/2017/nsf17527/nsf17527.htm*

(5) Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science (NSF INCLUDES)

National Science Foundation (NSF)

Due Date: Internal NOI 1/13/2017; Preliminary Proposal 2/14/2017; Full Proposal 5/16/2017

Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science (NSF INCLUDES) is a comprehensive national initiative designed to enhance U.S. leadership in science, technology, engineering and mathematics (STEM) discoveries and innovations focused on NSF's commitment to diversity, inclusion, and broadening participation in these fields. NSF INCLUDES supports efforts to create networked relationships among organizations whose goals include developing talent from all sectors of society to build the STEM workforce. This initiative seeks to improve collaborative efforts aimed at enhancing the preparation, increasing the participation, and ensuring the contributions of individuals from groups that have traditionally been underrepresented and underserved in the STEM enterprise: women, persons with disabilities, African Americans/Blacks, Hispanic Americans, American Indians, Alaska Natives, Native Hawaiians, Native Pacific Islanders, and persons from economically disadvantaged backgrounds. Significant advancement in the inclusion of these groups will result in a new generation of STEM talent and leadership to secure our nation's future and long-term economic competitiveness. The grand challenge of broadening participation in STEM is to transform the STEM enterprise at all levels in order to fully engage the nation's talent for the ultimate improvement of the STEM enterprise. As a comprehensive national initiative, NSF INCLUDES aims to address the various complex equity and inclusion-related challenges and opportunities that characterize the nation's cultural and linguistic diversity, with a specific emphasis on the aforementioned groups. The goal is to achieve impact at the national level. Viewing inclusion as an asset and opportunity for social innovation, NSF is particularly interested in using approaches to scaling and growth, such as collective impact, networked improvement communities,

and strategic partnerships. The objective is to develop networks that involve representative organizations and consortia from different sectors that are committed to a common agenda that comprehensively solves a specific STEM-inclusion problem. The long-term goal of NSF INCLUDES is to support innovative models, networks, partnerships, technical capabilities and research that will enable the U.S. science and engineering workforce to thrive by ensuring that traditionally underrepresented and underserved groups are represented in percentages comparable to their representation in the U.S. population. Researchers and practitioners at minority serving institutions are strongly encouraged to participate in this activity given their experience and expertise in broadening participation. NSF INCLUDES is a multi-year program with three essential components currently under development:
NSF INCLUDES Design and Development Launch Pilots: Two-year pilot projects that explore the feasibility of bold, innovative ways for solving a broadening participation challenge in STEM. Successful pilots will deliver models or prototypes, which incorporate data and measurement infrastructures, supporting collective efforts aimed at increasing the active participation of those who have been traditionally underserved and underrepresented in all STEM fields. NSF INCLUDES Alliances: NSF INCLUDES Alliances will leverage existing Design and Development Launch Pilots, programs, people, organizations, technologies, and institutions to catalyze NSF's broadening participation investments, with each Alliance committed to collectively solving a specific set of objectives.
NSF INCLUDES Backbone Organization: The Backbone Organization will drive the following activities for all NSF INCLUDES Alliances over the lifecycle of the initiative: (a) providing a guiding vision and strategy; (b) developing a collaborative infrastructure to align NSF INCLUDES activities; (c) establishing shared models, measurement practices, and evaluation criteria; (d) building public will; (e) advancing policy; and (f) mobilizing funding. **NSF 17-522** ***An organization may serve as the lead institution on only one Design and Development Launch Pilot proposal.***

- **URL:** *https://www.nsf.gov/pubs/2017/nsf17522/nsf17522.htm*

(6) Art Works: Arts Education

National Endowment for the Arts (NEA)

Due Date: Internal NOI 1/20/2017; Application 2/16/2017; Materials to NEA-GO 3/2/2017

The National Endowment for the Arts' vision for Arts Education is that every student is engaged and empowered through an excellent arts education. Arts education is vital to developing America's next generation of creative and innovative thinkers, and every student should have the opportunity to participate in the arts, both in and out of school. We know that students who participate in the arts are more engaged in life and are empowered to be fulfilled, responsible citizens who can make a profound positive impact on this world. In addition, NEA-supported research has shown that students from low socioeconomic backgrounds who have arts-rich experiences are more likely to achieve key positive outcomes--academically, socially, and civically--compared with their peers who lack access to arts experiences. Arts Education funding is focused on students. Projects are for pre-K-12 students, the

educators and artists who support them, and the schools and communities that serve them. All students are served when each level of the system is supported. Applicants should consider what role their proposed project plays within this system, and the impact their project has on students. We support three types of projects -- Direct Learning, Professional Development and Collective Impact. **2017NEA01AW1** ***An organization may submit only one application through one of the following FY 2018 categories: Art Works or Challenge America. An organization may submit one additional application under the FY 2018 Art Works category for a Creativity Connects project.***

NOTE: Arts Education projects may be in any artistic discipline. Projects for short-term arts exposure, arts appreciation, or intergenerational activity should not be submitted under Arts Education; rather, they should be submitted under the appropriate artistic discipline.

- **URL:** *https://www.arts.gov/grants-organizations/art-works/application-calendar*

(7) Mentoring Research Partners Solicitation

U.S. Department of Justice (DOJ) - Office of Justice Programs (OJP) - Office of Juvenile Justice and Delinquency Prevention (OJJDP)

Due Date: Internal NOI 1/27/2017; Application 2/22/2017

This program will support researchers who seek to partner with OJJDP-funded mentoring organizations to conduct program-specific data collection and evaluation and improve mentoring organization's ability to collect and analyze program-specific data and measures about the delivery and impact of their mentoring services. The successful researcher applicants would also assist the program in using their data/evaluation findings to make programmatic adjustments. **OJJDP-2017-10984** ***Under this solicitation, only one application by any particular applicant entity will be considered. An entity may however, be proposed as a subrecipient ("subgrantee") in more than one application.***

- **URL:** *http://www.grants.gov/web/grants/view-opportunity.html?oppId=290847*

(8) Faculty/Post-Doctoral Grant Program (Fahs-Beck Fellows)

New York Community Trust (NYCT) - Fahs-Beck Fund for Research and Experimentation

Due Date: Internal NOI 2/10/2017; Application 4/3/2017

The Fun awards these grants to help support the research of faculty members or post-doctoral researchers affiliated with non-profit human service organizations in the United States and Canada. Areas of interest to the Fund are: studies to develop, refine, evaluate, or disseminate innovative interventions designed to prevent or ameliorate major social, psychological, behavioral or public health problems affecting children, adults, couples, families, or communities, or studies that have the

potential for adding significantly to knowledge about such problems. The research for which funding is requested must focus on the United States and/or Canada or on a comparison between the United States and/or Canada and one or more other countries. ***Applicants may submit only one proposal per funding cycle.***

- **URL:** *http://www.fahsbeckfund.org/grant_programs.html*

(9) BMEidea

Lemelson Foundation - VentureWell (formerly National Collegiate Inventors and Innovators Alliance (NCIIA))

Due Date: Internal NOI 2/10/2017; Applications 4/5/2017

Since 2005, the BMEidea competition has recognized innovative biomedical engineering design with high commercial potential and social impact. Strong BMEidea submissions define a problem and demonstrate the development of a device, product, or technology designed to solve it. Examples include but are not limited to: surgical devices, home health care devices, diagnostic, therapeutic, and preventative applications, rehabilitative and assistive technologies, or other innovations that will have a substantial impact on clinical care and patient outcomes. Projects should focus on a new health-related technology, be invented by students, and address a real clinical need.

Competition entries are judged on:
- Technical, economic and regulatory feasibility
- Contribution to human health and quality of life
- Technological innovation
- Potential for commercialization

The categories for product designs may include:
- Surgery
- Therapeutic applications
- Diagnostic applications
- Rehabilitative and assistive technologies
- Home healthcare

There is a limit of one entry per department and three entries per institution; it is up to each department to coordinate which entries are submitted. If more applications are submitted by a department or an institution than is allowable, the applications submitted first will be accepted.

- **URL:** *https://venturewell.org/bmeidea/*

(10) Team-Based Design in Biomedical Engineering Education (R25)
National Institutes of Health (NIH)
Due Date: Internal NOI 3/31/2017; Letter of Intent 4/28/2017; Application 5/31/2017

The NIH Research Education Program (R25) supports research education activities in the mission areas of the NIH. The over-arching goal of this NIBIB-NICHD R25 program is to support educational activities that complement and/or enhance the training of a workforce to meet the nation's biomedical, behavioral and clinical research needs. To accomplish the stated over-arching goal, this FOA will support creative educational activities with a primary focus on Courses for Skills Development. This FOA encourages applications from institutions that propose to establish new or to enhance existing team-based design courses or programs in undergraduate Biomedical Engineering departments or other degree-granting programs with Biomedical Engineering tracks/minors. This FOA mainly targets undergraduate students but may also include first-year graduate students. Courses and programs that address innovative and/or ground-breaking development, multidisciplinary/interdisciplinary education, the regulatory pathway and other issues related to the commercialization of medical devices, and clinical immersion are especially encouraged. **PAR-16-108** ***Only one application per institution is allowed.***

- **URL:** *https://grants.nih.gov/grants/guide/pa-files/PAR-16-108.html*

(11) ADVANCE: Increasing the Participation and Advancement of Women in Academic Science and Engineering Careers (ADVANCE)
National Science Foundation (NSF)
Due Date: Deadlines vary by track (see below) *(Internal competition required for IT-Preliminary, Institutional Transformation (IT), or Adaptation tracks only – please contact proposals@wichita.edu for additional information)*

Despite significant increases in the proportion of women pursuing science, technology, engineering, and mathematics (STEM) doctoral degrees, women are significantly underrepresented as faculty, particularly in upper ranks, and in academic administrative positions, in almost all STEM fields. The problems of recruitment, retention, and advancement that are the causes of this underrepresentation vary by discipline and across groups of women faculty (e.g., by race/ethnicity, disability status, sexual orientation, foreign-born and foreign-trained status, and faculty appointment type). The ADVANCE program is designed to foster gender equity through a focus on the identification and elimination of organizational barriers that impede the full participation and advancement of all women faculty in academic institutions. Organizational barriers that inhibit equity may exist in areas such as policy, practice, culture, and organizational climate. For example, practices in academic departments that result in the inequitable allocation of service or teaching assignments may impede research productivity, delay advancement and create a culture of differential treatment and rewards. Policies

and procedures that do not mitigate implicit bias in hiring, tenure, and promotion decisions could mean that women and underrepresented minorities are evaluated less favorably, perpetuating their underrepresentation and contributing to a climate that is not inclusive. The goals of the ADVANCE program are (1) to develop systemic approaches to increase the representation and advancement of women in academic STEM [1] careers; (2) to develop innovative and sustainable ways to promote gender equity that involve both men and women in the STEM academic workforce; and (3) to contribute to the research knowledge base on gender equity and the intersection of gender and other identities in STEM academic careers. The ADVANCE program contributes to the development of a more diverse science and engineering workforce because of the focus on equity for STEM academic faculty who are educating, training, and mentoring undergraduate and graduate students and postdoctoral scholars. There are three program tracks. All projects are expected to build on prior ADVANCE work and gender equity research and literature to broaden the implementation of organizational and systemic strategies to foster gender equity in STEM academic careers. All ADVANCE proposals are expected to recognize that gender does not exist in isolation from other characteristics, such as race/ethnicity, disability status, sexual orientation, foreign-born and foreign-trained status, faculty appointment type, etc., and should offer strategies to promote gender equity for all faculty:

- The ***Institutional Transformation (IT)*** track supports the development of*innovative* organizational change strategies to produce comprehensive change within one non-profit two-year or four-year academic institution across all STEM disciplines. ***IT*** projects are also expected to contribute new research on gender equity in STEM academics. Projects that do not propose innovative strategies may be more appropriate for the ***Adaptation*** track.
- The ***Adaptation*** track supports the adaptation and implementation of evidence-based organizational change strategies, ideally from among those developed and implemented by ADVANCE projects. ***Adaptation*** awards may support the adaptation and implementation of proven organizational change strategies within a non-profit two-year or four-year academic institution that has not had an ADVANCE***IT*** award. ***Adaptation*** awards may also be made to a STEM organization to implement systemic change strategies focused across all STEM disciplines, several STEM disciplines, or within one STEM discipline.
- The ***Partnership*** track will support partnerships of two or more non-profit academic institutions and/or STEM organizations to increase gender equity in STEM academics. Projects should have national or regional impact and result in systemic change within one STEM discipline, several STEM disciplines, or all STEM disciplines. Partnering STEM organizations can include any entity eligible for NSF support. Partners may include professional societies, industry, non-profit organizations, publishers, policy and research entities, state systems of higher education, higher education organizations, as well as institutions of higher education. ***Partnership*** proposals must include a final year focused on sustainability and/or scale-up, communication, and evaluation.

For all proposals, ADVANCE is interested in supporting a range of non-profit academic institution types including: community colleges, primarily undergraduate institutions, minority-serving institutions (e.g. Tribal Colleges and Universities, Historically Black Colleges and Universities, Hispanic-Serving Institutions, Native Hawaiian Serving Institutions, Alaska Native Institutions, Predominantly

Black Institutions and Non-tribal, Native American Serving Institutions), women's colleges, institutions primarily serving persons with disabilities, and master's and doctoral level institutions. **NSF 16-594**

Track * Denotes limited submission	**Internal NOI Deadline**	**Letter of Intent**	**Preliminary Proposal**	**Full Proposal**	
Partnership	12/2/2016	12/14/2016		1/11/2017	
Adaptation*	TBD	8/9/2017		9/13/2017	
Institutional Transformation*	TBD		4/12/2017	1/17/2018	
ADVANCE Resource and Coordination Network				3/15/2017	

- **URL:***http://www.nsf.gov/pubs/2016/nsf16594/nsf16594.htm?WT.mc_id=USNSF_25&WT.mc_ev=click*

GENERAL

Innovations at the Nexus of Food, Energy and Water Systems

National Science Foundation (NSF)

Due Date: 3/6/2017

Humanity is reliant upon the physical resources and natural systems of the Earth for the provision of food, energy, and water. It is becoming imperative that humanity determines how society can best integrate across the natural and built environments to provide for a growing demand for food, water and energy while maintaining appropriate ecosystem services. Factors contributing to stresses in the food, energy, and water (FEW) systems include increasing regional and social pressures and governance issues as result of land use change, climate variability, and heterogeneous resource distribution. These interconnections and interdependencies associated with the food, energy and water nexus create research grand challenges in understanding how the complex, coupled processes of society and the environment function now, and in the future. There is a critical need for research that enables new means of adapting to future challenges. The FEW systems must be defined broadly, incorporating physical processes (such as built infrastructure and new technologies for more efficient resource utilization), natural processes (such as biogeochemical and hydrologic cycles), biological processes

(such as agroecosystem structure and productivity), social/behavioral processes (such as decision making and governance), and cyber elements. Investigations of these complex systems may produce discoveries that cannot emerge from research on food or energy or water systems alone. It is the synergy among these components in the context of sustainability that will open innovative science and engineering pathways to produce new knowledge and novel technologies to solve the challenges of scarcity and variability. The overarching goal of INFEWS is to catalyze the well-integrated interdisciplinary research efforts to transform scientific understanding of the FEW nexus in order to improve system function and management, address system stress, increase resilience, and ensure sustainability. **NSF 17-530**

The NSF INFEWS initiative is designed specifically to attain the following goals:
1. Significantly advance the understanding of the food-energy-water system through quantitative and computational modeling, including support for relevant cyberinfrastructure;
2. Develop real-time, cyber-enabled interfaces that improve understanding of the behavior of FEW systems and increase decision support capability;
3. Enable research that will lead to innovative system and technological solutions to critical FEW problems; and
4. Grow the scientific workforce capable of studying and managing the FEW system, through education and other professional development opportunities.

This activity enables interagency cooperation on one of the most pressing problems of the millennium - understanding interactions across the food, energy and water nexus - how it is likely to affect the world, and how humanity can proactively plan for its consequences. It allows the partner agencies - National Science Foundation (NSF) and the United States Department of Agriculture National Institute of Food and Agriculture (USDA/NIFA) and others - to combine resources to identify and fund the most meritorious and highest-impact projects that support their respective missions, while eliminating duplication of effort and fostering collaboration between agencies and the investigators they support.

INFEWS Tracks
This solicitation outlines four tracks of research:
(1) FEW System Modeling;
(2) Visualization and Decision support for Cyber-Human-Physical Systems at the FEW Nexus;
(3) Research to Enable Innovative Solutions; and
(4) Education and Workforce Development.

- **URL:** *https://www.nsf.gov/pubs/2017/nsf17530/nsf17530.htm*

ARTS & HUMANITIES

Artist Residency Program
Houston Center for Contemporary Craft
Due Date: 3/1/2017

The Houston Center for Contemporary Craft is inviting applications for its 2017-18 Artist Residency Program. From five to ten residencies of from three to twelve months will be awarded to craft artists working in wood, glass, metal, fiber, clay, or mixed media. Each artist will receive a $500 monthly stipend and a $300 quarterly housing/materials allowance. The residency also provides twenty-four-hour access to two-hundred-square-foot artist studios equipped with sinks, telephones, and wireless Internet access. In addition, a wide variety of resources and opportunities, including teaching assignments through HCCC and collaborative works with fellow residents, are also available. During his or her residency, the artist's creative work is represented by HCCC and is considered for display in the Asher Sales Gallery. Additional opportunities include discussions with curators and gallery owners, exposure at HCCC events, and interactions with visiting art professionals; ongoing professional development; and a group exhibition at the end of residency cycle. The application period opens January 1, 2017. Juried selection is based on the quality of creative work, the applicant's ability to interact with the public, his or her career direction, and program diversity. All applicants must be able to fulfill a program requirement of working in their studios twenty-four hours per week and at least two weekends per month during the center's public hours. Accepted artists will be notified via e-mail in April.

- **URL:** *https://www.crafthouston.org/artists/residents/apply-to-program/*

Residency Program
Ucross Foundation
Due Date: Fall Session 3/1/2017, Spring Session 10/1/2017

Artists, writers and composers from around the United States and the world, in all stages of their professional careers, are invited to apply to work on individual or collaborative projects. Applications are also welcome from those writing about the arts, and from individuals working in the natural sciences. Fellows are chosen by a panel of professionals in the arts and humanities in a highly competitive application process. The quality of an applicant's work is given primary consideration. Final invitations for residencies are extended at the discretion of the Foundation.

- **URL:** *http://www.ucrossfoundation.org/residency-program/*

Summer Seminars and Institutes
National Endowment for the Humanities (NEH)
Due Date: 3/1/2017

These grants support professional development programs in the humanities for school teachers and for college and university faculty. NEH Summer Seminars and Institutes may be as short as one week or as long as four weeks. NEH Summer Seminars and Institutes :

- provide models of excellent teaching;
- provide models of excellent scholarship;
- broaden and deepen understanding of the humanities;
- focus on the study and teaching of significant topics, texts, and other sources;
- contribute to the intellectual vitality of participants; and
- build communities of inquiry.

An NEH Summer Seminar or Institute may be hosted by a college, university, learned society, center for advanced study, library or other repository, cultural or professional organization, or school or school system. The host site must be suitable for the project, providing facilities for collegial interaction and scholarship. These programs are designed for a national audience of participants. **20170301-FS**

- **URL:** *https://www.neh.gov/grants/education/summer-seminars-and-institutes*

Literature Fellowships: Creative Writing Fellowships (NEA Literature Fellowships: Prose)
National Endowment for the Arts (NEA)
Due Date: 3/8/2017

The National Endowment for the Arts Literature Fellowships program offers $25,000 grants in prose (fiction and creative nonfiction) and poetry to published creative writers that enable recipients to set aside time for writing, research, travel, and general career advancement. Applications are reviewed through an anonymous process in which the only criteria for review are artistic excellence and artistic merit. To review the applications, the National Endowment for the Arts assembles a different advisory panel every year, each diverse with regard to geography, race and ethnicity, and artistic points of view. The National Endowment for the Arts Literature Fellowships program operates on a two-year cycle with fellowships in prose and poetry available in alternating years. For FY 2018, which is covered by these guidelines, fellowships in prose (fiction and creative nonfiction) are available. Fellowships in poetry will be offered in FY 2019 and guidelines will be available in January 2018. You may apply only once each year. **2017NEA03LFCW**

- **URL:** *https://www.arts.gov/grants-individuals/creative-writing-fellowships/application-calendar*

EDUCATION

Grants
Caplan Foundation for Early Childhood
Due Date: Letters of Inquiry 1/31/2017

The Foundation is intended to be an incubator of promising research and development projects that may ultimately enhance the development, health, safety, education or quality of life of children from infancy through seven years of age across the country. Each of its grants is made with the expectation that a successful project outcome will be of significant interest to other investigators or developers, within the grantee's field of endeavor, and will be amenable to beneficial application or adaptation elsewhere. In essence, the foundation's goal is to provide seed money for those imaginative endeavors, addressed to the needs of young children, which appear most likely to bear fruit on a national scale.

The Foundation provides funding in the following areas:
1. Early Childhood Welfare
2. Early Childhood Education and Play
3. Parenting Education

The Foundation will not fund:
- the operation or expansion of existing programs
- the purchase or renovation of capital equipment, existing software or programmatic materials
- single events
- the creation or acquisition of works of art or literary works
- programs with any religious content

Furthermore, the Foundation will only consider funding grant applications that define measurable outcomes and mechanisms for documenting results, provide for financial accountability, and include detailed program budgets.

- **URL:** *http://earlychildhoodfoundation.org/*

Personnel Development To Improve Services and Results for Children With Disabilities - Interdisciplinary Preparation in Special Education, Early Intervention, and Related Services for Personnel Serving Children With Disabilities Who Have High-Intensity Needs
United States Department of Education (ED) - Office of Special Education and Rehabilitative Services (OSERS)
Due Date: 3/6/2017

The purpose of this priority is to increase the number and improve the quality of personnel who are fully credentialed to serve children, including infants and toddlers, with disabilities who have high-intensity needs,[1] especially in areas of chronic personnel shortage. The priority will fund high-quality interdisciplinary projects that prepare special education, early intervention, and related services personnel at the master's, specialist, or clinical doctoral levels for professional practice in classrooms and school settings. Interdisciplinary approaches to personnel preparation provide scholars with experience working and learning in team environments similar to those in which they are likely to work once employed (Smith, 2010). For example, under the IDEA, personnel serving children with disabilities will work on interdisciplinary teams with parent(s), general and special education teachers, early intervention, and related service providers with the expertise convened to design, implement, and evaluate intervention plans based on the unique learning and developmental needs of each individual child. To enable personnel to provide efficient, high-quality integrated services, personnel preparation programs need to embed content, practices, and clinical experience into preservice training that will match the interdisciplinary team-based approaches in which graduates are likely to work. This priority aims to fund interdisciplinary projects that will provide such preparation. **ED-GRANTS-010317-001**

- **URL:** *https://www.federalregister.gov/documents/2017/01/03/2016-31838/applications-for-new-awards-personnel-development-to-improve-services-and-results-for-children-with*

Unsolicited Grant Opportunities
United States Department of Education (ED) - Institute of Education Sciences (IES)
Due Date: Preliminary Proposals 3/7/2017
Note: A prospectus may be submitted at any time during the fiscal year. However, to be assured consideration for funding in FY 2017 (ending September 30, 2017), the prospectus must be received by 8:00 pm Eastern time on March 7, 2017.

The Institute of Education Sciences (IES) announces its willingness to consider unsolicited applications for research, evaluation, and statistics projects that would make significant contributions to the mission of the organization. IES' mission is to expand fundamental knowledge and understanding of education and to provide education leaders and practitioners, parents and students, researchers, and the general public with unbiased, reliable, and useful information about the condition and progress of education

in the United States; about education policies, programs, and practices that support learning and improve academic achievement and access to educational opportunities for all students; and about the effectiveness of Federal and other education programs. Under this announcement, IES could consider two different types of unsolicited applications. The first type includes projects that are not eligible under IES' current grant competitions. For this type of application, the applicant must demonstrate that the project would not be eligible under one of IES' current grant competitions. The second type of unsolicited application includes research that can be carried out in a short period of time with limited resources to address time-sensitive research questions, where the window to obtain data and carry out a project is short and the project would not be feasible under IES' current grant competition timelines. For this type of application, the applicant must demonstrate that this project would not be feasible under IES' regular funding cycle. Potential applicants should be aware that IES does not provide funds for projects that consist solely of program delivery or the provision of services. In addition, activities supported by IES must be relevant to U.S. schools.

- **URL:** *https://ies.ed.gov/funding/unsolicited.asp*

Building Community and Capacity in Data Intensive Research in Education (BCC-EHR)
National Science Foundation (NSF)
Due Date: 3/15/2017

As part of NSF's Cyberinfrastructure Framework for 21st Century Science and Engineering (CIF21) activity, the Directorate for Education and Human Resources (EHR) seeks to enable research communities to develop visions, teams, and capabilities dedicated to creating new, large-scale, next-generation data resources and relevant analytic techniques to advance fundamental research for areas of research covered by EHR programs. Successful proposals will outline activities that will have significant impacts across multiple fields by enabling new types of data-intensive research. Investigators should think broadly and create a vision that extends intellectually across multiple disciplines and that includes--but is not necessarily limited to - areas of research funded by EHR. **NSF 17-532**

- **URL:** *https://www.nsf.gov/pubs/2017/nsf17532/nsf17532.htm*

STEM + Computing Partnerships (STEM+C)
National Science Foundation (NSF)
Due Date: 3/29/2017

As computing has become an integral part of the practice of modern science, technology, engineering and mathematics (STEM), the STEM + Computing Partnerships program seeks to address the urgent need to prepare students from the early grades through high school in the essential skills, competencies, and dispositions needed to succeed in a computationally-dependent world. Thus, STEM+C advances the integration of computational thinking and computing activities in early childhood education through high school (pre-K-12) to provide a strong and developmental foundation in computing and computational thinking through the integration of computing in STEM teaching and learning, and/or the applied integration of STEM content in pre-K-12 computer science education. **NSF 17-535**

- **URL:** *https://www.nsf.gov/pubs/2017/nsf17535/nsf17535.htm*

ENGINEERING, MATHEMATICS & PHYSICAL SCIENCES

Advanced Manufacturing Projects for Emerging Research Exploration
United States Department of Energy (DOE) - Office of Energy Efficiency and Renewable Energy (EERE) - Golden Field Office (GFO)
Due Date: Concept Papers 1/31/2017; Application 3/30/2017

To enhance the responsiveness of the roadmap approach, EERE is issuing Funding Opportunity Announcements (FOAs) within its existing Offices and programs to support innovative technologies and solutions that could help meet existing goals but are not represented in a significant way in the Offices' existing Multi-Year Program Plans (MYPPs) or current portfolios. These FOAs and resulting projects will allow EERE to assess new technologies for their potential to be "on ramped" to future MYPPs, and encourage contributions from new partners. Successful projects will reduce the risk associated with potential breakthrough approaches and technologies so that they can be viable candidates for inclusion in future program roadmaps. This funding opportunity addresses three topic areas from the Advanced Manufacturing Office. Each topic area consists of multiple subtopics. DOE intends to fund the applications with the greatest chance of helping achieve the goals and mission of EERE. EERE may award

an entire application or any part of an application at a funding level that will be negotiated with the applicant.

The topic areas are:

Topic Area 1: Advanced Materials. The Advanced Materials Topic Area focuses on advances in innovative materials and the devices and systems that incorporate them for energy-saving opportunities and improved functionality.

Topic Area 2: Advanced Processes. The Advanced Processes Topic Area focuses on advancing transformational next-generation processes and technologies not bound by limitations of current processes.

Topic Area 3: Modeling and Analysis Tools for Materials and Manufacturing. The Modeling and Analysis Tools for Materials and Manufacturing Topic Area focuses on optimization of energy and materials usage across the lifecycle of manufactured products through the use of information technology.

The Applicants' technologies may be at different levels of maturity; proposed funding levels and project durations should be commensurate with the work scope necessary to advance the technology to the proposed readiness level. **DE-FOA-0001465**

Applications to this FOA will be accepted in the following categories:

Tier 1 (Concept Definition, expected TRL 2-3): The project would conduct early stage research needed to explore and define technical concepts. Activities would focus on thoroughly understanding and describing the capabilities of the technology. Research may include laboratory scale experiments, exploration of fundamental scientific concepts associated with the technology, data generation and analysis, and other exploratory methods.

Tier 2 (Proof of Concept, expected TRL 3-5): The project would conduct research, development and testing of prototype technology or processes. Work may include analytical studies and laboratory studies to physically validate analytical predictions of separate elements of the technology, predictive modeling or simulation of performance, engineering studies to assess scale-up, and testing of concept feasibility at the prototype or bench scale.

- **URL:** *https://eere-exchange.energy.gov/*

Precision Measurement Grant Program (PMGP)

United States Dept. of Commerce (DOC) - National Institute of Standards and Technology (NIST)

Due Date: Abbreviated Applications 2/2/2017; Full Applications 5/2/2017

Since 1970, NIST, as part of its research program, has provided funding under the Precision Measurement Grant Program (PMGP) primarily to universities and colleges so that faculty may conduct significant research in the field of fundamental measurement or the determination of fundamental constants. NIST sponsors these research projects primarily to encourage basic, measurement-related

research in universities and colleges and other research laboratories and to foster contacts between NIST scientists and those faculty members of academic institutions and other researchers who are actively engaged in such work. The PMGP also is intended to make it possible for researchers to pursue new ideas for which other sources of support may be difficult to find. There is some latitude in research topics that will be considered under the PMGP. The key requirement is that the proposed project is consistent with NIST's ongoing work in the field of basic measurement science. **2017-NIST-PMGP-01**

- **URL:** *http://www.grants.gov/web/grants/view-opportunity.html?oppId=290820*

Broadening Participation in Engineering (BPE)
National Science Foundation (NSF)
Due Date: 2/6/2017

The Broadening Participation in Engineering (BPE) Program is a Directorate-wide initiative dedicated to supporting the development of a diverse and well-prepared engineering workforce. Across every educational juncture (e.g., elementary, secondary, and postsecondary levels), efforts to improve engineering interests, preparation, connections, experiences, and opportunities among underrepresented groups is of major importance to BPE. In FY 2016, aligned with NSF-wide INCLUDES, BPE is interested in funding projects that bring together multiple groups (e.g., school districts, community colleges, engineering schools, industry, philanthropy, government, etc.) and offer the greatest return on investment by producing outcomes that are scalable, sustainable, and applicable to various contexts, settings, and demographics within the engineering enterprise. For example, it is interested research projects that help us to analyze and understand the problem of insufficient interest and poorly sustained participation in engineering across underrepresented demographic groups; insignificant preparation and scarce opportunities for members of underrepresented demographic groups to learn meaningful, relevant engineering and other STEM-related content; insufficient access to support systems and social networks that raises career awareness about different engineering pathways among underrepresented groups; and structural inequalities and biases within educational and workforce systems that may influence engineering persistence. For FY 2016, BPE is equally interested in funding demonstration projects that focus on issues associated with diversity within the engineering professoriate, with a particular interest in proposals concentrating on racial and ethnic minorities. Such projects should be informed by the current theoretical and scientific literature as well as add to the extant knowledge base. Given the breadth of targeted groups, it is expected that all institutions of higher learning (i.e., 2-year and 4-year) have at least one if not more targeted demographics that they could propose a strategy for improving diversity (e.g., creation of a professoriate preparation program for graduate students, development of a postdoctoral program, or creation of a mentoring program for early career faculty). A successful proposal should, therefore, provide appropriate data to support selection of the targeted group(s), with specific and applicable objectives, demonstrate applicable knowledge of the relevant literature on underrepresentation and

describe a clear strategy for improving representation. These demonstration projects should also integrate assessment and evaluation protocols capable of measuring how well they achieve their stated objectives as part of the project management plans. The effectiveness of the proposed evaluation is one aspect of a project's intellectual merit. Similarly, there should be evidence of clear, measureable outcomes and consideration of how the strategy will work for disparate institutions. It is expected that proposed projects would advance our knowledge of this field in many ways. **PD 16-7680**

- **URL:***https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=504870&org=NSF&sel_org=NSF&from=fund*

DoD 17.1 Small Business Innovation Research (SBIR)
U.S. Department of Defense (DOD)
Due Date: 2/8/2017

Congress established the Small Business Innovation Research (SBIR) program in 1982 to fund research and development (R&D) by U.S. owned and operated businesses of less than 500 employees. SBIR, the nation's largest source of early-stage technology financing, is administered by the Small Business Administration through 11 federal agencies.

The DoD SBIR program is made up of 13 participating Components: Army, Navy, Air Force, Missile Defense Agency, Defense Advanced Research Projects Agency, Joint Science and Technology Office for Chemical and Biological Defense, US Special Operations Command, Defense Threat Reduction Agency, National Geospatial-Intelligence Agency, Defense Logistics Agency, Defense Microelectronics Activity, the Office of Secretary of Defense, and the Defense Health Program.

1. Phase I (project feasibility) determines the scientific, technical and commercial merit and feasibility of the ideas submitted.
2. Phase II (project development to prototype) is the major R&D effort, funding the prototyping and demonstration of the most promising Phase I projects.
3. Phase III (commercialization) is the ultimate goal of the SBIR program.

DARPA's mission is to prevent technological surprise for the United States and to create technological surprise for its adversaries. The DARPA SBIR Program is designed to provide small, high-tech businesses and academic institutions the opportunity to propose radical, innovative, high-risk approaches to address existing and emerging national security threats; thereby supporting DARPA's overall strategy to bridge the gap between fundamental discoveries and the provision of new military capabilities.

- **URL:** *http://www.acq.osd.mil/osbp/sbir/solicitations/sbir20171/index.shtml*

Research Opportunities in Space and Earth Sciences (ROSES) - New Frontiers Data Analysis Program

National Aeronautics and Space Administration (NASA)

Due Date: Step-1 Proposals 2/8/2017; Step-2 Proposals 5/3/2017

The objective of the New Frontiers Data Analysis Program (NFDAP) is to enhance the scientific return from New Frontiers missions by broadening scientific participation in the analysis and interpretation of data returned by these missions. Other mission and nonmission data sets may be used to supplement these data in a supporting role, but all proposals require the use of data from at least one New Frontiers mission. This program solicits research proposals to conduct scientific investigations utilizing or enhancing the utilization of data obtained by the New Frontiers missions. For the purposes of this solicitation, " data " is understood to include both uncalibrated and calibrated data , as well as higher -order data products produced from the mission data. Science investigations may include the use of data from any spacecraft not supported by a separate Planetary Science Division Data Analysis Program. Investigations using the New Horizons data may also use mission data supported by a separate Data Analysis program for outer -solar -system single -body or comparative planetology studies that require the use of New Horizons data for at least one of the bodies of focus . All proposals to NFDAP must identify and address a clear objective with science research that would be a significant, not incremental, advance in the state of knowledge of the research topic . Tasks responsive to this call include 1) data analysis tasks, 2) tasks that are not data analysis but are necessary to analyze or interpret the data, and 3) tasks that are not data analysis but that significantly enhance the use or facilitate the interpretation of mission data. These tasks may incorporate theory, modeling, laboratory studies, correlative analyses, and/or other research. Proposals that include tasks that are not data analysis to enhance the use or facilitate the interpretation of mission data must incorporate the results of such tasks in the analysis or interpretation of mission data to be responsive to this call. **NNH16ZDA001N-NFDAP**

- **URL:***https://nspires.nasaprs.com/external/solicitations/summary.do?method=init&solId={29FD56C4-85A0-4F46-38F3-AF3CA1D201CD}&path=open*

Next Generation Thermal, Power and Controls (NGT-PAC)

U.S. Department of Defense (DoD) – Air Force Materiel Command

Due Date: 2/20/2017

Notice seeking applications supporting research on next generation aircraft thermal, power, and controls in both aircraft engines and airframes. Funds support applied research to increase knowledge and understanding of future thermal, power and controls requirements while advancing technology development in an effort to prove technological feasibility and assess operability and

producibility of thermal, power, and controls components and architectures through proof of principal demonstrations. **FA8650-17-S-2001**

- **URL:***https://www.fbo.gov/?s=opportunity&mode=form&tab=core&id=7265ccc10429fab2b4af25d3921b46df&_cview=0*

Dear Colleague Letter: Data-Driven Discovery Science in Chemistry (D3SC) (NSF 17-036)
National Science Foundation (NSF)
Due Date: 3/1/2017

- **URL:***https://www.nsf.gov/pubs/2017/nsf17036/nsf17036.jsp?WT.mc_id=USNSF_25&WT.mc_ev=click*

Dear Colleague Letter: NSF Mathematical Sciences Graduate Internship (NSF 17-042)
National Science Foundation (NSF)
Due Date: 3/1/2017

- **URL:** *http://www.orise.orau.gov/nsf-msgi/default.html*

Cyber-Physical Systems (CPS)
National Science Foundation (NSF)
Due Date: 3/6/2017

The goal of the CPS program is to develop the core system science needed to engineer complex cyber-physical systems that people can use or interact with and depend upon. Some of these may require high-confidence or provable behaviors. The program aims to foster a research community committed to advancing research and education in CPS and to transitioning CPS science and technology into engineering practice. By abstracting from the particulars of specific systems and application domains, the CPS program seeks to reveal cross-cutting fundamental scientific and engineering principles that underpin the integration of cyber and physical elements across all application sectors. To expedite and accelerate the realization of cyber-physical systems in a wide range of applications, the CPS program also supports the development of methods, tools, and hardware and software components based upon these cross-cutting principles, along with validation of the principles via prototypes and testbeds. We have also seen a convergence of CPS technologies and research thrusts that underpin Smart & Connected Communities (S&CC) and the Internet of Things (IoT). These domains offer new and exciting

challenges for foundational research and provide opportunities for maturation at multiple time horizons. **NSF 17-529**

Three classes of research and education projects -- differing in scope and goals -- will be considered through this solicitation:
- **Breakthrough** projects must offer a significant advance in fundamental CPS science, engineering and/or technology that has the potential to change the field. This category focuses on new approaches to bridge computing, communication, and control.
- **Synergy** projects must demonstrate innovation at the intersection of multiple disciplines, to accomplish a clear goal that requires an integrated perspective spanning the disciplines.
- **Frontier** projects must address clearly identified critical CPS challenges that cannot be achieved by a set of smaller projects.

- **URL:** *https://www.nsf.gov/pubs/2017/nsf17529/nsf17529.htm*

Immersive Sciences for Training, Education, Mission Rehearsal, and Operations

U.S. Dept. of Defense (DOD) - Dept. of the Navy (U.S. Navy) - Office of Naval Research (ONR)

Due Date: 3/9/2017

The Office of Naval Research, Expeditionary Maneuver Warfare and Combating Terrorism S&T Department (Code 30) is soliciting white papers and proposals for basic research in immersive sciences. The Navy and Marine Corps seeks to use augmented reality (AR) and mixed reality technologies to improve training and operations for infantry combat personnel; with a specific focus on small unit leaders (e.g. Squad Leader). This includes a range of applications, including augmented training environments that can simulate environments, assets, and friendly/opposing forces and operational tools that can overlay useful virtual information onto the real-world environment. While the Navy and Marine Corps have envisioned these applications, this research opportunity is focused more on the development of the scientific area than on capability. In support of this goal, the Immersive Sciences research program seeks to address basic research challenges in three key areas: automated methods for generating content and/or behaviors for use augmented and mixed reality technologies (with an emphasis on AR); valid, reliable, and objective measures of presence and immersion; and a human-factors based taxonomy of visualization and interaction in AR. **N00014-17-S-F007**
Key Area No. 1: Automated methods for generating content and/or behaviors for use augmented and mixed reality technologies (with an emphasis on AR).
Key Area No. 2: Valid, reliable, and objective measures of presence and immersion.
Key Area No. 3: A human-factors based taxonomy of visualization and interaction in AR.

- **URL:** *https://www.onr.navy.mil/en/Contracts-Grants/Funding-Opportunities/Broad-Agency-Announcements.aspx*

Critical Techniques, Technologies and Methodologies for Advancing Foundations and Applications of Big Data Sciences and Engineering (BIGDATA)
National Science Foundation (NSF)
Due Date: 3/22/2017

The BIGDATA program seeks novel approaches in computer science, statistics, computational science, and mathematics, along with innovative applications in domain science, including social and behavioral sciences, geosciences, education, biology, the physical sciences, and engineering that lead towards the further development of the interdisciplinary field of data science. The solicitation invites two types of proposals: "Foundations" (F): those developing or studying fundamental theories, techniques, methodologies, and technologies of broad applicability to big data problems; and "Innovative Applications" (IA): those developing techniques, methodologies, and technologies of key importance to a Big Data problem directly impacting at least one specific application. Projects in this category must be collaborative, involving researchers from domain disciplines and one or more methodological disciplines, e.g., computer science, statistics, mathematics, simulation and modeling, etc. While IA proposals may address critical big data challenges within a specific domain, a high level of innovation is expected in all proposals which should, in general, strive to provide solutions with potential for a broader impact on data science and its applications. IA proposals may focus on novel theoretical analysis and/or on experimental evaluation of techniques and methodologies within a specific domain. Proposals in all areas of sciences and engineering covered by participating directorates at NSF are welcome. While notions of volume, velocity, and variety are commonly ascribed to big data problems, other key issues include data quality and provenance. Data-driven solutions must carefully ascribe quality and provenance to results in a manner that is helpful to the users of the results. For example, in some cases, such as in education research, data quality may aggregate to test or measurement instrument quality, where a composite of variables may be used to describe one or more constructs. In addition to approaches such as search, query processing, and analysis, visualization techniques will also become critical across many stages of big data use--to obtain an initial assessment of data as well as through subsequent stages of scientific discovery. Research on visualization techniques and models will be necessary for serving not only the experts, who are collecting the data, but also those who are users of the data, including "cross-over" scientists who may be working with big data and analytics for the first time, and those using the data for teaching at the undergraduate and graduate levels. The BIGDATA program seeks novel approaches related to all of these areas of study. **NSF 17-534**

- **URL:** *https://www.nsf.gov/pubs/2017/nsf17534/nsf17534.htm*

STEM + Computing Partnerships (STEM+C)
National Science Foundation (NSF)
Due Date: 3/29/2017

As computing has become an integral part of the practice of modern science, technology, engineering and mathematics (STEM), the STEM + Computing Partnerships program seeks to address the urgent need to prepare students from the early grades through high school in the essential skills, competencies, and dispositions needed to succeed in a computationally-dependent world. Thus, STEM+C advances the integration of computational thinking and computing activities in early childhood education through high school (pre-K-12) to provide a strong and developmental foundation in computing and computational thinking through the integration of computing in STEM teaching and learning, and/or the applied integration of STEM content in pre-K-12 computer science education. **NSF 17-535**

- **URL:** *https://www.nsf.gov/pubs/2017/nsf17535/nsf17535.htm*

HEALTH, LIFE & EARTH SCIENCES

Research Grants for Preventing Violence and Violence Related Injury (R01)
Centers for Disease Control and Prevention (CDC), Department of Health and Human Services (HHS) - National Center for Injury Prevention and Control Extramural Research Program Office
Due Date: Optional Letters of Intent 1/23/2017; Applications 3/10/2017

To better expand and advance our understanding about what works to prevent violence, NPIPC is seeking investigator-initiated research that rigorously evaluates primary prevention strategies, programs, and policies to address specific gaps in the prevention of teen dating violence, intimate partner violence, sexual violence, and youth violence. **RFA-CE-17-003**

- **URL:** *http://www.grants.gov/web/grants/view-opportunity.html?oppId=287832*

Advanced Rehabilitation Research Training (ARRT) Program - Policy Research Fellowship
U.S. Dept. of Health and Human Services (HHS) - Administration for Community Living (ACL) - National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR)
Due Date: Letters of Intent 2/3/2017; Applications 2/28/2017

The purpose of the Advanced Rehabilitation Research Training (ARRT) Projects program is to provide advanced research training and experience to individuals with doctorates, or similar advanced degrees, who have clinical or other relevant experience. ARRT projects train disability, independent living, and rehabilitation researchers, including researchers with disabilities, with particular attention to research areas that support the implementation and objectives of the Rehabilitation Act of 1973, as amended (Act), and that improve the effectiveness of services authorized under the Act.

ARRT: Policy Research Fellowship The ARRT must contribute to improving the capacity of disability, independent living, and rehabilitation researchers to conduct advanced disability policy research by:
(a) Recruiting and selecting qualified candidates, including individuals with disabilities, for advanced research training on disability, independent living, or rehabilitation policy issues;
(b) Designing a two-year training program in advanced disability, independent living, or rehabilitation policy-related research and analysis that is multidisciplinary, emphasizes scientific methods, and involves didactic and classroom instruction in current policy issues; providing a policy research practicum experience; and, to the extent practical, ensuring that fellows complete the full program;
(c) Providing academic mentorship or guidance, and opportunities for scientific collaboration with qualified researchers at the host institution or another training or sponsoring organization. Other institutions or organizations used as training sites must have the staff and facilities on-site to provide a suitable environment for performing high-quality disability, independent living, or rehabilitation-related policy research;
(d) Providing opportunities for participation in the development of professional presentations and publications, and for attendance at professional conferences and meetings, as appropriate for the individuals' areas of study and levels of experience;
(e) Requiring that all Fellows complete a policy research project related to the NIDILRR domains selected by the applicant (community living and participation, employment, or health and function); and
(f) Ensuring that at least two fellows are residential fellows who will spend the equivalent of one year in Washington, DC to conduct research in a Congressional office or any relevant department or agency of the fellow's choice within the Federal Executive or Legislative branch, or in a relevant nongovernmental organization. The Fellow must secure his or her own fellowship site placement.
HHS-2017-ACL-NIDILRR-ARPO-0196

- **URL:** *http://www.grants.gov/web/grants/view-opportunity.html?oppId=290162*

Autism Transitions Research Project (ATRP)
Health Resources & Services Administration (HRSA) - Maternal and Child Health Bureau (MCHB)
Due Date: 2/13/2017

The purpose of this award is to support research designed to advance the evidence base regarding factors associated with healthy life (physical, social, mental health, and educational/occupational) outcomes among adolescents and young adults with Autism Spectrum Disorder (ASD) who are transitioning to adulthood. **HRSA-17-097**

- **URL:** *http://www.grants.gov/web/grants/view-opportunity.html?oppId=290556*

Career Guidance for Trainees (CGT)
Burroughs Wellcome Fund (BWF)
Due Date: 3/6/2017

Moving from training to satisfying employment can require skills not always learned at the bench. Surveys show that what employers want from potential Ph.D. job applicants is what graduate education means to provide: deep knowledge, hands-on experience, ability to ask meaningful questions and find answers to them, experience managing projects, capacity to work independently, initiative, entrepreneurialism, and an advanced ability to communicate clearly about complex things. At the same time, students, postdocs, and mid-life career-changers describe frustrations with understanding how to articulate their skills and translate them to tasks beyond research. Approaches that help trainees better acknowledge and acquire the skills expected of knowledge workers and efforts that help them understand career pathways will help them succeed in the workplace, whether as principal investigators, in long-term non-tenure track positions, in industrial careers, or away from the bench. BWF will support pilot projects that demonstrate practical approaches to readying scientists for career transitions. Projects may be meant to enhance trainees' understanding of jobs beyond the Academy, or of career trajectories within academe, or of the flexibility of scientists' intellectual skill set. BWF aims to advance good ideas that have the potential to be deployed at larger scales. FASEB's Individual Development Plan, a tool that helps structure key conversations between trainee and advisor, and Preparing Future Faculty, a program that provides trainees opportunities to observe and experience faculty responsibilities, are two established programs (not developed with BWF support) that BWF points out as examples of high-impact career preparation opportunities developed at a pilot scale and then adopted across the nation. The CGT program provides grants to support demonstration projects that will model affordable approaches to improving trainees' readiness for stable, fulfilling careers, whether by clarifying and improving their basic "Ph.D.-level" skills, by helping them identify how they can best use their skills and interests to serve the needs of potential employers, by providing them approaches to thinking through their career options, or by other strategies.

- **URL:** *http://www.bwfund.org/grant-programs/career-guidance/career-guidance-trainees*

NIA Research Centers Coordinating Network (U24)
National Institutes of Health (NIH) - National Institute on Aging (NIA)
Due Date: Letters of Intent 5/8/2017; Applications 6/8/2017

The purpose of this FOA is to support an initial series of activities over a 3-year period to build the foundation for enhanced collaborations across NIA's 6 centers programs. These collaborations are intended to leverage NIA's substantial investments by fostering the development of novel interdisciplinary efforts in aging research. This opportunity will provide resources to build additional infrastructure and establish specific collaborative activities that could include, but are not limited to, information and data exchange, meetings and conferences, pilot studies, research opportunities for beginning investigators, visiting scholar programs, dissemination, and other collaborative efforts. The successful awardee will involve all 6 centers programs. **RFA-AG-18-001**

- **URL:** *https://grants.nih.gov/grants/guide/rfa-files/RFA-AG-18-001.html*

MULTIPLE DISCIPLINES

Critical Techniques, Technologies and Methodologies for Advancing Foundations and Applications of Big Data Sciences and Engineering (BIGDATA)
National Science Foundation (NSF)
Due Date: 3/22/2017

The BIGDATA program seeks novel approaches in computer science, statistics, computational science, and mathematics, along with innovative applications in domain science, including social and behavioral sciences, geosciences, education, biology, the physical sciences, and engineering that lead towards the further development of the interdisciplinary field of data science. The solicitation invites two types of proposals: "Foundations" (F): those developing or studying fundamental theories, techniques, methodologies, and technologies of broad applicability to big data problems; and "Innovative Applications" (IA): those developing techniques, methodologies, and technologies of key importance to a Big Data problem directly impacting at least one specific application. Projects in this category must be collaborative, involving researchers from domain disciplines and one or more methodological disciplines, e.g., computer science, statistics, mathematics, simulation and modeling, etc. While IA proposals may address critical big data challenges within a specific domain, a high level of innovation is expected in all proposals which should, in general, strive to provide solutions with potential for a

broader impact on data science and its applications. IA proposals may focus on novel theoretical analysis and/or on experimental evaluation of techniques and methodologies within a specific domain. Proposals in all areas of sciences and engineering covered by participating directorates at NSF are welcome. While notions of volume, velocity, and variety are commonly ascribed to big data problems, other key issues include data quality and provenance. Data-driven solutions must carefully ascribe quality and provenance to results in a manner that is helpful to the users of the results. For example, in some cases, such as in education research, data quality may aggregate to test or measurement instrument quality, where a composite of variables may be used to describe one or more constructs. In addition to approaches such as search, query processing, and analysis, visualization techniques will also become critical across many stages of big data use--to obtain an initial assessment of data as well as through subsequent stages of scientific discovery. Research on visualization techniques and models will be necessary for serving not only the experts, who are collecting the data, but also those who are users of the data, including "cross-over" scientists who may be working with big data and analytics for the first time, and those using the data for teaching at the undergraduate and graduate levels. The BIGDATA program seeks novel approaches related to all of these areas of study. **NSF 17-534**

- **URL:** *https://www.nsf.gov/pubs/2017/nsf17534/nsf17534.htm*

NEW FACULTY / INVESTIGATOR

Innovation in Regulatory Science Awards (IRSA)
Burroughs Wellcome Fund (BWF)
Due Date: 3/15/2017

BWF identified Innovation in Regulatory Science as an important, underfunded area. This initiative is designed to provide financial support to stimulate research efforts in this area. The awards provide support to academic investigators developing new methodologies or innovative approaches in regulatory science that will ultimately inform the regulatory decisions the Food and Drug Administration (FDA) and others make. This would necessarily draw upon the talents of individuals trained in mathematics, computer science, applied physics, medicine, engineering, toxicology, epidemiology, biostatistics, and systems pharmacology, to name a few.

- **URL:** *http://www.bwfund.org/grant-programs/regulatory-science/innovation-regulatory-science*

SOCIAL & BEHAVIORAL SCIENCES

Graduate Research Fellowship Program for Criminal Justice Statistics
U.S. Dept. of Justice (DOJ) - Office of Justice Programs (OJP) - Bureau of Justice Statistics (BJS)
Due Date: 2/24/2017

The Bureau of Justice Statistics (BJS) is seeking applications under its Graduate Research Fellowship (GRF) Program. This program provides awards to accredited universities for doctoral research that uses criminal justice data or statistical series and focuses on crime, violence, and other criminal justice-related topics. BJS invests in doctoral education by supporting universities that sponsor students who demonstrate the potential to complete doctoral degree programs successfully in disciplines relevant to the mission of BJS, and who are in the final stages of graduate study. The ultimate goal of this solicitation is to increase the pool of researchers using criminal justice statistical data generated by BJS, thereby contributing solutions that better prevent and control crime and help ensure the fair and impartial administration of criminal justice in the United States. Applicant institutions sponsoring doctoral students are eligible to apply only if the doctoral research dissertation has direct implications for criminal justice policy and practice in the United States. BJS encourages institutions to consider doctoral students from social and behavioral sciences, mathematics, or statistics academic disciplines for their applications. Applicant institutions are strongly encouraged to sponsor minority and female student candidates. **BJS-2017-11485**

- **URL:** *http://www.grants.gov/web/grants/view-opportunity.html?oppId=290719*

Research and Development in Forensic Science for Criminal Justice Purposes
United States Department of Justice (DOJ) - Office of Justice Programs (OJP) - National Institute of Justice (NIJ)
Due Date: 2/28/2017

With this solicitation, NIJ seeks proposals for basic or applied research and development projects . An NIJ forensic science research and development grant supports a discrete, specified, circumscribed project that will:

(1) increase the body of knowledge to guide and inform forensic science policy and practice, or
(2) lead to the production of useful material(s), device(s), system(s), or method(s) that have the potential for forensic application.

The intent of this program is to direct the findings of basic scientif ic research; research and development in broader scientific fields applicable to forensic science; and ongoing forensic science research toward the development of highly -discriminating, accurate, reliable, cost -effective, and rapid methods for the identification, analysis, and interpretation of physical evidence for criminal justice purposes. **NIJ-2017-11080**

- **URL:** *http://www.grants.gov/web/grants/view-opportunity.html?oppId=290187*

Research and Evaluation on Trafficking in Persons
U.S. Dept. of Justice (DOJ) - Office of Justice Programs (OJP) - National Institute of Justice (NIJ)
Due Date: 3/17/2017

With this solicitation, NIJ continues to build upon its research and evaluation efforts to better understand, prevent, and respond to trafficking in persons in the United States. Applicants should propose research projects that -- first and foremost -- have clear implications for criminal justice in the United States.
This year, NIJ is particularly interested in research responding to the following priority areas:
1) building knowledge on domestic victims of labor trafficking;
2) evaluation of the enhanced collaborative model to combat human trafficking;
3) exploration of housing in human trafficking; and
4) evaluation of the Office of Juvenile Justice and Delinquency Prevention (OJJDP) mentoring project sites for child victims of commercial sexual exploitation and domestic sex trafficking.

Strong applications that address human trafficking in the U.S. in a criminal justice context that falls outside these priority areas will also be considered. **NIJ-2017-11160**

- **URL:** *http://www.grants.gov/web/grants/view-opportunity.html?oppId=291091*