

Grant Opportunity Alerts: Issue: ORD-GOA-2015-08

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1. Grant Opportunities Alerts:

Keywords and Areas Included in Funding Opportunities Alerts:

Bill and Melinda Gates Foundation: Grand Challenges, Child Development, Global Health

Michael J Fox Foundation: Parkinson's Disease, Target Development, Therapeutic Methods, Biomarkers and Imaging Studies.

NSF: Cybersecurity Innovation for Cyberinfrastructure (CICI), Software Infrastructure for Sustained Innovation - S2I2

National Institute of Health: Immunodeficiency Research, Big Data BD2K Health Informatics; R01, R03, R21

NASA: Early Career Fellowship Awards, Earth Science Model Analysis, ROSES 2015

National Endowment for Humanities: Challenge Grants, Collaborative Research Awards

DARPA: Young Faculty Awards, Microsystems, Communicating with Computers (CwC)

Bill and Melinda Gates Foundation

Grant Program: Grand Challenges Grant Opportunities: Grand Challenges Explorations Round 15

Agency: Bill and Melinda Gates Foundation

RFP Website: <http://gcgh.grandchallenges.org/GrantOpportunities/Pages/default.aspx>

Brief Description:

1. **Grand Challenges Explorations**, an initiative to encourage innovative and unconventional global health and development solutions, is now accepting grant proposals for its latest application round. Applicants can be at any experience level; in any discipline; and from any organization, including colleges and universities, government laboratories, research institutions, non-profit organizations and for profit companies.

Proposals are being accepted online until May 13, 2015 on the following topics:

- Addressing Newborn and Infant Gut Health Through Bacteriophage-Mediated Microbiome Engineering
- Explore New Ways to Measure Delivery and Use of Digital Financial Services Data
- Surveillance Tools, Diagnostics and an Artificial Diet to Support New Approaches to Vector Control
- New Approaches for Addressing Outdoor/Residual Malaria Transmission
- Reducing Pneumonia Fatalities Through Innovations that Improve Pneumonia Diagnosis & Referral of Malnourished Children
- Enable Merchant Acceptance of Mobile Money Payments

Initial grants will be **US \$100,000** each, and projects showing promise will have the opportunity to receive additional funding of up to US \$1 million. Full descriptions of the new topics and application instructions are available at www.grandchallenges.org

2. **Saving Lives at Birth:** A Grand Challenge for Development has launched its fifth round for innovative prevention and treatment approaches for pregnant women and newborns in poor, hard-to-reach communities around the world. Saving Lives at Birth partners will fund transformative approaches that cut across three main domains: (i) science & technology, (ii) service delivery, and (iii) demand-side innovation.

The application deadline is March 27, 2015. Details on how to apply for a grant can be found at

<http://response.notifications.gatesfoundation.org/t?ctl=4C60472:9B1EA96BBC62B6690F8BA1694EAF88685B81EAEAF7CACE1D&>

3. **All Children Reading:** A Grand Challenge for Development has launched two grant opportunities:

- As part of the Technology to Support Education in Crisis and Conflict Settings Ideation Challenge, it is seeking technology-supported approaches to provide basic education in one or more of the following situations: health crisis, natural disaster, and conflict zone. Proposed solutions should be usable within the first six months after the onset of the crisis or conflict and be usable within the context of a developing country.

The application deadline is March 30, 2015. Details on how to apply can be found at

<http://response.notifications.gatesfoundation.org/t?ctl=4C60473:9B1EA96BBC62B6690F8BA1694EAF88685B81EAEAF7CACE1D&>

- The Tracking & Tracing Books Prize Competition is seeking innovations to track books destined for early-grade classrooms and learning centers in low-income countries and allow stakeholders, ranging from parents to Ministries of Education and donor agencies, to quickly and easily access tracking information.

The application deadline is April 1, 2015. Details on how to apply for a grant can be found at

<http://response.notifications.gatesfoundation.org/t?ctl=4C60474:9B1EA96BBC62B6690F8BA1694EAF88685B81EAEAF7CACE1D&>

4. **The Global Health Innovative Technology Fund (GHIT)** as part of its new Grand Challenges Japan initiative has launched a Target Research Platform to fund bold ideas in drugs, vaccines, and diagnostics for a set of priority neglected infectious diseases. Applications must be from a partnership between Japanese and non-Japanese organizations.

The application deadline is March 13, 2015. Additional Information can be found at

<http://response.notifications.gatesfoundation.org/t?ctl=4C60475:9B1EA96BBC62B6690F8BA1694EAF88685B81EAEAF7CACE1D&>

Awards: Various

Letter of Intent: Not Required

Deadline: Various, see above.

Michael J Fox Foundation

Grant Program: Target Advancement Program

Agency: Michael J Fox Foundation

RFP Website: <https://www.michaeljfox.org/research/target-advancement.html>

Brief Description:

The Michael J. Fox Foundation believes that a major hurdle in the development of promising treatments for Parkinson's disease is the lack of well-validated targets linked to the disease process. By promoting critical target validation studies within academic and industry laboratories, MJFF investments can de-risk subsequent drug development and ultimately accelerate the creation of innovative therapies for Parkinson's patients. Part of our *Edmond J. Safra Core Programs for PD Research*, the Target Advancement program seeks to build robust evidence to rationalize biological pathways and targets for further translation into new Parkinson's treatments.

Target Validation Pilot awards support research on promising, novel, PD-relevant targets. These awards are well-suited to projects where hypothetical or experimental rationale for a target is compelling but where limited data and study results can make the case for continuing (or discontinuing) a line of research. Proposals should focus on filling key translational gaps in target validation including characterization and expression studies of the target in human-derived tissues or target manipulation in a suitable preclinical model relevant to Parkinson's disease. Download program information and instructions at the bottom of this page for more details.

Target Optimization awards support collaborative, multi-institutional teams to build more robust datasets that can validate targets within a specific, prioritized biological pathway as defined by MJFF scientific staff. Teams should develop and execute systematic, milestone-driven projects using complementary experimental strategies and, where appropriate, cross-team replication. For the Fall 2015 funding cycle, MJFF has identified targets involved in cellular protein handling as a priority for further validation and optimization. Examples of targets appropriate for this program include: LAMP-2A, NEDD-4, TFEB and VPS35. Download the program information and instructions at the bottom of this page for more details.

Priority Target awards support projects addressing roadblocks and knowledge gaps in understanding biological mechanisms associated with high-priority PD targets already supported by a strong body of validation data: alpha-synuclein, LRRK2, GBA, parkin and trophic factors. Proposals will be reviewed in the context of existing MJFF investments in these areas. Download program information and instructions at the bottom of this page for more details.

Awards: \$100,000 - \$400,000

Information Conference Call: March 25, 2015 at 1.00 PM. *To receive call-in details, RSVP to conferencecalls@michaeljfox.org.*

Letter of Intent: May 27, 2015

Deadline: August 5, 2015

Grant Program: Therapeutic Pipeline Program

Agency: Michael J Fox Foundation

RFP Website: <https://www.michaeljfox.org/research/therapeutic-development.html>

Brief Description:

Part of our *Edmond J. Safra Core Programs for PD Research*, the Therapeutic Pipeline Program supports Parkinson's disease therapeutic development along the pre-clinical and clinical path (both drug and non-pharmacological therapeutics, including gene therapy, biological, surgical and non-invasive approaches). The Michael J. Fox Foundation seeks applications with potential for fundamentally altering disease course and/or significantly improving treatment of symptoms above and beyond current standards of care. Proposals must have a well-defined plan for moving toward clinical utility for patients. The Therapeutic Pipeline Program is open

to industry and academic investigators proposing novel approaches or repositioning approved or clinically safe therapies from non-PD indications.

Disease-modifying strategies

Proposals may aim to achieve the following, though there are no restrictions on application goals.

- Protect or restore degenerating and/or dysfunctional neurons affected in PD.

Proposals may address:

- Protein folding
- Mitochondrial function
- Inflammation
- Oxidative stress
- Alpha-synuclein
- LRRK2
- GBA

Symptomatic strategies

Proposals may aim to achieve the following, though there are no restrictions on application goals.

Alleviate disabling motor symptoms of PD

Levodopa-responsive

Non-levodopa-responsive, such as gait disturbances and falls, and speech and swallowing disorders

Alleviate non-motor symptoms of PD

Cognitive dysfunction

Mood disorders

Autonomic dysfunction

Sleep disorders

Alleviate complications of PD treatment

Dyskinesia

Impulse-control disorders

Other disabling side effects

Awards: \$100,000 - \$400,000

Information Conference Call: March 25, 2015 at 1.00 PM. *To receive call-in details, RSVP to conferencecalls@michaeljfox.org.*

Letter of Intent: May 27, 2015

Deadline: August 5, 2015

Grant Program: Improved Biomarkers and Clinical Outcome Measures Program

Agency: Michael J Fox Foundation

RFP Website: <https://www.michaeljfox.org/research/outcome-measures.html>

Brief Description:

The Michael J. Fox Foundation seeks to support research that will develop improved biomarker tools and clinical outcome measures to assist in clinical trial design, execution and interpretation of results. Funding will be awarded to projects that improve the ability to enrich subject populations in clinical trials and/or determine whether experimental treatments are modifying the course of the disease, its symptoms or its progression. MJFF is also interested in supporting projects to determine target engagement/modulation and pharmacodynamic response, especially for high-priority therapeutic targets like alpha-synuclein, LRRK2, parkin and glucocerebrosidase.

Imaging Studies

Proposals may aim to achieve the following, though there are no restrictions on application goals.

Develop novel imaging ligands for disease-modifying or symptomatic targets of interest that would assist in dose selection and efficacy studies

Compare existing imaging ligands to develop more standardized or sensitive recommendations for imaging modalities

Validate an imaging end-point that identifies a specific stage of the disease or enables quantitative assessment of pathology/pathophysiology

Clinical/Physiological Studies

Proposals may aim to achieve the following, though there are no restrictions on application goals.

Develop or refine practical outcome measures. Proposals may explore:

Magnetoencephalography

Functional MRI

Electroencephalogram

Optical coherence tomography

Heart rate variability

Sleep quality

Improve functional scales that could demonstrate impact of symptoms or progression of disease. Proposals may explore:

Activities of daily living

Health-related quality of life

Psychiatric/cognitive

Awards: \$100,000 - \$400,000

Information Conference Call: March 25, 2015 at 1.00 PM. *To receive call-in details, RSVP to conferencecalls@michaeljfox.org.*

Letter of Intent: May 27, 2015

Deadline: August 5, 2015

National Science Foundation

Grant Program: Cybersecurity Innovation for Cyberinfrastructure (CICI)

Agency: National Science Foundation NSF 15-549

RFP Website: <http://www.nsf.gov/pubs/2015/nsf15549/nsf15549.htm>

Brief Description: The objective of the Cybersecurity Innovation for Cyberinfrastructure (CICI) program is to develop and deploy security solutions that benefit the scientific community by ensuring the integrity and reliability of the end-to-end scientific workflow. This solicitation seeks unique ways to protect scientific instruments, resources, cyberinfrastructure and data that extend beyond building better perimeters and point solutions. As funding agencies move toward providing openly accessible data, the possibilities for scientists and engineers to use data sources beyond those created by their own community grow.

The scope of the workflow encompasses instruments, processing software, analysis tools, computing and storage resources as well as information repositories and archives of data. In order to produce accurate results, each data source must be identifiable and trustworthy.

Systems must guarantee that data sets cannot be altered, which could potentially modify the analytic outcomes.

CICI comprises three Program Areas outlined below:

1. Secure Architecture Design

As campuses augment their existing research infrastructure with cloud-provided, commercial computing resources or institutionally-shared computing and network resources, it becomes difficult to monitor and control the end-to-end environment.

Collaborative scientific experiments are complex and may include participants from multiple institutions, national labs or organizations physically distributed across campuses, sites or countries. Legitimate users often arrive at scientific experiments and collaborations from a multitude of institutions and with complex access relationships. Complex technical relationships may exist between experiments, institutions and information technology service providers, but security is a shared requirement.

This program area seeks to reduce this complexity by encouraging novel architectural and design approaches, models and frameworks for the creation of a holistic, integrated security environment that spans the entire CI ecosystem. Projects should demonstrate strong security architecture and systems security engineering generalizable across a diverse scientific workflow. Technical solutions should be driven by a scientific community or project.

2. Data Provenance for Cybersecurity

The highly distributed nature of international scientific collaborations presents a challenge to ensuring data integrity. The entire chain of data provenance from the point of data collection through processing protocols and software to analytic strategies and results interpretations has become increasingly complex. Because data often come from disparate data sources, securing the provenance from manipulation presents a challenge. As the volume of data from heterogeneous sources continues to grow, the reliability of the data and its associated sources becomes a significant factor in ensuring confidence in the results and reproducibility of experiments. Whereas provenance-aware systems track workflow information, the data itself lack security and privacy controls. Challenges still exist in some basic underlying capabilities to formalizing authenticity of data modified by many parties.

3. Cybersecurity Center of Excellence

NSF-funded cyberinfrastructure presents unique challenges for operational security personnel. The research environment is purposefully built as an "open" one, in which data is freely accessed among collaborators. As such, sites, centers, campuses and institutions that host cyberinfrastructure must find the right balance of security, privacy and usability while maintaining an environment in which data are openly shared. Many research organizations lack expertise in technical and policy security and could benefit from an independent, shared security resource pool.

Awards: Total funding available: \$11,000,000

Letter of Intent: Not Required

Deadline: June 2, 2015

Grant Program: Software Infrastructure for Sustained Innovation - S2I2

Agency: National Science Foundation NSF 15-553

RFP Website: <http://www.nsf.gov/pubs/2015/nsf15553/nsf15553.htm>

Brief Description: Software Infrastructure for Sustained Innovation (SI²) is a long-term investment focused on realizing a portion of the Cyberinfrastructure Framework for 21st Century Science and Engineering (CIF21,

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=504730) vision and catalyzing new thinking, paradigms and practices in science and engineering. CIF21 envisions a linked cyberinfrastructure architecture that integrates large-scale computing, high-speed networks, massive data archives, instruments and major facilities, observatories, experiments, and embedded sensors and actuators, across the nation and the world, and that enables research at unprecedented scales, complexity, resolution, and accuracy by integrating computation, data, and experiments in novel ways.

Software is a primary modality through which CIF21 innovation and discovery will be realized. It permeates all aspects and layers of cyberinfrastructure (from application codes and frameworks, programming systems, libraries and system software, to middleware, operating systems, networking and the low-level drivers). The CIF21 software infrastructure must address the complexity of this cyberinfrastructure, accommodating: disruptive hardware trends; ever-increasing data volumes; data integrity, privacy, and confidentiality; security; complex application structures and behaviors; and emerging concerns such as fault-tolerance and energy efficiency. The programs must focus on building robust, reliable and sustainable software that will support and advance sustained scientific innovation and discovery.

The Division of Advanced Cyberinfrastructure in the Computer & Information Science & Engineering Directorate (CISE/ACI) is partnering with Directorates and Offices across the NSF to support SI², a long-term comprehensive program focused on realizing a sustained software infrastructure that is an integral part of CIF21. The goal of this program is to catalyze and nurture the interdisciplinary processes required to support the entire software lifecycle, resulting in sustainable community software elements and reusable components at all levels of the software stack. The program addresses software in all aspects of cyberinfrastructure, from embedded sensor systems and instruments, to desktops and high-end data and computing systems, to major instruments and facilities.

The goal of the overall SI² program is to create a software ecosystem that scales from individual or small groups of software innovators to large hubs of software excellence. It is envisioned that the SI² program will collectively support vibrant partnerships between academia, government laboratories and industry, including international entities, for the development and stewardship of a sustainable software infrastructure that can enhance productivity and accelerate innovation in science and engineering.

The SI² program includes three classes of awards:

1. Scientific Software Elements (SSE): SSE awards target small groups that will create and deploy robust software elements for which there is a demonstrated need that will advance one or more significant areas of science and engineering.

2. Scientific Software Integration (SSI): SSI awards target larger, interdisciplinary teams organized around the development and application of common software infrastructure aimed at solving common research problems faced by NSF researchers in one or more areas of science and engineering. SSI awards will result in a sustainable community software framework serving a diverse community or communities.

3. Scientific Software Innovation Institutes (S²I²): S²I²s are an integral part of the SI² software ecosystems and focus on the establishment of long-term hubs of excellence in software infrastructure and technologies, which will serve a research community of substantial size and disciplinary breadth. The outcomes of S²I² go beyond the software itself, including the software development infrastructure and process, successfully responding to science challenges, and enabling transformative new science. These institutes will provide expertise, processes and architectures, resources and implementation mechanisms to transform computational science and engineering innovations and community software into robust and sustained software infrastructure for enabling science and engineering, which in turn will transform research practices and productivity. S²I² proposals will bring together multidisciplinary teams of domain scientists and engineers, computer scientists and software engineers, technologists and educators.

Implementation Proposals:

Implementation proposals may only be submitted in the specific topic(s) listed in this solicitation, which define particular areas in which NSF sees a need for an institute as evidenced by prior community activity, for example, an institute conceptualization award, a Research Coordination Network (RCN) award, etc., and has reserved budget resources from the directorates and divisions that would be impacted by such an institute.

Conceptualization Proposals:

Successful conceptualization proposals must reflect the quality, commitment, and planning that will be needed to lead to full Implementation awards.

Specific NSF unit interests follow, though these are not meant to limit potential proposals:

- The CISE Division of Advanced Cyberinfrastructure is particularly interested in proposals that address the set of broad issues related to general SI² software, including sustainability, software lifecycle/ecosystem, governance, verification & validation, reproducibility, etc.
- The Biological Sciences Directorate is particularly interested in proposals that focus on high priority research problems and that will significantly leverage existing investments in ways that transform the infrastructure in support of BIO and BIO-related research. For further information about BIO's interests in S²I² see the Dear Colleague Letter of November 22, 2011 ([NSF-12-019](#)).
- The Engineering Directorate is not participating in the conceptualization portion of this solicitation.
- The MPS/Astronomy Division will consider supporting proposals that would have a clearly demonstrated impact on a significant portion of the astronomy research community.
- The MPS/Materials Research Division is particularly interested in proposals that advance priorities in the Materials Genome Initiative.
- The MPS/Division of Mathematical Sciences is particularly interested in proposals that include the creation, development, and application of new mathematical and statistical theories and tools.

The MPS/Physics Division will consider proposals that will significantly advance fundamental research in Physics.

Awards: Standard Awards; \$13.5 Million available

Limit on Number of Proposals per Organization: 3

Letter of Intent: Not Required

Deadline: Full Proposal Deadline(s) (due by 5 p.m. proposer's local time): June 03, 2015
Implementation Proposals

Full Proposal Deadline(s) (due by 5 p.m. proposer's local time): Proposals Accepted Anytime Conceptualization Proposals

National Institutes of Health

Grant Program: Investigations on Primary Immunodeficiency Diseases (R01

Agency: National Institutes of Health NCI PA 15-130

RFP Website: <http://grants.nih.gov/grants/guide/pa-files/PAR-15-130.html>

Brief Description: Primary immunodeficiency diseases result from inherited defects in the immune system caused by genetic variants, in contrast to secondary immunodeficiency diseases that develop when the immune system is compromised by extrinsic factors such as viruses or chemotherapy. More than 250 primary immunodeficiency diseases and 150 genes causing these diseases have been identified. While individual primary immunodeficiency diseases are rare, as a group they may affect 1-2% of the population. The severity of these diseases ranges from mild to life threatening, as is the case of severe combined immunodeficiency disease (SCID). In addition to benefitting millions of patients affected with primary immunodeficiency diseases, research in this field can provide crucial information on the development and function of the human immune system.

Research Objectives and Scope

Research areas supported by this FOA include, but are not limited to:

- Identifying the clinical, immunological, and molecular characteristics of primary immunodeficiency diseases, including disorders in which immunodeficiency is associated with hepatic, enteric, and other organ dysfunction;
- Identifying the molecular basis of primary immunodeficiency diseases, including disorders in which immunodeficiency results from abnormalities in hematopoietic stem cell development;
- Advancing our understanding of how a genetic variant results in immunodeficiency;
- Discovering/developing improved diagnostic/newborn screening tools for primary immunodeficiency diseases; and
- Discovering/developing animal models for primary immunodeficiency diseases, including models appropriate to test novel clinical strategies.

Other research areas supported by this FOA include studies aimed at discovering novel therapeutic approaches to primary immunodeficiency diseases. Examples include:

- Improving our understanding of existing treatments of primary immunodeficiency diseases;
- Advancing our understanding of complications associated with primary immunodeficiency diseases;
- Discovering or defining environmental, epigenetic, or other triggers that result in complications in individuals with primary immunodeficiency diseases; and
- Identifying and validating biomarkers for primary immunodeficiency diseases.

Awards: Standard Grants

Letter of Intent: Not Required

Full Proposal Deadline: [Standard dates](#) apply, by 5:00 PM local time of applicant organization. All types of non-AIDS applications allowed for this funding opportunity announcement are due on these dates.

Applicants are encouraged to apply early to allow adequate time to make any corrections to errors found in the application during the submission process by the due date.

Grant Program: Big Data to Knowledge (BD2K) Advancing Biomedical Science Using Crowdsourcing and Interactive Digital Media (UH2)

Agency: NIH RFA-CA-15-006 Exploratory/Development Cooperative Agreement Phase-1

RFP Website: <http://grants.nih.gov/grants/guide/rfa-files/RFA-CA-15-006.html>

Brief Description: In response to the opportunities and challenges presented by the dawning era of big data in biomedical research, the NIH launched the Big Data to Knowledge ([BD2K](#)) initiative as a trans-NIH initiative to cultivate the digital research enterprise within biomedicine, to facilitate discovery and support new knowledge, and to maximize community engagement.

In the BD2K initiative, the term "Biomedical Big Data" is inclusive of the diverse digital objects which may have impact in basic, translational, clinical, social, behavioral, environmental, or informatics research questions. Such data types may include imaging, phenotypic, genotypic, molecular, clinical, behavioral, environmental, and many other types of biological and biomedical data. They may also include biologically-relevant data generated for other purposes (e.g., social media, search histories, economic, geographical, or smart phone data). Finally, they also encompass the metadata, data standards, and software tools involved in data processing and analysis.

BD2K supports a variety of related efforts designed to enhance the utility of biomedical big data. As part of that larger effort, this FOA focuses on the development of interactive digital media that enable biomedical research via crowdsourcing.

Biomedical research areas amenable to interactive digital media and crowdsourcing approaches include, but are not limited to, the following:

- Biomedical text comprehension, transcription, and parsing – such as analysis of electronic health records, biomedical publications, social media data streams, and patient care notes
- Biomedical data enrichment – such as the application of metadata, data quality assurance, or annotation of data in large biomedical datasets
- Biological complexity – such as understanding cell to cell interactions, cell community dynamics, and cell cooperation and competition
- Biomedical image analysis – such as identifying the edges of a tumor in a pathology image
- Feature extraction – such as behavioral or social predictors of health outcomes from wearable technology data
- Structural Biology – such as the manipulation or rearrangement of structural components of proteins, cells, or organs
- Biomedical network analysis – such as intracellular signaling pathway or gene network dynamics, or social network dynamics
- Categorization – such as identifying cell types in microscopy images
- Language parsing and interpretation – such as the analysis of speech in audio recordings

- Elucidating disease evolution and propagation – such as how an infectious disease adapts to and spreads through populations

Awards: Application budgets may not exceed \$200,000 per year in direct costs and should reflect the actual needs of the proposed project. \$2,500,000 available.

Letter of Intent: May 3, 2015

Full Proposal Deadline: June 3, 2015, by 5:00 PM local time of applicant organization. All types of non-AIDS applications allowed for this funding opportunity announcement are due on this date.

Applicants are encouraged to apply early to allow adequate time to make any corrections to errors found in the application during the submission process by the due date.

NASA

Grant Program: Early Career Fellowship Awards

Agency: NASA NNH15ZDA001N-SSO

RFP Website:

<http://nspires.nasaprs.com/external/viewrepositorydocument/cmdocumentid=448086/solicitationId=%7B43B0244D-01BB-CBFC-5254-76902DF6A397%7D/viewSolicitationDocument=1/C.6%20SSO.pdf>

Brief Description: Solar System Observations supports both ground- and space-based astronomical observations and suborbital investigations of our Solar System involving sounding rockets and balloons. Proposals are solicited for observations over the entire range of wavelengths, from the ultraviolet to radio, that contribute to the understanding of the nature and evolution of the Solar System and its individual constituents. Additionally, Solar System Observations supports NASA's commitment to discover and inventory potentially hazardous near Earth objects with sizes down to at least ~100 meters and to characterize that population through determination of their orbital elements. This program element will also consider proposals that characterize a representative sample of these objects by measuring their sizes, shapes, and compositions.

Early career researchers are encouraged to apply for the Early Career Fellowships (ECF) Program. The purpose of the ECF program (see C.16) is to support the development of individual research programs of outstanding scientists early in their careers and to stimulate research careers in the areas supported by the Planetary Sciences Division. This Program is based on the idea that supporting key individuals is a critical mechanism for achieving high impact science that will lead the field forward with new concepts, technologies, methods, and more. In the case of the NEOO Program, the ECF award is named for Dr Stephen J. Ostro, a pioneer in NEO observation research using planetary radar techniques.

Applicants requesting consideration for ECF may include an additional page to their Curriculum Vitae to provide information that can be used by reviewers to evaluate the Principal Investigator's (PI's) future research contributions and the potential for leadership within the scientific community. Please see C.16 of ROSES for more information on the two-step process for the ECF program and the criteria for evaluating candidates.

Awards: \$200,000 per year for three years

Letter of Intent: March 20, 2015

Full Proposal Deadline: April 17, 2015

Grant Program: Research Opportunities in Space and Earth Sciences (ROSES) - 2015

Agency: NASA NNH15ZDA001N;

ROSES 2015: Modeling, Analysis, and Prediction [NNH15ZDA001N-MAP](#)

RFP Website:

<http://nspires.nasaprs.com/external/viewrepositorydocument/cmdocumentid=448116/solicitationId=%7B4FCC09A9-DFF6-4DF5-EC7A-3881AF72A6A3%7D/viewSolicitationDocument=1/Full%20ROSES%202015%20amend1.pdf>

Summary of Solicitations Under ROSES 2015:

<http://nspires.nasaprs.com/external/viewrepositorydocument/cmdocumentid=448109/solicitationId=%7B9F1341A9-6D0F-F075-C993-276263B186ED%7D/viewSolicitationDocument=1/ROSES%202015%20SoS.pdf>

Brief Description: This National Aeronautics and Space Administration (NASA) Research Announcement (NRA), entitled Research Opportunities in Space and Earth Sciences (ROSES)–2015, solicits basic and applied research in support of NASA’s Science Mission Directorate (SMD). ROSES is an omnibus with many individual program elements, each with its own due dates and topics and all together these cover all aspects of basic and applied supporting research and technology in space and Earth sciences, including, but not limited to: theory, modeling, and analysis of SMD science data; aircraft, scientific balloon, sounding rocket, International Space Station (ISS), CubeSat and suborbital reusable launch vehicle investigations; development of experiment techniques suitable for future SMD space missions; development of concepts for future SMD space missions; development of advanced technologies relevant to SMD missions; development of techniques for and the laboratory analysis of both extraterrestrial samples returned by spacecraft, as well as terrestrial samples that support or otherwise help verify observations from SMD Earth system science missions; determination of atomic and composition parameters needed to analyze space data, as well as returned samples from the Earth or space; Earth surface observations and field campaigns that support SMD science missions; development of integrated Earth system models; development of systems for applying Earth science research data to societal needs; and development of applied information systems applicable to SMD objectives and data.

Awards: Awards range from under \$100K per year for focused, limited efforts (e.g., data analysis) to more than \$1M per year for extensive activities (e.g., development of science experiment hardware).

Letter of Intent: March 27, 2015

Deadline: Full Proposal Deadline(s): Full Proposal Due: May 29, 2015

National Endowment for Humanities

Grant Program: Challenge Grants

Agency: National Endowment for Humanities

RFP Website: <http://www.neh.gov/grants/challenge/challenge-grants>

Brief Description: The mission of the NEH Office of Challenge Grants is to advance knowledge and understanding in the humanities by strengthening the institutional base of humanities teaching, scholarly research, public programming, and other humanities activities. Challenge grants are capacity-building grants, intended to support significant humanities activities of high intellectual quality and to help institutions secure long-term support for their humanities programs.

Through these grants many organizations and institutions have been able to increase their humanities capacity and secure the permanent support of an endowment. Grants may be used to establish or enhance endowments or spend-down funds that generate expendable earnings to support and enhance ongoing program activities. Challenge grants may also provide capital directly supporting the procurement of long-lasting objects, such as acquisitions for archives and collections, the purchase of equipment, and the construction or renovation of facilities needed for humanities activities. Funds spent directly must be shown to bring long-term benefits to the institution and to the humanities more broadly. Grantee institutions may also expend up to 10 percent of total grant funds (federal funds plus matching funds) to defray costs of fundraising to meet the NEH challenge. Because of the matching requirement, these NEH grants also strengthen the humanities by encouraging nonfederal sources of support.

Applications are welcome from colleges and universities, museums, public libraries, research institutions, historical societies and historic sites, scholarly associations, state humanities councils, and other nonprofit humanities entities. Programs that involve collaboration among multiple institutions are eligible as well, but one institution must serve as the lead agent and formal applicant of record.

Awards: Variable

Letter of Intent: Not required

Deadline: Full Proposal Deadline(s): May 5, 2015

Grant Program: Collaborative Research Grants

Agency: National Endowment for Humanities

RFP Website: <http://www.neh.gov/grants/research/collaborative-research-grants>

Brief Description: 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. Support is available for various combinations of scholars, consultants, and research assistants; project-related travel; field work; applications of information technology; and technical support and services. All grantees are expected to communicate the results of their work to the appropriate scholarly and public audiences.

Eligible projects include

- research that significantly adds to knowledge and understanding of the humanities;
- conferences on topics of major importance in the humanities that will benefit scholarly research;
- archaeological projects that include the interpretation and communication of results (projects may encompass excavation, materials analysis, laboratory work, field reports, and preparation of interpretive monographs); and

research that uses the knowledge and perspectives of the humanities and historical or philosophical methods to enhance understanding of science, technology, medicine, and the social sciences.

Awards: Variable

Letter of Intent: Not required

Deadline: Full Proposal Deadline(s): December 9, 2015

Department of Defense

Grant Program: Young Faculty Award

Agency: DARPA Microsystems Technology Office DARPA-RA-15-32

RFP Website:

<https://www.fbo.gov/index?s=opportunity&mode=form&id=6f337c26de13352bd2f1fbe3537859b2&tab=core&cvview=0>

Brief Description: The DARPA Young Faculty Award (YFA) program aims to identify and engage rising stars in junior faculty positions in academia and equivalent positions at non-profit research institutions and expose them to Department of Defense (DoD) and National Security challenges and needs. In particular, this YFA will provide high-impact funding to elite researchers early in their careers to develop innovative new research directions in the context of enabling transformative DoD capabilities. The long-term goal of the program is to develop the next generation of scientists and engineers in the research community who will focus a significant portion of their future careers on DoD and National Security issues.

DARPA is soliciting innovative research proposals in physical sciences, engineering, materials, mathematics, biology, computing, informatics, and manufacturing of interest to DARPA's Defense Sciences Office (DSO), Biological Technology Office (BTO) and Microsystems Technology Office (MTO). Further detail regarding technical areas of interest can be found in the Technical Areas topics list. Proposals that fail to respond directly to a Technical Area will be considered nonresponsive.

Proposals responding to this RA should clearly describe the DoD problem being addressed, the current state-of-the-art technology, new insights to address the problem, a credible research plan and schedule, and critical, quantitative milestones to be pursued over each 12 month phase. Proposers should familiarize themselves with and address the Heilmeyer Catechism in responding to this RA.

Proposed research should focus on innovations that will enable revolutionary advances in the selected topic area. High-risk/high-payoff ideas that could potentially transform a field or technology are strongly encouraged. Proposed research should investigate innovative approaches that enable revolutionary advances in science, devices, or systems. Specifically excluded is research that primarily results in evolutionary improvements to the existing state of practice.

Proposals that offer only incremental advances upon existing R&D and technologies will be deemed nonresponsive to this RA.

Awards: DARPA intends to award grants to eligible university faculty and nonprofit research organizations; each grant will encompass funding for a 24-month base period consisting of two 12-month phases (a maximum of \$250,000 per 12-month phase) and a 12-month option period (a maximum of \$500,000).

Letter of Intent: Not Required

Deadline: April 13, 2015

Grant Program: Communicating with Computers (CwC)

Agency: DARPA - Information Innovation Office DARPA-BAA-15-18

RFP Website:

<https://www.fbo.gov/index?tab=documents&tabmode=form&subtab=core&tabid=6a6f9af2a5dec8dd379a3ef1b8e4a790>

Brief Description: DARPA is soliciting innovative research proposals in the area of natural communication with computers. This program is a 6.1 basic research effort that aims to accelerate progress toward two-way communication between people and computers in which the machine is more than merely a receiver of commands and in which a full range of natural modes is tapped, including potentially language, gesture and facial or other expressions.

The CwC program is based on four premises:

- 1) Complex ideas are composed from elementary ones;
- 2) Most elementary ideas are about the physical world;
- 3) Language specifies how to compose complex ideas; but,
- 4) Context is often needed to boost the specificity of complex ideas that can be composed given language.

Here, the word "idea" denotes a representation of the meaning of a communicative act. The CwC program is committed to a compositional account of meaning by which a vast space of ideas can be composed from a relatively small set of elementary ideas. On this account, the purpose of communication is to share complex ideas.

Awards: DARPA anticipates that the Communicating with Computers program will consist of three phases: two 18-month phases and one 24-month phase. DARPA anticipates one research award for Technical Area 1 (TA1), multiple awards addressing technical areas 2, 3 and 4, and at most one award for TA5 (Evaluation). A combined award for TA1 and TA5 might be made; no other awards for TAs combined with TA5 will be considered. Combined awards for TAs 1, 2, 3, and/or 4 may be considered.

Letter of Intent: Abstract Due Date: March 6, 2015, 12:00 noon (ET)

Full Proposal Deadline: April 9, 2015, 12:00 noon (ET)
