

Grant Opportunity Alerts: Issue: ORD-GOA-2014-04

We are pleased to announce the **new Research website for the Office of Research and Development** (<http://www.njit.edu/research/>) with a one-stop detailed information for researchers, students and collaborators. While we will keep updating and revising the website, your feedback on features and contents are most welcome. You may send your comments directly to me at dhawan@njit.edu. Thank you.

Here is a brief list of recent grant opportunities that may of interest to NJIT faculty.

Keywords and Areas Included:

NSF: Environmental Biology, Mathematical Sciences,

National Endowment for Humanities: Collaborative Research, Scholarly Activities

NIH: Program Grant in Bioinformatics

Grant Opportunity Watch: NSF Major Research Instrumentation Program: (MRI)

Brief Description: The Major Research Instrumentation Program (MRI) serves to increase access to shared scientific and engineering instruments for research and research training in our Nation's institutions of higher education, and not-for-profit museums, science centers and scientific/engineering research organizations. This program especially seeks to improve the quality and expand the scope of research and research training in science and engineering, by supporting proposals for shared instrumentation that fosters the integration of research and education in research-intensive learning environments. Each MRI proposal may request support for the acquisition (Track 1) or development (Track 2) of a single research instrument for shared inter- and/or intra-organizational use; development efforts that leverage the strengths of private sector partners to build instrument development capacity at MRI submission-eligible organizations are encouraged.

Limited Number of Submission: Three (3) as described below.

If three proposals are submitted, at least one of the proposals must be for instrument development (i.e., no more than two proposals may be for instrument acquisition).

Awards Range: \$100,000-\$4 million

Expected Submission Deadline: January 22, 2015

Note: There will be an internal competition announced through colleges/schools when the RFP is released.

National Science Foundation

Grant Program: Long Term Research in Environmental Biology (LTREB)

Agency: NSF, 15-503; Directorate for Biological Sciences; Division of Environmental Biology

RFP Website: <http://www.nsf.gov/pubs/2015/nsf15503/nsf15503.htm>

Brief Description: The Long Term Research in Environmental Biology Program intends to support decadal projects. Funding for an initial, 5-year period requires submission of a preliminary proposal and, if invited, submission of a full proposal.

Many important questions in ecology, ecosystem science, and evolutionary biology can only be addressed with long-term data. Research areas include, but are not limited to, the effects of natural selection or other evolutionary processes on populations; the effects of interspecific interactions that vary over time and space; population and community dynamics for organisms that have extended life spans and long turnover times; feedbacks between ecological and evolutionary processes; pools of materials such as nutrients in soils that turn over at intermediate to longer time scales; and external forcing functions such as climatic cycles that operate over long return intervals. Investigators often are constrained in addressing questions in these areas by the relatively short support periods associated with typical research awards. In recognition of this problem, the Division of Environmental Biology (DEB) encourages investigators to apply for LTREB awards. These awards are designed to provide the funding to maintain an ongoing, long-term research project for a period of a decade or longer.

Awards: Up to \$450,000

Letter of Intent: Not required

Preliminary Proposal: Required.

Proposal Deadline:

Preliminary Proposal Due Date: January 23, 2015 (due by 5 p.m. proposer's local time)

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

Grant Program: Division of Environmental Biology (Core Programs) (DEB)

Agency: NSF: 15-500

Directorate for Biological Sciences; Division of Environmental Biology

RFP

Website: http://www.nsf.gov/pubs/2015/nsf15500/nsf15500.htm?WT.mc_id=USNSF_25&WT.mc_ev=click

Brief Description: The Division of Environmental Biology (DEB) supports fundamental research on populations, species, communities, and ecosystems. Scientific emphases range across many

evolutionary and ecological patterns and processes at all spatial and temporal scales. Areas of research include biodiversity, phylogenetic systematics, molecular evolution, life history evolution, natural selection, ecology, biogeography, ecosystem structure, function and services, conservation biology, global change, and biogeochemical cycles. Research on organismal origins, functions, relationships, interactions, and evolutionary history may incorporate field, laboratory, or collection-based approaches; observational or manipulative experiments; synthesis activities; as well as theoretical approaches involving analytical, statistical, or computational modeling.

Awards: Up to \$450,000

Letter of Intent: Not required

Preliminary Proposal: Required.

Proposal Deadline:

Preliminary Proposal Due Date: January 23, 2015 (due by 5 p.m. proposer's local time)

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

Grant Program: Emerging Frontiers in Research and Innovation 2015 (EFRI-2015): Two-Dimensional Atomic-layer Research and Engineering (2-DARE)

Agency: NSF 15-502

Directorate for Engineering: Emerging Frontiers in Research and Innovation; Directorate for Mathematical & Physical Sciences; Division of Chemistry; Division of Materials Research

RFP Website: <http://www.nsf.gov/pubs/2015/nsf15502/nsf15502.htm>

Brief Description: The Directorate for Engineering at the National Science Foundation has established the Office of Emerging Frontiers in Research and Innovation (EFRI) to serve a critical role in focusing on important emerging areas in a timely manner. This solicitation is a funding opportunity for interdisciplinary teams of researchers to embark on rapidly advancing frontiers of fundamental engineering research. For this solicitation, we will consider proposals that aim to investigate emerging frontiers in the following research area:

Two-Dimensional Atomic-layer Research and Engineering (2-DARE)

This solicitation is coordinated with the Directorate for Mathematical & Physical Sciences within NSF. Additionally, interest within other Federal agencies, specifically Air Force Office of Scientific Research (AFOSR), may lead to an interagency effort. Submitted proposals may be shared with interested representatives from AFOSR.

EFRI seeks proposals with transformative ideas that represent an opportunity for a significant shift in fundamental engineering knowledge with a strong potential for long term impact on national needs or a grand challenge. The proposals must also meet the detailed requirements delineated in this solicitation.

AFOSR is pleased to collaborate with NSF in the pursuance of revolutionary scientific breakthroughs related to **2-DARE**. AFOSR program officers will collaborate with NSF in the review, selection and

potential funding of proposals submitted under this solicitation. AFOSR manages the basic research investment for the U.S. Air Force (USAF). As a part of the Air Force Research Laboratory (AFRL), AFOSR's technical experts foster and fund research within AFRL, universities, and industry laboratories. Using a carefully balanced research portfolio, program officers seek to create revolutionary scientific breakthroughs, enabling USAF and U.S. industry to produce world-class, militarily significant, and commercially valuable products. Proposers interested in learning more about AFOSR's mission and research interests should consult the AFOSR website, <http://www.wpafb.af.mil/afrl/afosr/>.

Thrust 1: Exploration of Material Properties and Device Applications

Besides unveiling the fundamental properties of 2D layered material systems, the application of such materials in novel device platforms is highly encouraged. Processing of atomic layers and preparation of morphologies, chemical modification, doping, and patterning have been landmarks of research in graphene, and are likely to be areas of active research in 2D layered systems.

The particular material properties of interest and their device applications (where applicable) are outlined in more detail in Parts (a) - (c) of Thrust 1.

1. **Electrical, Optical and Magnetic Properties and Device Applications**
2. **Thermal Properties and Device Applications**
3. **Mechanical, Structural, Chemical and Biological Properties and Device Applications**

Thrust 2: Synthesis and Nanomanufacturing

Thrust 3: Theory and modeling

National Endowment for Humanities

Grant Program: Collaborative Research Grants in Humanities

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: Up to \$300,000

Due Date: December 9, 2014

Grant Program: Scholarly Editions and Translations Grants

Agency: National Endowment for Humanities

RFP Website: <http://www.neh.gov/grants/research/scholarly-editions-and-translations-grants>

Brief Description: Scholarly Editions and Translations grants support the preparation of editions and translations of pre-existing texts and documents of value to the humanities that are currently inaccessible or available in inadequate editions. Typically, the texts and documents are significant literary, philosophical, and historical materials; but other types of work, such as musical notation, are also eligible.

Projects must be undertaken by a team of at least one editor or translator and one other staff member. These grants support full-time or part-time activities for periods of one to three years.

Applicants should demonstrate familiarity with the best practices recommended by the [Association for Documentary Editing](#) or the [Modern Language Association Committee on Scholarly Editions](#). Translation projects should also explain the approach adopted for the particular work to be translated. Editions and translations produced with NEH support contain scholarly and critical apparatus appropriate to the subject matter and format of the edition. This usually means introductions and annotations that provide essential information about the form, transmission, and historical and intellectual context of the texts and documents involved.

Proposals for editions of foreign language materials in the original language are eligible for funding, as well as proposals for editions of translated materials.

Awards: Up to \$300,000

Due Date: December 9, 2014

National Institutes of Health

Grant Program: Resource Program Grants in Bioinformatics (P41)

Agency: NIH, PA-08-180; P41 Biotechnology Resource Grants

RFP Website: <http://grants.nih.gov/grants/guide/pa-files/PA-14-357.html>

Brief Description: The emergence and rapid evolution of detection and sequencing technologies have generated unprecedented quantities of data from the analyses of biological systems at a molecular level. This rapid progress has been particularly significant with regard to genomic and proteomic technologies.

This exponential increase of information has been paralleled and facilitated by the increased ability of computers to digitally record, store, and analyze this cascade of data. However, for the ever-increasing quantities of information to be maximally useful to biomedical scientists requires the establishment and maintenance of data base resources to provide for the compilation, annotation, storage, and dissemination of the data. Additionally, resources are required to develop and supply tools for analysis, to provide for input of new data, and to provide the necessary technical advice and training required to utilize the database resources.

Examples of activities that Resource Program Grants in Bioinformatics are intended to support include but are not limited to:

- Efforts to curate and annotate unique collections of data, information or knowledge that support learning and research utilizing animal model systems;
- Software for information and knowledge processing, including information extraction, integration of data from heterogeneous sources, event detection, and feature recognition within these data sets;
- Tools for analyzing and/or storing large datasets, including genomic and proteomic data, data regarding gene and protein expression in relation to cellular, anatomical, and/or developmental coordinates;
- Data sets and tools for analysis of gene regulatory networks, protein-protein interaction networks, epigenetic regulatory mechanism, systems biological approaches, and other tools for understanding normal and abnormal biological function and/or development;
- Other unique data sets or information tools of demonstrable utility for biomedical research using animal models of developmental processes;
- Systems for knowledge representation, including vocabularies, ontologies, simulations and virtual reality, retrieval tools and intelligent agents for scientific information related to developmental processes.

Awards: Up to \$1,750,000

Letter of Intent: 30 days before the application due date

Submission Deadline: January 25, May 25 and September 25, 2014; Standard Dates until September 26, 2017