Grant Opportunity Alerts: Issue: ORD-GOA-2014-09

This issue includes Special Events, NSF Webinars, NSF, NIH, USAID, EPA Opportunities.

Keywords and Areas Included in Funding Opportunities Alerts (see below)**:**
Sloan Foundation, Basic Research in Microbiology
NIH: R01, R41, Immunology Grants; Human Cellular Models
NSF: Partnerships for Innovation; Research Coordination Networks (RCN)
EOP: Student Program for Environmental Excellence in Design (SPEED)
USAID: Partnering to Accelerate Entrepreneurship (PACE) Initiative

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Special Events

Distinguished Seminar in Department of Mathematical Sciences

When: December 5, 2014, 11:30 AM
Where: Cullimore Lecture Hall II**,**
Speaker: Dr. Evelyn Sander, Department of Mathematical Sciences,, George Mason University; **Bio:** **http://math.gmu.edu/~sander/EvelynSite/index.html**
Seminar Title: "The Dynamics of Nucleation"
Abstract: The Cahn-Hilliard equation is one of the fundamental models to describe phase separation dynamics in metal alloys. In this talk, I will focus on applying traditional dynamical tools, such as bifurcation theory and computational topology in order to gain a better understanding of the droplet formation during nucleation for the stochastic Cahn-Hilliard equation. I will consider different types of noise and different types of boundary conditions.

NJIT Distinguished Research Panel on NIH Funding Opportunities and Review Process

When: December 12, 2014; 11.30 AM to 1.30 PM
Where: Atrium, Student Campus Center (Please note the change in venue)
Who are Speakers:

Daofen Chen, Ph.D.
Program Director, Extramural Research Program
National Institute of Neurological Disorders and Stroke (NINDS/NIH)

Weijia Ni, Ph.D
Chief, RPHB/DABP
Center for Scientific Review (CSR)
National Institutes of Health (NIH)

And others from Rutgers Medical School and SHRP

Why You Should Attend: You should attend to learn about NIH priorities, type of support and recent changes in NIH-CSR review process. Also, meet and network with researchers and faculty from Rutgers University, Rutgers Medical School, SHRP and EDC members during the networking and light refreshment event.

Distinguished Seminar with NSF CMMI Division Director

When: December 10, 2014; 9.00 AM to 10.30 AM
Where: 3710, GITC
Who is the Speaker: George Hazelrigg, PhD**,** Division Director, Civil, Mechanical and Manufacturing Innovation (CMMI) Division, National Science Foundation
Why You Should Attend: You should attend to learn about NSF priorities and grant opportunities with the Civil, Mechanical and Manufacturing Innovation (CMMI) Division, National Science Foundation
RSVP: Space is limited, so please reserve a space by contacting Professor Shawn Chester (shawn.a.chester@njit.edu).

NSF: Improving Undergraduate STEM Education: IUSE Webinar:

When, Thursday, December 11, 2014 2.00 PM
About the Webinar
The following webinars are scheduled to provide information about the Improving Undergraduate STEM Education (IUSE) program.
To Join the Webinar

- Click the Webinar Address of the meeting you would like to attend (see below)
- If requested, enter your name and email address.
- Enter the meeting password.
- Click 'Join"

Follow the instructions that appear on your ... More at
https://nsf.webex.com/nsf/j.php?MTID=md5b119b677b4ea1850a51273a5854da5

Sloan Foundation

Grant Program: Basic Research: Microbiology of the Built Environment
Agency: **Sloan Foundation**
RFP Website: http://www.sloan.org/major-program-areas/basic-research/mobe/
Brief Description: Historically environmental research and policy have focused on natural or urban outdoor environments. Little is known about the complex microbial ecosystems found in the built environment. The goal of the Microbiology of the Built Environment program is to grow a new field of scientific inquiry.
Over the next five years, Sloan's objectives are as follows:

- To push the research frontier including the development of standardized techniques and protocols, and to educate a small leadership cohort through a multidisciplinary university-based Biology and the Built Environment Center at the University of Oregon, led by Jessica Green, Brendan Bohannan, and Charlie Brown.
- To build a national, multidisciplinary community by establishing a network of scientists, engineers, and architects working on these issues through the Microbiology of the Built Environment Network at the University of California, Davis, led by Jonathan Eisen.
- To improve the cohesiveness of the community and its ability to communicate internally and externally by developing data visualization and imaging techniques and repositories through a consortium of four institutions: University of Chicago (Folker Meyer), Marine Biological Laboratory(Mitch Sogin), University of Colorado(Rob Knight), and University of California, Riverside(Jason Stajich).
- To demonstrate the excitement and value of the field by supporting a small number of research targets of opportunity. Read the RFP for the Postdoctoral Fellowship program.

To convince traditional U.S. government funding agencies to include research on the built environment in their research plans by developing a compelling, widely accepted research agenda.
Awards: Various
Deadline: Various
NJIT Contact: For more information and towards submission of a proposal, please contact **Eric Blitz** in the advancement office.

National Science Foundation

Grant Program: Partnerships for Innovation: Accelerating Innovation Research - Research Alliance (PFI:AIR-RA)

Agency: National Science Foundation NSF 14-612
RFP Website: http://www.nsf.gov/pubs/2014/nsf14612/nsf14612.pdf
Brief Description:
The Directorate for Engineering (ENG) of the National Science Foundation (NSF) invites requests for funding under the Partnerships for Innovation: Accelerating Innovation Research- Research Alliance (PFI:AIR-RA) solicitation. Through this solicitation, NSF seeks to accelerate the translation and transfer of existing research discoveries into competitive technologies and commercial realities, to promote the development of and/or the extension of an academic-based innovation ecosystem around an NSF-funded research consortium, and to enhance knowledge and practice of innovation in faculty and students.
To accomplish these goals, the solicitation requires a partnership between an NSF-funded consortium, defined below, and two or more separate additional entities. Although two is the minimum requirement and may make sense for some proposals, NSF encourages the participation of multiple entities (three or more) in order to build the necessary relationships required to develop and sustain a viable innovation ecosystem. At least one of the entities must be a third party investor and at least one must be a research partner. "Research partner" and "third party investor" are defined below. It is also allowable that an entity may serve as both a research partner and a third party investor; however, in that case, the proposal must make clear how the entity performs both roles. The expertise of the research entity(s) will complement that of the NSF-funded consortium so that competitive technologies, which neither party could develop as well or rapidly alone, are accelerated to commercial realities and transferred to the marketplace in collaboration with the third-party investor(s). These partnerships and collaborations will link multiple entities such that competitive technologies, which are derived from the NSF-funded consortium research results, are moved more rapidly into marketable solutions through the formation of new start-up businesses or strategic partnerships with existing businesses. Ideally, the relationships developed under this program will be leveraged to enable a sustainable, academic-based innovation ecosystem.
This PFI:AIR-RA solicitation is aimed at technology translation and transfer, e.g., research activities necessary to accelerate the technologies with clear value propositions toward commercial realization. It is an opportunity to develop an innovation "arm" or thrust of an existing research consortium; e.g., a specific set of technology translation efforts in strategic partnerships with third party investor(s) and new research partner(s). A PFI:AIR-RA award will enable 1) faster translation and transfer of research results into new start-up business(es) or existing firms; 2) development or enhancement of a network of connections between the university researchers and others to build a sustainable, academic-based innovation ecosystem; and 3) preparation of students and/or post- doctoral fellows who understand the innovation and entrepreneurship processes.
Awards: Up to $800,000
LOI: Letter of Intent Required: January 12, 2015
Deadline: Feb 18, 2015 ; 5.00 PM

Grant Program: Research Coordination Networks (RCN)
Agency: National Science Foundation NSF 15-527
RFP Website: http://www.nsf.gov/pubs/2015/nsf15527/nsf15527.htm
Brief Description: The goal of the RCN program is to advance a field or create new directions in research or education by supporting groups of investigators to communicate and coordinate their research, training and educational activities across disciplinary, organizational, geographic and international boundaries. RCN provides opportunities to foster new collaborations, including international partnerships, and address interdisciplinary topics. Innovative ideas for implementing novel networking strategies, collaborative technologies, and development of community standards for data and meta-data are especially encouraged. RCN awards are not meant to support existing networks; nor are they meant to support the activities of established collaborations. RCN awards do not support primary research. RCN supports the means by which investigators can share information and ideas, coordinate ongoing or planned research activities, foster synthesis and new collaborations, develop community standards, and in other ways advance science and education through communication and sharing of ideas. Proposed networking activities directed to the RCN program should focus on a theme to give coherence to the collaboration, such as a broad research question or particular technologies or approaches. Participating core programs in the Directorates for Biological Sciences (BIO), Computer and Information Science and Engineering (CISE), Geosciences (GEO), Engineering (ENG) and Social, Behavioral and Economic Sciences (SBE) will accept General (non-targeted) RCN proposals. Some submission deadlines for the general RCN proposals vary by program; consult program websites. BIO is joined by the Directorate for Education and Human Resources (EHR) in the Undergraduate Biology Education (RCN-UBE) track described below. The following targeted track within the RCN programs is intended to foster linkages between BIO and EHR. RCN-UBE: The Undergraduate Biology Education track focuses on any topic likely to lead to improved participation, learning, or assessment in undergraduate biology education and follows the same guidelines outlined below for the general RCN program. Note: Because it addresses undergraduate biology education, the RCN-UBE track is offered in alignment with the NSF-wide undergraduate STEM education initiative, Improving Undergraduate STEM Education (IUSE). More information about IUSE can be found in the Program Description section of this solicitation. Several other NSF solicitations accept RCN proposals, or support research networking activities if appropriate to the solicitation. Please see section IX. Other Information of this solicitation for a listing of these programs.
Awards: Up to $500,000
Deadline: Full Proposal Deadline(s) (due by 5 p.m. proposer's local time):
March 02, 2015
RCN-UBE & UBE Incubator Track

Agency for International Development

Grant Program: Call for Partnership Concept Papers for the Partnering to Accelerate Entrepreneurship (PACE) Initiative
Agency: Agency for International Development RFA-OAA-15-000001
RFP Website: **http://www.usaid.gov/work-usaid/get-grant-or-contract/opportunities-funding/global-development-alliance-annual-program**
Brief Description: In order to source new ideas and a diverse set of partners in this effort, USAID is launching this call for concept papers. The Agency invites organizations to submit ideas for partnering and co- investing with USAID on PACE. USAID is focused on building partnerships3 that address one or more of the following objectives:

- **Stimulate the development of sustainable and scalable models that support the successful incubation of early stage enterprises in developing countries.** These approaches should substantially increase the ability of such enterprises to obtain the support services, expertise, and financial resources necessary to refine their business models, grow their enterprises, and attract private investment. USAID is particularly focused on co- investing in incubation models which align incentive structures between incubators/accelerators, investors, and entrepreneurs, and enable each to achieve their objectives in a financially sustainable manner. USAID is also interested in testing new models that can be replicated in other sectors or geographies.
- **Catalyze private investment (debt or equity)** into early-stage enterprises in the developing world. USAID is open to partnering with a wide range of traditional and nontraditional funders – angel investors, impact investing funds, financial institutions, foundations, venture arms of NGOs, and others – to test and evaluate models that use patient capital or grants to catalyze private investment.
- **Foster the development of entrepreneurial ecosystems** in specific sectors, industries, or geographies by addressing ecosystem gaps and/or "building" supportive elements of the ecosystem. USAID is open to collaborating with a wide range of partners in building ecosystems in which early stage entrepreneurial enterprises can thrive.

Awards: Up to $2,000,000
Deadline: Applicants are required to submit short concept papers not to exceed 5 pages to USAID/LAB/GP through Alicia Clark (aclark@usaid.gov). **Applicants should use the Concept Paper Template provided in the 2014-2015 GDA APS** (available at http://www.usaid.gov/work-usaid/get-grant-or-contract/opportunities-funding/global-development-alliance-annual-program-0), **which is also included here as Appendix A.** After review by LAB/GP and relevant

USAID staff based on the geography and sector of the proposed alliance, applicants will receive instructions from LAB/GP on whether to proceed with a full application. Concept papers must be submitted by 12:00 PM (noon) Eastern Standard Time, February 27th, 2015 in order to be considered. Concept papers will be evaluated after the closing date for this Addendum, and will NOT be evaluated on a rolling basis. It is expected that applicants will receive feedback on the status of their concept paper by May 1, 201517.

National Institutes of Health:

Grant Program: High Priority Immunology Grants (R01)
Agency: NIH R01 Research Projects; PAS-15-055
RFP Website: http://grants.nih.gov/grants/guide/pa-files/PAS-15-055.html
Brief Description: Basic immunology and basic immune mechanisms involved in host defense and immune-mediated diseases are of high programmatic interest in this FOA. Research that addresses innate and adaptive immunity at the molecular, cellular, organism, and systems level are encouraged, particularly the use of innovative animal models and studies of the human immune system.
Examples of topics of interest include, but are not limited to:

- Molecular mechanisms responsible for long-term, antigen-specific tolerance in T and B cells.
- Molecular mechanisms responsible for short-term effector functions and long-term memory in T and B cells.
- Discovery and characterization of novel innate immune receptors, signaling pathways and functions.
- Ontogeny of the immune system.
- Structural immunology.
- Epigenetic modifications in immune responses and immunoregulation.
- Immunological mechanisms of vaccine efficacy.
- Genetic, molecular, and cellular immune mechanisms underlying allograft or xenograft rejection or acceptance.
- Development and preclinical evaluation of novel immunomodulatory approaches to prevent or treat allergies, immune-mediated diseases, and allograft rejection.
- Genetic, molecular, and cellular immune mechanisms underlying maintenance or loss of transplant tolerance.
- Non-HLA antigens in transplantation, including autoimmune and heterologous immune responses.
- Mucosal immunology.
- Immunological mechanisms of autoimmune disease pathogenesis, remission and relapse.

- Biomarkers of response to immunomodulatory therapies for autoimmune disease.
- Influence of gender, microbiome, and environmental factors on self-tolerance and autoimmunity.
- Immunological basis of effective allergen immunotherapy.
- Regulatory mechanisms in healthy vs asthmatic airways.
- Effects of microbial and other environmental exposures on early immune development.
- Mechanisms of maintenance or loss of tolerance in food allergy.
- Development and characterization of novel products for allergen immunotherapy.

Awards: Standard Awards; Applicants requesting $500,000 or more in direct costs in any year (excluding consortium F&A) must contact NIH program staff at least 6 weeks before submitting the application and follow the Policy on the Acceptance for Review of Unsolicited Applications that Request $500,000 or More in Direct Costs as described in the SF424 (R&R) Application Guide.
Letter of Intent: Not Required
Deadline: Standard Dates: February 5, June 5 and October 5, 2015

Grant Program: Human Cellular Models for Predicting Individual Responses to Cystic Fibrosis Transmembrane Conductance Regulator- Directed Therapeutics (R41)
Agency: NIH R01 Research Projects; RFA HL 15-026
Companion Opportunities: RFA-HL-15-027, R43/R44 Small Business Innovation Research (SBIR) Grant - Phase I and Phase II
RFP Website: http://grants.nih.gov/grants/guide/rfa-files/RFA-HL-15-026.html
Brief Description: This funding opportunity announcement (FOA) encourages Phase I Small Business Technology Transfer (STTR) Grant applications from small business concerns proposing research for commercial development and validation of novel *in vitro* human cellular models for predicting the responses of individual patients to CFTR-directed therapies for cystic fibrosis (CF) lung disease.
Proposed research projects are expected to focus on the development of highly innovative cell-based systems that recapitulate a patient-specific CFTR phenotype to create a personalized study platform to examine response to CFTR-directed therapeutics. The models developed must be based on live cells from humans harboring CFTR mutations associated with CF. However, applicants are allowed considerable flexibility in how those cells are harvested, processed, and grown and in how the effects of therapeutic drugs are assayed. Investigators are encouraged to take advantage of recent advances in epithelial cell culture, which have defined effective methods for greatly expanding the numbers of cells and redifferentiating functional cell types to obtain an airway phenotype that is reflective of the native epithelium (e.g., cell polarity, ion transport, formation of ciliated cells and mucus secretion). Investigators may also wish to explore new opportunities for studying effects of CF therapeutics in organotypic 3-D cultures (e.g., bronchospheres).

Preclinical data indicate that these cultures predict ion transport efficacy of CFTR potentiators and correctors on a group-wide basis and support their use as a tool to predict efficacy on an individual patient level.
Awards: Standard Awards
Letter of Intent: 30 Days before submission date
Deadline: February 9, 2015 and November 9, 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 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.

Environmental Protection Agency (EPA)

Grant Program: STUDENT PROGRAM FOR ENVIRONMENTAL EXCELLENCE IN DESIGN (SPEED)
Agency: EPA RFA# EPA-OAR-OTAQ-15-02
RFP Website: http://www.epa.gov/air/grants_funding.html
Brief Description: The SPEED aims to increase students' awareness and understanding of the environmental benefits associated with increased fuel efficiency, reduced carbon intensity in transportation fuels, and reduced emissions in advanced vehicles. Through the SPEED, graduate-level students and senior-level undergraduate students in the science, technology, and engineering disciplines would be provided opportunities, and in certain cases financial support, to collaborate with EPA staff at the EPA's National Vehicle and Fuel Emissions Laboratory (NVFEL) in Ann Arbor, Michigan. Students would also obtain research training on-site at the NVFEL.
This project has three components: The first component focuses on development of a graduate-level research training and support partnership between the EPA and the recipient to continue advanced engine research and development. Through the SPEED, the recipient would work with the EPA's NVFEL to foster a collaborative research relationship between EPA's NVFEL, graduate-level engineering students, and faculty. Funding support for participating graduate-level students performing graduate level research on-site at the NVFEL would be provided under this component of the project.
The second component of the SPEED would be to design and manage a program to introduce and motivate undergraduate-level students to consider the professional pursuit of careers in the science, technology, and engineering disciplines. This component of the program would have an interdisciplinary perspective with a focus on improving public health and the environment through design projects and training for participating students.
The third component of the SPEED focuses on design and development of graduate-level major transportation-related environmental policy project experiences. The

recipient would work with the EPA's Transportation and Climate Division (TCD) through a collaborative relationship focusing on high level policy analysis, research and development between EPA's Office of Transportation and Air Quality (OTAQ), environmental policy students, and faculty.
Awards: Up to $350,000
Letter of Intent: December 15, 2014
Deadline: The closing date and time for receipt of application submissions, regardless of mode of submission, is **January 23, 2015, 4:00 p.m., Eastern Standard Time (EST)**. All hard copies of application packages must be received by the closing date and time in order to be considered for funding. Electronic submissions must be submitted to the EPA through Grants.gov (http://www.grants.gov) by **January 23, 2015, 4:00 p.m. EST** in order to be considered for funding. Applications received after the closing date and time will not be considered for funding.
To allow for efficient management of the competitive process, the EPA requests submittal of an informal notice of an "**Intent to Apply" by December 15, 2014** to klavon.patty@epa.gov.