

Energy Policy Institute
Energy, Policy, and Related Funding Opportunities
August 24, 2011

Contents

US DOE: Solid-State Lighting Core Technologies 3

US DOE: PV Manufacturing Initiative Part 2: SUNPATH (Scaling Up Nascent PV at Home) 3

US DOE: Solid-State Lighting Product Development 3

US DOE: Scientific Discovery through Advanced Computing: Scientific Computation Application Partnerships in Fusion Energy Science 4

US DOE: Innovative Manufacturing Initiative 4

US DOE: Conferences, Outreach & Networking for New Energy Communities & Technologies..... 5

US DOE: SunShot: Rooftop Solar Challenge to Induce Market Transformation 5

US DOE: Clean Cities Accepting Applications for Projects in National Parks 5

US DOE: New and Renewal-Supplemental Applications..... 6

USDA: Agriculture and Food Research Initiative: *Climate Change and Sustainable Bioenergy* Programs
6

US DOT: University Transportation Centers Program 6

NSF: Sustainability Research Networks Competition (SRN)..... 6

NSF: Biotechnology, Biochemical, and Biomass Engineering..... 7

NSF: Biomaterials 7

NSF: Catalysis and Biocatalysis..... 8

NSF: Communications, Circuits, and Sensing-Systems..... 8

NSF: Decision, Risk and Management Sciences (DRMS) 9

NSF: Dynamics of Coupled Natural & Human Systems (CNH) 9

NSF: Economics 9

NSF: Energy for Sustainability 10

NSF: Energy, Power and Adaptive Systems (EPAS) 10

NSF: Engineering Design & Innovation..... 11

NSF: Environmental Engineering..... 11

NSF: Environmental Sustainability 11

NSF: Infrastructure Management and Extreme Events 11

| | | |
|-------------------|--|-----------|
| NSF: | Innovation and Organizational Sciences (IOS) | 12 |
| NSF: | Law and Social Sciences | 12 |
| NSF: | Political Science | 13 |
| NSF: | Research Coordination Networks (RCN) | 13 |
| NSF: | Science and Technology Centers: Integrative Partnerships | 13 |
| NSF: | Science, Technology and Society (STS) | 14 |
| NSF: | Social-Computational Systems (SoCS) | 14 |
| NSF: | Sociology | 15 |
| NSF: | Water Sustainability & Climate (WSC) | 15 |
| ERDC: | Broad Agency Announcement | 15 |
| WateReuse: | Emerging Energy-Reducing Technologies for Desalination Applications | 16 |
| Surdna: | Sustainable Environments | 16 |

US DOE: Solid-State Lighting Core Technologies

Due: 11/3
Awards: \$6M total (Qty 2-6 @ approx. \$600K/year for up to 3 years)
Description: DE-FOA-0000564: This program focuses on applied research for technology development, with particular emphasis on meeting efficiency, performance, and cost targets. Specific emphasis shall be on achieving the performance and cost goals stated in the [2011 Multi-Year Program Plan](#) for Solid-State Lighting Research and Development. Successful approaches shall demonstrate a technology path that moves beyond the current performance levels detailed in the 2011 MYPP towards the future performance targets identified for the respective priority metric. There will be four areas of interest to which an application may be submitted under this FOA: 1) (Light Emitting Diode) Emitter Materials Research; 2) (Light Emitting Diode) Down-converters; 3) Novel Organic Light Emitting Diodes Materials and Structures; and 4) (Organic Light Emitting Diode) Light Extraction Approaches. Minimum Cost Share of 20% - 50% required; **Cost Share Requirement is Waived** for the entire effort when FFRDC or National Labs are Prime Recipients.

US DOE: PV Manufacturing Initiative Part 2: SUNPATH (Scaling Up Nascent PV at Home)

Due: 10/28
Awards: \$50M total (Qty 2 @ \$25M/ea)
Description: DE-FOA-0000563: This program seeks proposals for the first industrial scale demonstration of the applicant's photovoltaic (PV) module, cells, substrates, or module components that will achieve lower cost per watt. The applicant needs to demonstrate lower cost targets over the next two years than the current market leading technology and enable the path to \$1/watt system costs by 2020. Minimum Cost Share of 75% required.

US DOE: Solid-State Lighting Product Development

Due: 11/3
Awards: \$6M total (Qty 2-6 at up to \$2M/ea)
Description: DE-FOA-0000563: This program seeks to develop or improve commercially viable materials, devices, or systems for solid state lighting general illumination applications. Specific emphasis shall be on achieving the performance and cost goals stated in the [2011 Multi Year Program](#) for Solid State Lighting Research and Development. Successful approaches shall demonstrate a technology path that moves beyond the current performance levels detailed in the MYPP towards the future performance targets identified for the respective priority metric. There are five areas of interest to which an application may be submitted under this FOA: 1) Light Emitting Diodes Substrate Development; 2) Light Emitting Diodes Package Architecture; 3) Novel Light Emitting

Diodes Luminaire Systems; 4) Large Area Organic Light Emitting Diodes; and 5) Organic Light Emitting Diodes Panel Outcoupling. Minimum Cost Share of 20% required.

US DOE: Scientific Discovery through Advanced Computing: Scientific Computation Application Partnerships in Fusion Energy Science

Due: 9/9 (Required Pre-Application); 10/26 (Full Proposal)
Awards: \$33M total (Qty 1-4 awards, max of 5 years ea)
Description: DE-FOA-0000571: The Office of Fusion Energy Sciences (FES) and the Office of Advanced Scientific Computing Research (ASCR) of the Office of Science (SC), U.S. Department of Energy (DOE), hereby announce their interest in receiving Cooperative Agreement applications from interdisciplinary teams to the Scientific Discovery through Advanced Computing (SciDAC) program, for Scientific Computation Application Partnerships (hereafter, Partnerships) in the area of fusion energy sciences. The FES SciDAC portfolio focuses on the development and application of high physics fidelity simulation codes that can advance the fundamental science of magnetically confined plasmas by fully exploiting leadership class computing resources and contribute to the FES goal of developing the predictive capability needed for a sustainable fusion energy source. The specific areas of interest under this FOA are: 1) Edge Physics; 2) Multiscale Integrated Modeling; and 3) Materials Science.

US DOE: Innovative Manufacturing Initiative

Due: 9/1 (LOI); 10/5 (Full Proposals)
Awards: Qty 35-50 @ \$120M total (max of \$1M-\$9M per 3-year award)
Description: DE-FOA-0000560: The purpose of this program is to solicit Applications for funding cost-shared research and development of innovative manufacturing processes and materials technologies to advance the clean energy economy by increasing industrial and manufacturing energy efficiency, deliver the breakthroughs that the Nation needs to significantly reduce energy and carbon intensity throughout the economy over the coming decades, and revitalize existing manufacturing industries and support the development of new products in emerging industries. This FOA seeks Applications to select and fund research and development (R&D) projects beginning as early as Technology Readiness Level 2 (Applied Research) with efforts up through Technology Readiness Level 6 (Prototype) to advance the engineering and development of transformational manufacturing process and materials technologies that significantly improve the competitive position of U.S. industry. In this FOA, innovative manufacturing technologies are broadly defined as new manufacturing processes, technologies, and materials that drastically reduce energy use in manufacturing without sacrificing product quality, production throughput, or system economics.

US DOE: Conferences, Outreach & Networking for New Energy Communities & Technologies

Due: 9/1; 12/1; 3/1/12; 6/1/12; 9/3/12; 12/4/12
Awards: Qty 10-20 @ \$100K total; Individual awards range between \$5K-\$25K
Description: DE-FOA-0000475: ARPA-E is required to expend at least 5% of its appropriated funds on technology transfer and outreach activities. Areas of interest include the following two categories: 1) Energy technology conferences, workshops, and other events; or 2) Student participation in energy technology conferences, workshops, and other events.

US DOE: SunShot: Rooftop Solar Challenge to Induce Market Transformation

Due: 7/29 (LOI); 8/31 (Full Proposals)
Awards: Qty 25 @ \$12.5M total (\$250K-\$1M/ea, average anticipated award is \$500K)
Description: DE-FOA-0000549: This program (“The Challenge”) provides an opportunity for local government teams to partner with relevant stakeholders and make the changes necessary to improve market conditions for rooftop PV in major regions of the country. The Challenge focuses specifically on rooftop PV in the residential and commercial sectors, and emphasizes streamlined and standardized permitting and interconnection processes. Participants under the Challenge are intended to be regional or statewide teams of local governments, or large single jurisdictions, or Indian Tribes representing a minimum population of 500,000. Phase 1 action areas to address are 1) Permitting & Interconnection Processes, 2) Net Metering and Interconnection Standards, 3) Financing Options, and 4) Planning & Zoning. Minimum 10% cost share required (Phase 1).

US DOE: Clean Cities Accepting Applications for Projects in National Parks

Due: No Deadline is Given
Awards: No Award info available
Description: The U.S. Department of Energy's Clean Cities program and the U.S. Department of Interior's National Park Service are accepting project ideas for transportation-related projects using renewable and alternative fuels, electric drive and advanced vehicles, and fuel saving initiatives. Interested applicants may submit a one-page Project Idea Form. Proposers whose ideas are selected for further consideration will be asked to submit an in-depth project proposal. NPS units or Clean Cities coalitions may submit project ideas. Individual NPS units must work with one or more Clean Cities coalitions during the project-development process.

US DOE: New and Renewal-Supplemental Applications

Due: 9/30/11
Awards: \$800M total
Description: DE-FOA-0000411 & DE-FOA-0000412: The Office of Science of the Department of Energy hereby announces its continuing interest in receiving grant applications for support of work in the following program areas: Advanced Scientific Computing Research, Basic Energy Sciences, Biological and Environmental Research, Fusion Energy Sciences, High Energy Physics, Nuclear Physics, and Workforce Development for Teachers and Scientists.

USDA: Agriculture and Food Research Initiative: *Climate Change and Sustainable Bioenergy* Programs

Due: TBA
Awards: \$78M total (up to \$500K/ea)
Description: AFRI Foundation: Separate 2011 AFRI [Climate Change](#) & 2011 AFRI [Sustainable Bioenergy](#) coming soon!

US DOT: **University Transportation Centers Program**

Due: 10/26
Awards: up to \$3.5M ea
Description: The Research and Innovative Technology Administration (RITA) plans to select ten Tier 1 University Transportation Centers (UTCs), two Tier 1 Transit-Focused UTCs, and ten Regional UTCs. The purpose of the Centers is to advance US technology and expertise in the many disciplines comprising transportation through the mechanisms of research, education, and technology transfer; and to provide a critical transportation knowledge base outside the US DOT and address vital workforce needs for the next generation of transportation leaders. Proposed UTCs may be a single university or a consortium of two or more universities. Matching Non-Federal Funds Required.

NSF: **Sustainability Research Networks Competition (SRN)**

Due: 12/1 (Required Preliminary Proposal); 4/1/12 (Invited Full Proposal)
Awards: \$36M total (Qty 3-4 SRNs @ up to \$12M/ea max for 4-5 years)
Description: PD-11-574: The goal of SRN is to support the development and coalescence of entities to advance collaborative research that addresses questions and challenges in sustainability science, engineering, and education. Proposers will be tasked with choosing a specific theme for their network, identifying the research already being done in this area, proposing methods for linking existing research efforts, and then proposing research needed to advance their specific research theme. **Examples** of possible SRN themes are *Energy and Materials Issues in Sustainability; Urban Sustainability; Large*

Scale Energy Production and Consumption Dynamics; Coastal System Vulnerability and Resilience; Altered Biogeochemistry of Earth Systems; Sustainability of Freshwater Supplies; and Food Security and Land Use Change.

NSF: Biotechnology, Biochemical, and Biomass Engineering

Due: 9/15/11

Awards: Recent awards range from \$76K-\$1.565M

Description: PD-11-1491: The **Biotechnology, Biochemical, and Biomass Engineering (BBBE)** program supports fundamental engineering research that advances the understanding of cellular and biomolecular processes (*in vivo*, *in vitro*, and/or *ex vivo*) and eventually leads to the development of enabling technology and/or applications in support of the biopharmaceutical, biotechnology, and bioenergy industries, or with applications in health or the environment. Quantitative assessments of bioprocesses are considered vital to successful research projects in the BBBE program. Fundamental to many research projects in this area is the understanding of how biomolecules and cells interact in their environment, and how those molecular level interactions lead to changes in structure, function, phenotype, and/or behavior. The program encourages proposals that address emerging research areas and technologies that effectively integrate knowledge and practices from different disciplines, and effectively incorporate ongoing research into educational activities.

NSF: Biomaterials

Due: 10/31/11

Awards: Recent awards range from \$3K-\$555K

Description: PD-06-7623: The Biomaterials Program supports fundamental research at the intersection of the physical, chemical, and biological sciences. Proposals focused on the preparation, characterization, structure-property relationships, and applications of biomaterials are encouraged. Emphasis is on novel design of biomaterials, including bioderived, bioinspired, biomimetic and biocompatible materials, discovery of new phenomena, and the combination of experiment with theory and/or simulation. General areas of interest include, but are not restricted to, self- and directed molecular assemblies, surfaces and interfaces, membranes and vesicles, gels and networks, carriers and drug delivery systems, smart and self-healing systems, tissue culture scaffolds, mineralization, hybrids and composites, multi-functional biomaterials such as photonic and electronic biomaterials, biomaterials for energy harvesting, conversion and storage, and biomaterials for sensors and actuators.

NSF: Catalysis and Biocatalysis

Due: 9/15/11

Awards: Recent awards range from \$5K-\$406K

Description: PD-11-1401: Due to the ubiquitous presence of catalysis in the many aspects of goods and services impacting our lives, the **Catalysis and Biocatalysis** program has many potential directions for funding support. Programs in this area encompass a blend of fundamental and innovative applied research drivers. All programs are hypothesis-driven, and the experimental programs aimed at resolving the issues frequently combine a variety of approaches. Chemical engineering and chemistry are intertwined. Proposals which receive funding in this Program may include catalysts and studies for Alternative Energy Systems, such as Electro- and Photocatalysis. This approach applies equally to classical *inorganic* or *carbon catalysts* as well as to *enzymatic* or *biocatalysts*. Specialized *materials synthesis* procedures may be necessary to provide active catalysts in any of the studies. Electrocatalysis and Photocatalysis studies frequently require fabrication of devices or systems which have engineering significance or even commercial potential, as the entire system needs evaluation for storage devices, fuel cells and solar energy interconversion studies. National needs suggest heightened interest be given to proposals relating to processes and catalysts for conversions of biomass to fuels and chemicals, for development of alternative energy sources and for transition to green or environmentally benign products and processes.

NSF: Communications, Circuits, and Sensing-Systems

Due: 9/7/11

Awards: Recent awards range from \$5K-\$412K

Description: PD-11-7564: The Communications, Circuits, and Sensing-Systems (**CCSS**) program is intended to spur visionary systems-oriented activities in collaborative, multidisciplinary, and integrative research. CCSS supports systems research in hardware, signal processing techniques, and architectures to enable the next generation of cyber systems (CPS) that leverage computation, communication, and algorithms integrated with physical domains. CCSS offers new challenges at all levels of systems integration to address future societal needs. CCSS supports innovative research and integrated educational activities in micro- and nano-systems, communications systems, and cyber systems. The goal is to design, develop, and implement new complex and hybrid systems at all scales, including nano, micro, and macro, that lead to innovative engineering principles and solutions for a variety of application domains including, but not limited to, healthcare, medicine, environmental monitoring, communications, disaster mitigation, homeland security, transportation, manufacturing, energy, and smart buildings.

NSF: Decision, Risk and Management Sciences (DRMS)

Due: 1/18/12

Awards: Recent awards range from \$4K-\$450K

Description: PD-98-1321: This program supports scientific research directed at increasing the understanding and effectiveness of decision making by individuals, groups, organizations, and society. Disciplinary and interdisciplinary research, doctoral dissertation research, and workshops are funded in the areas of judgment and decision making; decision analysis and decision aids; risk analysis, perception, and communication; societal and public policy decision making; management science and organizational design.

NSF: Dynamics of Coupled Natural & Human Systems (CNH)

Due: 11/15/11

Awards: Qty 15-18 @ \$17M total (approx \$150K-\$1.5M/ea)

Description: PD-10-612: The Dynamics of Coupled Natural and Human Systems (CNH) Program supports basic research and related activities that enhance fundamental understanding of the complex interactions within and among natural and human systems. CNH focuses on the complex interactions among human and natural systems at diverse spatial, temporal, and organizational scales. CNH seeks to advance basic knowledge about the system **dynamics** -- the processes through which systems function and interact with other systems. CNH-supported projects must examine relevant **natural AND human systems**. Proposals cannot focus solely or largely on either human systems or on natural systems. Projects also must examine the full range of **coupled** interactions and feedbacks among relevant systems.

NSF: Economics

Due: 1/18/12

Awards: Recent awards range from \$5K-\$608K

Description: PD-98-1320: This program supports research designed to improve the understanding of the processes and institutions of the U.S. economy and of the world system of which it is a part. This program also strengthens both empirical and theoretical economic analysis as well as the methods for rigorous research on economic behavior. It supports research in almost every area of economics, including econometrics, economic history, environmental economics, finance, industrial organization, international economics, labor economics, macroeconomics, mathematical economics, and public finance. The program places a high priority on interdisciplinary research. Investigators are encouraged to submit proposals of joint interest to the Economics Program and other NSF programs and NSF initiative areas.

NSF: Energy for Sustainability

Due: Jan 15, 2012 – Feb 17, 2012

Awards: Recent awards around \$400K

Description: PD-12-7644: This program supports fundamental research and education that will enable innovative processes for the sustainable production of electricity and transportation fuels. Processes for sustainable energy production must be environmentally benign, reduce greenhouse gas production, and utilize renewable or bio-based resources that are abundant in the United States. The most abundant and sustainable source of renewable energy is the sun. The Energy for Sustainability program emphasizes two themes which harness solar energy to make fuels and electrical power: biofuels, & bioenergy, and photovoltaic solar energy. In addition, this program also supports research in wind and wave energy, sustainable energy technology assessment, and fuel cells. Current interest areas in these sustainable energy technologies are:

- Biomass Conversion, Biofuels & Bioenergy
- Photovoltaic Solar Energy
- Wind Energy
- Advanced Batteries for Transportation

NSF: Energy, Power and Adaptive Systems (EPAS)

Due: 10/7/11

Awards: Recent awards range from \$10K-\$425K

Description: PD-10-1518: The Energy, Power, and Adaptive Systems (**EPAS**) program invests in the design and analysis of intelligent and adaptive engineering networks, including sensing, imaging, controls, and computational technologies for a variety of application domains. EPAS places emphasis on electric power networks and grids, including generation, transmission and integration of renewable, sustainable and distributed energy systems; high power electronics and drives; and understanding of associated regulatory and economic structures. Topics of interest include alternate energy sources, the Smart Grid, and interdependencies of critical infrastructure in power and communications. The program also places emphasis on energy scavenging and alternative energy technologies, including solar cells, ocean waves, wind, and low-head hydro. In addition, the program supports innovative test beds, and laboratory and curriculum development to integrate research and education. EPAS invests in adaptive dynamic programming, brain-like networked architectures performing real-time learning, neuromorphic engineering, telerobotics, and systems theory. The program supports distributed control of multi-agent systems with embedded computation for sensor and adaptive networks. EPAS provides additional emphasis on emerging areas, such as quantum systems engineering, quantum and molecular modeling and simulation of devices and systems.

NSF: Engineering Design & Innovation

Due: 10/1/11

Awards: Recent awards range from \$6K-\$450K

Description: PD-11-1464: The program focus is on gaining an understanding of the basic processes and phenomena underlying a holistic, life-cycle view of design where the total system life-cycle context recognizes the need for advanced understanding of the identification and definition of preferences, analysis of alternatives, effective accommodation of uncertainty in decision-making, and the relationship between data and knowledge in a digitally-supported process. The program funds advances in basic design theory, tools, and software to implement design theory and new design methods that span multiple domains, such as design for the environment and for manufacturability.

NSF: Environmental Engineering

Due: 9/15/11

Awards: Recent awards range from \$6K-\$440K

Description: PD-10-1440: The goal of this program is to encourage transformative research which applies scientific principles to minimize solid, liquid, and gaseous discharges into land, inland and coastal waters, and air that result from human activity, and to evaluate adverse impacts of these discharges on human health and environmental quality. Major areas of interest and activity in the program include: 1) Water and Wastewater Treatment; 2) Emerging Contaminants; 3) Water Resources Management; 4) Soil Remediation and Landfills; and 5) Air Quality.

NSF: Environmental Sustainability

Due: 9/15/11

Awards: Recent awards range from \$10K-\$407K

Description: PD-11-7643: This program supports engineering research that seeks to balance society's need to provide ecological protection and maintain stable economic conditions. There are four principal general research areas which are supported, but others can be proposed: Industrial Ecology, Green Engineering, Ecological Engineering, and Earth Systems Engineering.

NSF: Infrastructure Management and Extreme Events

Due: 10/1/11

Awards: Recent awards range from \$3K-\$810K

Description: PD-10-1638: This program focuses on the impact of large-scale hazards on civil infrastructure and society and on related issues of preparedness, response, mitigation, and recovery. The program supports research to integrate multiple issues from engineering, social, behavioral, political, and economic sciences. It supports

fundamental research on the interdependence of civil infrastructure and society, development of sustainable infrastructures, and civil infrastructure vulnerability and risk reduction.

NSF: Innovation and Organizational Sciences (IOS)

Due: 9/3/11
Awards: Recent awards range from \$36K-\$1M
Description: PD-07-5376: This program supports scientific research that advances our understanding of organizational phenomena, including innovation and innovation management, as well as other aspects of organizational effectiveness, competitiveness, dynamics, change or evolution. Levels of analysis may include (but are not limited to) individuals, groups, organizations, cross-organizational phenomena and/or institutional arrangements. Intellectual perspectives may involve (but are not limited to) organization theory, strategy, organizational behavior, social or industrial psychology, technology and innovation management, organizational sociology, entrepreneurship, organizational economics, communication sciences, information sciences, public administration, or decision and management sciences. Research methods may span a broad variety of qualitative and quantitative methods, including (but not limited to) archival analyses, surveys, simulation studies, experiments, comparative case studies, and network analyses. Research may involve industrial, educational, service, government, not-for-profits, voluntary organizations or interorganizational arrangements. IOS-funded research must be grounded in theory and generalizable. It must advance our scientific understanding of innovation and organizations. Scientific inquiries that are relevant to real problems and organizations in generalizable ways are encouraged.

NSF: Law and Social Sciences

Due: 1/15/12
Awards: Recent awards range from \$6K-\$350K
Description: PD-98-1372: This program supports social scientific studies of law and law-like systems of rules, institutions, processes, and behaviors. These can include, but are not limited to, research designed to enhance the scientific understanding of the impact of law; human behavior and interactions as these relate to law; the dynamics of legal decision making; and the nature, sources, and consequences of variations and changes in legal institutions. The primary consideration is that the research shows promise of advancing a scientific understanding of law and legal process. Within this framework, the Program has an "open window" for diverse theoretical perspectives, methods and contexts for study. For example, research on social control, crime causation, violence, victimization, legal and social change, patterns of discretion, procedural justice, compliance and deterrence, and regulatory enforcement are among the many areas that have recently received program support. The program continues to solicit proposals that take account of the growing interdependence and interconnections of the world. Thus proposals are welcome that advance fundamental knowledge about legal interactions, processes, relations, and diffusions that extend beyond any single nation as well as about how local

and national legal institutions, systems, and cultures affect or are affected by transnational or international phenomena.

NSF: Political Science

Due: 1/15/12

Awards: Recent awards range from \$4K-\$403K

Description: PD-98-1371: This program supports scientific research that advances knowledge and understanding of citizenship, government, and politics. Research proposals are expected to be theoretically motivated, conceptually precise, methodologically rigorous, and empirically oriented. Substantive areas include, but are not limited to, American government and politics, comparative government and politics, international relations, political behavior, political economy, and political institutions. In recent years, program awards have supported research projects on bargaining processes; campaigns and elections, electoral choice, and electoral systems; citizen support in emerging and established democracies; democratization, political change, and regime transitions; domestic and international conflict; international political economy; party activism; political psychology and political tolerance.

NSF: Research Coordination Networks (RCN)

Due: 2/3/12 (SEES Track)

Awards: Qty 7 @ \$7.5M-\$17.5M total (up to \$750K)

Description: PD-11-531: The goal of the RCN program is to advance a field or create new directions in research or education. The Science, Engineering and Education for Sustainability track focuses on interdisciplinary topics that will advance sustainability science, engineering and education as an integrative approach to the challenges of adapting to environmental, social and cultural changes associated with growth and development of human populations, and attaining a sustainable energy future.

NSF: Science and Technology Centers: Integrative Partnerships

Due: 2/3/12

Awards: Qty 6 @ \$30M total (\$1.5M-\$5M/ea)

Description: PD-11-522: The Science and Technology Centers (STC): Integrative Partnerships program supports innovative, potentially transformative, complex research and education projects that require large-scale, long-term awards. STCs conduct world-class research through partnerships among academic institutions, national laboratories, industrial organizations, and/or other public/private entities, and via international collaborations, as appropriate...Centers must undertake activities that facilitate knowledge transfer, i.e., the exchange of scientific and technical information with the objective of disseminating and utilizing knowledge broadly in multiple sectors. Preliminary proposals and invited full proposals may be submitted by U.S. academic

institutions that have research and degree-granting education programs in any area of research supported by NSF.

NSF: Science, Technology and Society (STS)

Due: 8/1/12

Awards: Qty 40 @ \$9M total

Description: PD-08-553: STS considers proposals that examine historical, philosophical, and sociological questions that arise in connection with science, engineering, and technology, and their respective interactions with society. STS has four components: 1) Ethics and Values in Science, Engineering and Technology (EVS); 2) History and Philosophy of Science, Engineering and Technology (HPS); 3) Social Studies of Science, Engineering and Technology (SSS); and 4) Studies of Policy, Science, Engineering and Technology (SPS).

NSF: Social-Computational Systems (SoCS)

Due: 11/11/11

Awards: Qty 15-20 @ \$10M total (up to \$750K/ea)

Description: PD-10-600: This program seeks to reveal new understanding about the properties that systems of people and computers together possess, and to develop theoretical and practical understandings of the purposeful design of systems to facilitate *socially intelligent computing*. By better characterizing, understanding, and eventually designing for desired behaviors arising from computationally mediated groups of people at all scales, new forms of knowledge creation, new models of computation, new forms of culture, and new types of interaction will result. Further, the investigation of such systems and their emergent behaviors and desired properties will inform the design of future systems. The SoCS program will support research in socially intelligent computing arising from human-computer partnerships that range in scale from a single person and computer to an Internet-scale array of machines and people. The program seeks to create new knowledge about the capabilities these partnerships can demonstrate - new affordances and new emergent behaviors, as well as unanticipated consequences and fundamental limits. The program furthermore seeks to build models informed by disciplines ranging from computational complexity theory to behavioral sciences that will enable a scientific understanding of fundamental limits for such systems. The program seeks to foster new ideas that support even greater capabilities for socially intelligent computing, such as the design and development of systems reflecting explicit knowledge about people's cognitive and social abilities, new models of collective, social, and participatory computing, and new algorithms that leverage the specific abilities of massive numbers of human participants.

NSF: Sociology

Due: 1/15/12

Awards: Recent awards range from \$3K-\$1.5M

Description: PD-98-1331: This program supports basic research on all forms of human social organization -- societies, institutions, groups and demography -- and processes of individual and institutional change. The Program encourages theoretically focused empirical investigations aimed at improving the explanation of fundamental social processes. Included is research on organizations and organizational behavior, population dynamics, social movements, social groups, labor force participation, stratification and mobility, family, social networks, socialization, gender roles, and the sociology of science and technology.

NSF: Water Sustainability & Climate (WSC)

Due: 10/19

Awards: Qty 12-26 @ \$31M total (max between \$150K-\$6M/ea, depending on category)

Description: PD-11-551: This goal of this program is to understand and predict the interactions between the water system and climate change, land use (including agriculture, managed forest and rangeland systems), the built environment, and ecosystem function and services through place-based research and integrative models. Studies of the water system using models and/or observations at specific sites singly or in combination that allow for spatial and temporal extrapolation to other regions, as well as integration across the different processes in that system are encouraged, especially to the extent that they advance the development of theoretical frameworks and predictive understanding.

ERDC: Broad Agency Announcement

Due: 1/31/12

Awards: Up to 10 awards anticipated.

Description: W912HZ-11-BAA-02: ERDC seeks research for Energy Technology Assessments of Army Installations; Innovative Energy Efficiency and Energy Security Initiatives; Fuel Cell Technology Advancements; Industrial Process Optimization; Innovative Electrical Power Architecture for Energy Surety; and much more. ERDC supports conferences and symposia in special areas of science that bring experts together to discuss recent research or educational findings or to expose other researchers or advanced graduate students to new research and educational techniques.

WaterReuse: Emerging Energy-Reducing Technologies for Desalination Applications

Due: 9/20
Awards: Max award is \$300K
Description: WaterReuse-11-04: The objective is to independently test the most promising desalination process(es) or equipment to verify manufacturer claims of reduced energy consumption in order to accelerate industry adaption of recently developed commercial products or processes by minimizing the time to widespread application. Minimum Cost Share of 25% is required.

Surdna: Sustainable Environments

Due: Anytime
Awards: Recent awards (Qty 26 in 2010 in Climate Change, Green Economy, & Trans/Smart Growth) range from \$40K-\$450K
Description: The Surdna Foundation seeks to foster just and sustainable communities throughout the United States. The Foundation's Sustainable Environments work is grounded in an understanding of the interplay between the environment, the economy, and social equity. Through this category, grants are provided to nonprofit organizations in three key priority areas that aim to transform how Americans work, consume, and move:

- 1) Stabilizing Climate Change at the Local, State and National Level. We focus on programs that will reduce greenhouse gas emissions and create economically competitive, sustainable, and equitable communities by a) mobilizing new constituencies to make the case that climate change is more than an environmental issue and to promote policies and individual actions to address it; b) advancing state, regional, and city policy and leadership to create and implement comprehensive plans that address climate change; and c) accelerating energy efficient solutions to conserve energy, reduce emissions and spur economic development and job creation.
- 2) Spurring the Transition to a Green Economy. The Surdna Foundation is interested in shifting investments toward the new energy economy and demonstrating the benefits, including job creation, economic development and greater social equity by a) creating good, green jobs by scaling up efforts to retrofit our nation's residential and commercial buildings; b) growing green industry and revitalizing our manufacturing sector through policies and investments that drive the production of wind turbines, solar panels, and transit systems; and c) fostering green jobs policies and training to create pathways out of poverty. This includes improving access to good jobs.
- 3) Transportation Systems and Encouraging Smart Growth. Over time, we seek to alter the prevailing land use and transportation systems in the U.S. through federal, state, and local policies that encourage smart growth, twenty-first century transportation systems, and sustainable, equitable communities. Areas of focus include a) reducing automobile dependency through federal, state, and regional policies, which foster infrastructure investments that improve transportation networks, increase mobility and accessibility, and reduce vehicle miles traveled and greenhouse gas emissions;

b) supporting state and city leaders in the development and implementation of innovative solutions and the transfer of best practices that create environmental, economic, and social benefits; and c) strengthening public involvement and accountability to ensure equitable transportation and planning practices.
