

November 3, 2017

## Engineering Research Transforming Our World



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DOE (1)  
DOD (1)

### Research Funding Opportunities

**Organization: NSF RFP/Letter Name: Biomechanics and Mechanobiology (BMMB) PD 17-7479 Due Date: January 24, 2018 Summary:** The BMMB Program supports fundamental research in biomechanics and mechanobiology. An emphasis is placed on multiscale mechanics approaches in the study of organisms that integrate across molecular, cell, tissue, and organ domains. The influence of *in vivo* mechanical forces on cell and matrix biology in the histomorphogenesis, maintenance, regeneration, and aging of tissues is an important concern. In addition, the relationships between mechanical behavior and extracellular matrix composition and organization are of interest. Funded projects may include theoretical, computational, and experimental approaches. The program encourages the consideration of diverse living tissues as smart materials that are self-designing. **Link:** [https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=13523&org=NSF&sel\\_org=NSF&from=fund](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13523&org=NSF&sel_org=NSF&from=fund)

**Organization: NSF RFP/Letter Name: Engineering Design and System Engineering (EDSE) PD 17-072Y Due Date: January 24, 2018 Summary:** The Engineering Design and Systems Engineering (EDSE) program supports fundamental research into the basic processes and phenomena of engineering design and systems engineering. The program seeks proposals leading to improved understanding about how processes, organizational structure, social interactions, strategic decision making, and other factors impact success in the planning and execution of engineering design and systems engineering projects. It also supports advances pertaining to engineering design and systems engineering in areas that include, but are not limited to, decision making under uncertainty, including preference and demand modeling; problem decomposition and decision delegation; applications of reverse game theory (mechanism design); computer-aided design; design representation; system performance modeling and prediction; design optimization; uncertainty quantification; domain- or concern-specific design methods; and advanced computational techniques for supporting effective human cognition, decision making, and collaboration. Competitive proposals for novel methods will include a plan to evaluate rigorously the effectiveness and performance of the proposed approach. **Link:**

[https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=505478&org=NSF&sel\\_org=NSF&from=fund](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505478&org=NSF&sel_org=NSF&from=fund)

**Organization: NSF RFP/Letter Name: Engineering for Civil Infrastructure (ECI) PD 17-073Y Due Date: January 24, 2018 Summary:** The Engineering for Civil Infrastructure (ECI) program supports fundamental research that will shape the future of our nation's constructed civil infrastructure, subjected to and interacting with the natural environment, to meet the needs of humans. In this context, research driven by radical

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ENGR 413N

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NSF (3)  
DOE (1)  
DOD (1)

rethinking of traditional civil infrastructure in response to emerging technological innovations, changing population demographics, and evolving societal needs is encouraged. The ECI program focuses on the physical infrastructure, such as the soil-foundation-structure-envelope-nonstructural building system; geotechnical; and underground facilities. It seeks proposals that advance knowledge and methodologies within geotechnical, structural, architectural, materials, coastal, and construction engineering, especially that include collaboration with researchers from other fields, including, for example, biomimetics, bioinspired design, advanced computation, data science, materials science, additive manufacturing, robotics, and control theory. **Link:**

**[https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=505488&org=NSF&sel\\_org=NSF&from=fund](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505488&org=NSF&sel_org=NSF&from=fund)**

**Organization: DOE RFP/Letter Name: FY2017 Vehicle Technologies Office Batteries and Electrification to Enable Extreme Fast Charging Funding**

**Opportunity DE-FOA-0001808 Due Date: January 18, 2018 Summary:** This Funding Opportunity Announcement supports Department of Energy's strategic goal of protecting the U.S. national and economic security by reducing imports and promoting a diverse supply of reliable, affordable, and environmentally sound energy. More specifically, this Funding Opportunity Announcement helps to achieve, by 2020, U.S. petroleum reduction of over 2.5 billion gallons per year through voluntary adoption of alternative fuel vehicles and infrastructure. This Funding Opportunity Announcement will include two (2) areas of interest: 1) Extreme Fast Charging Systems for Electric Vehicles and 2) Batteries for Extreme Fast Charging. These topics will be detailed in later sections of this Funding Opportunity Announcement. Information on where to submit questions regarding the content of the announcement and where to submit questions regarding submission of applications is found in the full Funding Opportunity Announcement posted on the Energy Efficiency and Renewable Energy Exchange website. **Link:** **<https://www.grants.gov/web/grants/view-opportunity.html?oppId=298059>**

**Organization: DOD RFP/Letter Name: Human-Centered Intelligence, Surveillance BAA-HPW-RHX-2014-0001 Due Date: February 12, 2018 Summary:** This effort is an open-ended BAA soliciting innovative research concepts for the overall mission of the Human-Centered Intelligence, Surveillance, & Reconnaissance (ISR) Division (711 HPW/RHX). It is intended to generate research concepts not already defined and planned by RHX as part of its core S&T portfolio. The core RHX mission is to develop human-centered S&T that (1) enables the Air Force to better identify, locate and track humans within the ISR environment and (2) enhance the performance of ISR analysts. To accomplish this mission, the RHX core S&T portfolio is structured into three major research areas:(1) Human Signatures - develop technologies to sense and exploit human bio-signatures at the molecular and macro (anthropometric) level,(2) Human Trust and Interaction – develop technologies to improve human-to-human interactions as well as human-to-machine interactions, and(3) Human Analyst Augmentation – develop technologies to enhance ISR analyst performance and to test the efficacy of newly developed ISR technologies within a simulated operational environment. The RHX mission also includes research carried over from the Airman Biosciences and Performance Program. **Link:** **<https://www.grants.gov/web/grants/view-opportunity.html?oppId=251243>**

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