Engineering Research Digest
A weekly newsletter for Engineering PIs interested in funding opportunities and news

November 14, 2018

http://teesresearch.tamu.edu/ researchnews@tees.tamus.edu

Funding Opportunities
http://tees.tamu.edu/researchsupport/funding/

TEES Research Development – Proposal Development Assistance

**Assistance for Junior Faculty**
If you are junior faculty and would like help in submitting a proposal, please contact Dr. Laurie Garton at lsgarton@tamu.edu at least **4 weeks before your proposal is due**. For the most assistance, please contact her **2-3 months in advance**.

Also, see Junior Faculty Opportunities below.

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**LIMITED SUBMISSIONS**
If you would like to receive all notices of limited submission opportunities, please email shelly.martin@tamu.edu. Note that if you are on this list, you will receive any and all announcements, whether or not they apply to you. All limited submission opportunities are also posted on the VPR’s site.

**Limited Submission** **NSF Cultivating Cultures for Ethical STEM (CCE STEM)** – Email of Intent Due November 28, 2018; Internal Proposal Due December 5, 2018

**Limited Submission** **NIH Outstanding New Environmental Scientist (ONES) Award** – Email of Intent Due December 5, 2018; Internal Proposal Due December 12, 2018

**Texas A&M University, Texas A&M Health Science Center, Texas A&M Engineering Experiment Station and Texas A&M AgriLife Research**

**New** **Research Development Fund – FY Request for Applications (link)** – Due February 25, 2019

**DOD**

**New** **AFWERX Advanced Microelectronics Design and Prototype Challenge (link)** – Phase 1: Submission Deadline January 22, 2019 – A commercial cloud-based development environment, design and verification tools, IP libraries, design expertise support, and fabrication. Access to this platform will be provided to selected teams at no cost to them, a
potential value of up to $10M for just Electronic Design Automation (EDA) tools and access to libraries of design IP. Further opportunities for physical chip design and prototyping will be defined for later stages.

**New DARPA SIGMA+ Network and Analytics** [link] – Abstract Due November 20, 2018, Deadline To Request Sigma Codebase: December 14, 2018; Full Due January 11, 2019 – DARPA anticipates multiple awards. The level of funding for individual awards made under this PA will depend on the quality of the proposals received and the availability of funds.

**DARPA Information Innovation Office (I2O) Office-wide** [link] – Abstract Due July 18, 2019; Proposal Due August 30, 2019 - Multiple awards are anticipated. The level of funding for individual awards made under this solicitation has not been predetermined and will depend on the quality of the proposals received and the availability of funds.

**Fiscal Year 2018 – Fiscal Year 2022 (FY18-FY22) U.S. Army Medical Research and Materiel Command’s (USAMRMC) Broad Agency Announcement (BAA) for Extramural Medical Research** [link] – Continuously Open through September 30, 2022 – The funding amount for this BAA is unspecified, and the number of awards is indeterminate and contingent upon funding availability. Selection of research projects is a highly competitive process and is based on the evaluation of the proposal/application’s technical merit, programmatic considerations, and the availability of funds.

**2018 ERDC Broad Agency Announcement** [link] – Pre-Proposals Due January 31, 2019

**DOE**

**Advanced Systems Integration for Solar Technologies** [link] – LOI Due November 14, 2018; Full Due December 7, 2018 – EERE anticipates making approximately 10 awards under this FOA. EERE may issue one, multiple, or no awards. Individual awards may vary between $2 and $10 million.

**DOI – Department of the Interior, Bureau of Reclamation, Research and Development Office**

**Desalination and Water Purification Research Program for Fiscal Year 2019 Synopsis 1** [link] – Due December 13, 2018, 4:00 p.m. MST – Funding Group I: Laboratory Scale projects. Up to $150,000 per applicant Funding Group II: Pilot Scale projects. Up to $200,000 per applicant per year, for a total of up to $400,000 over two years

**IARPA**

**Prize Challenges – Open Cross-language Information Retrieval (CLIR) Challenge** [link] – Registration Deadline: November 30, 2018; Algorithm Submission Deadline: February 1, 2019 – Win prizes from a total prize purse of $30,000

**NIH**

**New NIH Exploratory/Developmental Research Grant Program (Parent R21 Clinical Trial Not Allowed)** [link] – Standard Due Dates: February 16, June 16, October 16 – The number of awards is contingent upon NIH appropriations and the submission of a sufficient number of meritorious applications. Award Budget: The combined budget for direct costs for the two-year project period may not exceed $275,000. No more than $200,000 may be requested in any single year. (**Parent R21 Clinical Trial Required** [PA-19-054])
New NIH Research Project Grant (Parent R01 Clinical Trial Not Allowed) (link) – Standard Due Dates: February 5, June 5, October 5 – The number of awards is contingent upon NIH appropriations and the submission of a sufficient number of meritorious applications. Award Budget: Application budgets are not limited but need to reflect the actual needs of the proposed project. (Parent R01 Clinical Trial Required) (PA-19-055)

New Computational Genomics and Data Science Opportunities for Small Business (R43/R44 Clinical Trial Not Allowed) (link) – LOI Due 30 Days Prior to Application; Standard Due Dates: Standard Due Dates: September 5, January 5, April 5 – The number of awards is contingent upon NIH appropriations and the submission of a sufficient number of meritorious applications. Award Budget: According to statutory guidelines, total funding support (direct costs, indirect costs, fee) normally may not exceed $150,000 for Phase I awards and $1,000,000 for Phase II awards.

R Advancing Imaging, Device Production, and Clinical Capabilities in Digital Dentistry (R41/R42 Clinical Trial Not Allowed) (link) – Standard Due Dates: September 5, January 5, April 5 – According to statutory guidelines, total funding support (direct costs, indirect costs, fee) normally may not exceed $150,000 for Phase I awards and $1,000,000 for Phase II awards.

R Advancing Imaging, Device Production, and Clinical Capabilities in Digital Dentistry (R43/R44 Clinical Trial Not Allowed) (link) – Standard Due Dates: September 5, January 5, April 5 – According to statutory guidelines, total funding support (direct costs, indirect costs, fee) normally may not exceed $150,000 for Phase I awards and $1,000,000 for Phase II awards.

R Promoting Research in Basic Neuroscience (R01 Clinical Trial Not Allowed) (link) – Standard Due Dates: February 5, June 5, October 5 – NINDS intends to fund up to 12 awards, corresponding to a total of $5.0 million for fiscal year 2019. Future year amounts will depend on annual appropriations. Award Budget: Application budgets are not limited but need to reflect the actual needs of the proposed project.

R Bioengineering Research Grants (BRG) (R01 Clinical Trial Optional) (link) – Standard Due Dates: February 5, June 5, October 5 – The number of awards is contingent upon NIH appropriations and the submission of a sufficient number of meritorious applications. Application budgets are not limited but need to reflect the actual needs of the proposed project.

NSF New Limited Submission Materials Innovation Platforms (MIP) (link) – Full Due February 4, 2019 – Estimated Number of Awards: 1 to 3; Awards totaling $15,000,000 to $25,000,000 over a five-year period are anticipated. The proposed budget must be commensurate with the scope of the project and thoroughly justified in the proposal. MIP funding is provided yearly. Pending the availability of funds, it is anticipated that $12,000,000 will be available in Fiscal Year 2019.

New NSF/CASIS Collaboration on Transport Phenomena Research on the International Space Station (ISS) to Benefit Life on Earth (link) – Submission Window: December 7, 2018 - March 15, 2019 – Estimated Number of Awards: 10; Anticipated Funding Amount: $4,000,000. NSF Funding (total) available under this solicitation is up to $4 million to be distributed in FY 2019. Budget requests may be for up to $400,000 total, direct and indirect
costs, and up to four years in duration. The award size and duration should be consistent with the project scope.

**New Training-based Workforce Development for Advanced Cyberinfrastructure (CyberTraining) ([link](#))** – Full February 6, 2019 – Pilot Projects: up to $300,000 total budget with durations up to two years; Implementation Projects: Small (with total budgets of up to $500,000) or Medium (with total budgets of up to $1,000,000) for durations of up to four years; and Large-scale Project Conceptualization Projects: up to $500,000 total budgets with durations up to 2 years.

**New EarthCube Office – Science Office for a Community-Driven Data and Knowledge Environment for the Geosciences ([link](#))** – Full Due February 11, 2019 – Estimated Number of Awards: 1; Anticipated Funding Amount: $1,000,000 to $2,000,000. Funding amount listed above is per year. NSF anticipates funding the EarthCube Science Support Office for 3 years, pending availability of funds. The size of the award will depend on the scope and complexity of the proposal selected for funding and availability of funds. The award duration will be for an initial period of 3 years, subject to contraction or extension based on periodic review.

**New EarthCube – Developing a Community-Driven Data and Knowledge Environment for the Geosciences ([link](#))** – Full Due March 5, 2019 (EarthCube Science - Enabling Data Capabilities); Full Target Date: March 14, 2019 (EarthCube RCN) – Estimated Number of Awards: 4 to 11; The number of awards will be determined based on the results of the merit review process and availability of funds. Anticipated Funding Amount: $5,000,000 to $10,000,000

**Emerging Frontiers in Research and Innovation 2019 (EFRI-2019) ([link](#))** – LOI Due November 29, 2018; Prelim Due January 7, 2019; Full Due April 25, 2019 – Estimated Number of Awards: 15 (4-year awards); Anticipated Funding Amount: $30,000,000

**Gen-4 Engineering Research Centers (ERC) – Convergent Research and Innovation through Inclusive Partnerships and Workforce Development ([link](#))** – LOI Due November 30, 2018; Prelim Due January 16, 2019; Full Due July 12, 2019 – $14,000,000 to support the first year for up to four newly funded ERCs

**Formal Methods in the Field (FMitF) ([link](#))** – Full Due January 15, 2019 – Approximately 12 Track I awards of up to $750,000 per award with durations up to 4 years per award and 10 Track II awards of up to $100,000 per award with durations up to 18 months per award are anticipated, subject to availability of funds and quality of proposals received.

**Secure and Trustworthy Cyberspace ([link](#))** – Full Proposals Accepted Anytime – **CORE and TTP proposals** may be submitted in one of the following project size classes: Small projects: up to $500,000 in total budget, with durations of up to three years; Medium projects: $500,001 to $1,200,000 in total budget, with durations of up to four years; **EDU proposals** are limited to $500,000 in total budget, with durations of up to three years.

**Innovation Corps - National Innovation Network Teams Program (I-CorpsTM Teams) ([link](#))** – Full Proposals Accepted Anytime (with a cognizant NSF Program Officer’s invitation) – Estimated Number of Awards: 255; Estimated program budget, and number of awards are subject to the availability of funds. Anticipated Funding Amount: $12,750,000; the anticipated funding amount is $12.75 million per year, pending availability of funds.

**ECCS Energy, Power, Control, and Networks (EPCN) ([link](#))** – Full Proposals Accepted Anytime – PD 18-7607
<table>
<thead>
<tr>
<th>Program Name</th>
<th>Acceptance Period</th>
<th>Commitment Details</th>
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<tbody>
<tr>
<td><strong>ECCS Electronics, Photonics and Magnetic Devices (EPMD)</strong> (link)</td>
<td>Accepted Anytime – PD 18-1517</td>
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<tr>
<td><strong>ECCS Communications, Circuits, and Sensing-Systems (CCSS)</strong> (link)</td>
<td>Accepted Anytime – PD 18-7564</td>
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<td><strong>Re-entry to Active Research Program (RARE)</strong> (link)</td>
<td>Accepted Anytime – A</td>
<td>Accepted Anytime – PD 18-1564</td>
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<td><strong>Accelerating Discovery: Educating the Future STEM Workforce (AD)</strong> (link)</td>
<td>Accepted Anytime – April 2, 2018 - January 16, 2019 – PD 18-1998</td>
<td>Accepted Anytime – PD 18-1564</td>
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<tr>
<td><strong>CMMI Dynamics, Control and Systems Diagnostics (DCSD)</strong> (link)</td>
<td>Accepted Anytime – PD 19-7569</td>
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**Student/Postdoctoral Opportunities**

- **New Idaho National Laboratory (INL) Graduate Fellowship Program** – Apply for job numbers 12535 (link) or 12584 (National and Homeland Security) (link); More information: (link) – Application Due February 15, 2019 – INL Graduate Fellows will receive a commitment from both INL and their university with agreements to pay tuition and compensation, and to provide the student the opportunity to conduct research while earning their degree.

- **New DOE Summer Internships in Science and Technology (SIST)** (link) – Application Period: December 3, 2018 - February 1, 2019 – SIST aims to increase the representation of underrepresented groups (Black, Hispanic/Latino, Hawaiian/Pacific Islander, Alaska Native/American Indian) and women in scientific research and the engineering workforce. The 12-week paid internship consists of a work assignment, an academic lecture series and a final report presented orally to Fermilab staff and submitted to the laboratory in writing.

- **RAND Corporation 2019 Graduate Student Summer Associate Program** (link) – Applications accepted October 15, 2018 through December 4, 2018 – Students receive bi-weekly compensation for the hours that they work. Compensation is competitive with other research fellowships.

- **Los Alamos National Laboratory Cyber Toaster Internship** (link) – Application Due January 18, 2019 – A paid 10-week summer internship program to prepare students for careers in cyber security

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This section contains resources, funding opportunities and seminars, events, and workshops of special interest to junior faculty. See Seminars/Events/Workshops below for more offerings.

**Junior Faculty Opportunities**

- **Young Investigator Programs**
  [http://tees.tamu.edu/researchsupport/young-investigator-programs/](http://tees.tamu.edu/researchsupport/young-investigator-programs/)
Young Investigator Programs are for junior faculty who are untenured, Assistant Professors. Resources are available including CAREER/YIP workshops and seminars, proposal assistance, writing resources, and junior faculty targeted funding opportunities.

**Junior Faculty Targeted Funding Opportunities** – This spreadsheet contains numerous funding opportunities for junior faculty in Engineering.

**Young Investigator Awards** – This spreadsheet lists early career and young investigator awards (general list).

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**Funding Opportunities**

*Future Funding Opportunities will be posted here.*

**Seminars/Events/Workshops**

**Save the Date**

**Junior Faculty Proposal Writing Academy: NSF Broader Impacts & Education Plan Seminar & Expo**

February 6, 2019  
1:00 p.m. - 5:00 p.m.  
ILSB Auditorium and Lobby  
Registration to come

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**Junior Faculty Proposal Writing Academy**

The TEES Research Development group and the Division of Research’s Research Development Services office have partnered to create the Junior Faculty Proposal Writing Academy. For more information, please visit [http://jfa.tamu.edu/](http://jfa.tamu.edu/).

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**Additional Resources**

**Facilities** – A list of facilities for each department in the College of Engineering is available on the TEES Research Development website. Faculty can use this list in creating facilities statements for multi-PI proposals.

**NSF Broader Impacts Expo List of Resources** – A list of the organizations and resource representatives who participated in the NSF Broader Impacts Seminar and Expo.

**Funding Opportunities Spreadsheet** – A spreadsheet of funding opportunities from past digests.

**Education/Broader Impacts** – A list of resources available through EASA, College of Engineering, Texas A&M, and national resources.

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**Proposers Days/Webinars**

*(All times Central unless otherwise noted)*

**NSF Partnerships for Innovation Webinar**

November 15, 2018 – 2:00 p.m. - 4:00 p.m. ET – [Information and Registration](#)

November 29, 2018 – 2:00 p.m. - 4:00 p.m. ET – [Information and Registration](#)

December 13, 2018 – 2:00 p.m. - 4:00 p.m. ET – [Information and Registration](#)
NSF Joint DMS/NLM Initiative on Generalizable Data Science Methods for Biomedical Research Webinar
November 19, 2018
1:00 p.m. - 3:00 p.m. ET
Information and Registration

NSF PAPPG Update Webinar 2019
November 27, 2018
2:00 p.m. - 3:00 p.m. ET
Information and Registration

Seminars/Events/Workshops for All Faculty
http://tees.tamu.edu/researchsupport/events/

MCF & AggieFab Open House
November 15, 2018
9:00 a.m. - 4:00 p.m.
Giesecke Engineering Research Building (GERB), 1617 Research Parkway
Registration – Lunch provided and free parking.

STEM 4 Innovation Conference for K-12 Education
February 21-22, 2019
College Station – Lab tours are being held on February 21; Exhibitor Booths will be at the Texas A&M Hotel and Conference Center – Century Ballroom on February 22.
Information and Registration

Research News

U.S. Department of Education Fulfills Administration Promise to Invest $200 Million in STEM Education

Department will continue to focus on plugging “leaks” in the STEM education pipeline

The U.S. Department of Education announced today that it has not only fulfilled but surpassed President Trump's directive to invest $200 million in high-quality science, technology, engineering and math (STEM), including computer science, education. In total, the Department obligated $279 million in STEM discretionary grant funds in Fiscal Year 2018.

“It's important that all students have access to a high-quality STEM education,” U.S. Secretary of Education Betsy DeVos said. “These discretionary grant programs and this Administration's increased focus on STEM will help ensure our nation's students are exposed to STEM early in their lifelong education journeys and will have the tools needed for success in the 21st century economy.”
The Department's efforts to support STEM education, through the Secretary's STEM discretionary grant priority, include funding for:

1. **Education Innovation and Research (EIR)**—$66.8 million
2. **Supporting Effective Educator Development (SEED)**—$28.2 million
3. **Teacher Quality Partnership (TQP)**—$16.4 million
4. **Pathways to Apprenticeship for High School Career and Technical Education (CTE) Students**—$3.6 million
5. **Innovative approaches to literacy (IAL)**—$26.7 million
6. **Indian Education Discretionary Grants Programs: Professional Development Grants Program**—$6.2 million
7. **Training Program for Federal TRIO Programs**—$1.2 million
8. **GEAR UP Competition: New Partnership Awards**—$108 million
9. **GEAR UP Competition: New State Awards**—$20.4 million
10. **Center on Early STEM Learning for Young Children with Disabilities**—1.45 million

While these investments mark a significant step toward advancing STEM education in the United States, there is still more work to be done. According to the Department's newly released data story on STEM, 80 percent of all eighth-graders attend a school that offers Algebra 1, but only 24 percent of these students are actually enrolled in the course. As many have acknowledged, this “leak” in the STEM pipeline can have long-term effects on students’ education, since Algebra 1 is considered the gatekeeper course to advanced math and science courses.

According to the primary data source, the [2015-16 Civil Rights Data Collection](https://www2.ed.gov/about/offices/list/ocr/data/report.html), students' access to algebra in eighth grade is inconsistent across the country and access to STEM education can be impacted by a number of factors, such as the location of the school or the type of school a student attends. Students enrolled in magnet or traditional public schools were more likely to have access to Algebra 1 than at other types of schools. Similarly students attending suburban schools were more likely to have access than students in other areas.

Enrollment is just as important as access, but data show not all students with access were enrolled at the same rate. Asian students were more likely to be enrolled in Algebra 1 in eighth grade—34 percent—compared with only 12 percent of eighth grade black students. In addition, a slightly higher percentage of female students (25 percent) compared with male students (22 percent) were enrolled in Algebra 1 in eighth grade.

This Administration knows that a strong STEM education is a pathway to successful careers, and that's why it is committed to ensuring equal access to a strong STEM education for all students.

For more information, please see the [U.S. Department of Education website](https://www2.ed.gov/).