Potential Funders for Math & Physics

Steps in Pursuing a Potential Funding Opportunity:

1. **Find Funding Opportunities**
   1) **Look through the table of Potential Funders below.** Click the links to the website of the funder in order to get current information and to better see if that funding source matches your research needs. Be sure to check the other [29 Curated Funding Lists](#).
   2) **Other Grant Searching Tools:** Baylor subscribes to two grant search engines ([Pivot](#) and [GrantForward](#)) that will send you regular alerts of funding if you supply your research interests. Log in with your Baylor credentials. See instructions for using these effectively: [Search Funding Databases](#). Government Funding opportunities can also be searched on [Grants.gov](http://Grants.gov) and [Federal Grants Wire](#).
   3) **Pick Funders that match your research most closely.** Go on their website and sign up for their email alerts of funding opportunities (if available).

2. **Starting Application Process**
   1) **Contact URA:** When you are ready to start applying for a grant, start by contacting your department’s [URA](#) (University Research Administrator). They will help you with working with Pre-Award to set up a Box folder, registrations, understanding Baylor’s procedures, and gathering supplementary documents.
   2) **Check Limited Submissions:** Some funding opportunities limit the number of proposals from an institution. For these opportunities, the OVPR holds an internal competition [eight weeks before the external submission date](#). For details and deadlines see: [Limited Submissions](#).

3. **Use Baylor Tools for Writing Competitive Grants:**
   1) Research Development’s: [Grant Writing Workshop & Writing and Editorial Assistance](#)
   2) [PowerPoint Courses for Baylor Faculty on Applying for Grants](#)
   3) [Grant Toolkits for Faculty](#) (Includes Excel Grant Planner, Templates for Letters and Facilities pages, links to applications and forms, and Guides for how to write each grant competitively).

Grant Toolkits Available

**NSF**

1. CAREER
2. Discovery DRK-12
3. MRI
4. PFI
5. REU
6. Graduate Student Fellowship Program (GRFP)

Provided by the Research Development
Stacey_L_Smith@baylor.edu X3252 or
Virginia_Kearney@baylor.edu X6833
Index:

Note on the Using the Funding Lists:
- Content for each table was taken from the Funder’s website and is intended to give you a brief overview of that funder. Be sure to go to the Funder’s website for up-to-date information and specific current funding opportunities (RFP’s).
- The index is hyperlinked to lead you to a table with more information. Ctrl+Click on index items to go to the table.
- Within the table, Ctrl+Click to follow links to funder’s website.

Government Funders

1. **AFOSR: Air Force Office of Scientific Research**: engineering, mathematical and information networks, physical sciences, chemistry and biological sciences related to energy
2. **ARL: Army Research Laboratory**: researching mission support, engineering, technology
3. **BSF: United States-Israel Binational Science Foundation**
4. **DARPA: Defense Advanced Research Projects Agency**: military research in weapons, IT, neuroscience, biology, physics, engineering, math, chemistry and quantum physics
5. **DOC: Department of Commerce**: economic development, measurement science and engineering, National Oceanic and Atmospheric Administration
6. **DOD: Department of Defense**
7. **DOE: Department of Energy**: advanced scientific computing, basic energy, biological and environmental research, high energy physics and nuclear physics
8. **IES: Institute of Education Sciences**
9. **NASA: National Aeronautics and Space Administration**
10. **NNI: National Nanotechnology Initiative**: coordinating nanotechnology projects
11. **NSA: National Security Agency, Mathematical Sciences Program**
12. **NSF: National Science Foundation** [Grant Toolkits Available HERE]

Non-Government Funders

13. **The Academy of Medicine, Engineering & Science of Texas**: (Limited Submission) Biology, engineering, math, physics prize
14. **Amazon**: applied mathematics to computer and machine learning
15. **American Chemical Society**: Medicinal or pharmaceutical chemistry, petroleum or fossil fuels
16. **American Institute of Physics, Inc.**: Physics awards and prizes
17. **American Mathematical Society**: math prizes, travel fellowships, student opportunities and open access funding help.
18. **American Physics Society**: prizes, awards and dissertation awards in physics
19. **Bloomberg Data Science Grants**: unrestricted gifts to support research in data science.
20. **Burroughs Wellcome Fund**: early career and collaborative research for physical and mathematical sciences, and biologists collaborating with a physical scientist, mathematician or engineer.
21. **Eppley Foundation for Research**: chemistry, physics, and biology, ecosystem studies, climate change and single species of significance to their environment
22. **FOXI: Foundational Questions Institute**: research grants on innovative ideas at foundations of physics and cosmology which are unsupported by conventional funding sources.
23. **Google**: faculty research in computer science, engineering, and related fields.
24. **InnoCentive Challenges**: a series of challenges for teams
25. **Johnson & Johnson**: (Limited Submission) Early Career Female Scientists in Science, Technology, Engineering, Math, Manufacturing, and Design
26. **Kern Family Foundation**: Education, STEM, Entrepreneurship
27. **Mathematical Association of America**: grants for math education and students.

28. **Oak Ridge Institute for Science and Education**: short and long-term research collaborations, summer internships and year-long sabbaticals.

29. **Princeton Mathematician Fellowship**: Year-long fellowships for mathematicians and computer scientists to work on individual research projects with others or school faculty.


31. **Rhodes University in South Africa**: research fellowship for math and science.

32. **Samsung-Global Collaboration: GRO Program**: Research in 24 areas including VR, IoT, machine learning, natural language processing, AT, robotics, sensors, 2D materials, nano, inorganic photonic, data analytics, etc.

33. **Semiconductor Research Corporation**: various proposals including anticipated calls for research on packaging, computer-aided design, and test and nanomanufacturing materials and processes.

34. **Simons Foundation**: Mathematics, physics, theoretical computer science, biology, ecology, autism research.

35. **(Alfred P.) Sloan Foundation**: (Limited Submission) chemistry, computational or evolutionary molecular biology, computer science, economics, mathematics, neuroscience, ocean sciences, physics.

36. **Sony**: pioneering research that drives new technology in computer science and engineering.

37. **Venture Well**: STEM education grants.

- *New as of 2019*

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### Government Funders

| 1. AFOSR Air Force Office of Scientific Research |
| Website Link: [http://afrl.dodlive.mil/about/](http://afrl.dodlive.mil/about/)  
 **Deadline(s):** Posted until superseded |
| **Support Strategies**: Research  
 **Funding**: Between $200,000 and $400,000 per year |

**Description**: The Air Force Office of Scientific research managers seek to foster revolutionary scientific breakthroughs enabling the Air Force and U.S. industry to produce world-class, militarily significant, and commercially valuable products.

**Engineering and Complex Systems**

Leads the discovery and development of the fundamental and integrated science that advances future air and space flight.

**Information and Networks**

Leads the discovery and development of foundational issues in mathematical, information and network-oriented sciences.

**Physical Sciences**

Leads the discovery and transition of foundational physical science to enable air, space, and cyber power.

**Chemistry and Biological Sciences**

Leads the discovery and development of innovative fundamental science addressing a broad spectrum of energy-related issues.

**Broad Agency Announcements**

Broad Agency Announcements are used to communicate the needs and interests of AFOSR. AFOSR keeps specific requirements of each BAA up-to-date on Grants.gov, the United States government’s one source to find and apply for federal grants. [See the latest BAAs](#). You can search the site by typing organization name into the keyword field or using CFDA numbers 12.800, 12.630, and 12.910.
**University Research Initiative (URI) Programs**

These programs enhance universities’ capabilities to perform basic science and engineering research and related education in science and engineering areas critical to national defense.

- Defense University Research Instrumentation Program (DURIP)
- Multidisciplinary Research Program of the University Research Initiative (MURI)
- Presidential Early Career Award in Science & Engineering (PECASE)

Our focus is on research areas that offer significant and comprehensive benefits to our national warfighting and peacekeeping capabilities. These areas are organized and managed in two scientific Branches:

- Engineering and Information Sciences (RTA)
- Physical and Biological Sciences (RTB)

**Special Programs**

AFOSR provides the support for research and education through the following unique programs:

- Small Business Technology Transfer Program (STTR)
- Young Investigator Research Program (YIP)

**Educational Programs**

AFOSR also sponsors research assistantship programs, faculty programs and graduate school programs. These programs support graduate education, encourage the development of research excellence in critical technological areas where research facilities and qualified researchers are lacking, train personnel to conduct high-quality research, and stimulate mutual research interests between the Air Force and institutions of higher education.

- Awards to Stimulate and Support Undergraduate Research Experiences (ASSURE)
- Engineer and Scientist Exchange Program (ESEP)
- National Defense Science and Engineering Graduate (NDSEG) Fellowship Program
- USAF National Research Council Resident Research Associateship (NRC/RRA) Program
- USAF-Summer Faculty Fellowship Program (SFFP)
- Visiting Scientist Program
- Window on Science (WOS) Program
- Windows on the World (WOW) Program
- **Engineer and Scientist Exchange Program** Provides an opportunity for US Department of Defense (DoD) (military and civilian) scientists to conduct research in foreign government laboratories and for foreign government (military and civilian) scientists to work in US DoD laboratories. International Agreements are in place for Australia, Canada, Egypt, France, Germany, Greece, Israel, Japan, Korea, Netherlands, Norway, Portugal, Singapore, Spain, Sweden, and the United Kingdom. See ESEP Program or contact Mr. Phil Gibber at 703-696-7323 or at esep.afosr@us.af.mil.

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**2. ARL Army Research Laboratory**


**ARL Open Campus Partnering:** [https://www.arl.army.mil/opencampus/?q=partnering](https://www.arl.army.mil/opencampus/?q=partnering)

**Collaboration opportunities:** [https://www.arl.army.mil/opencampus/?q=CollaborationOpportunities](https://www.arl.army.mil/opencampus/?q=CollaborationOpportunities)

**Support Strategies:** Research  
**Funding:** Varies

**Description:** The U.S. Army Research Laboratory (ARL) of the U.S. Army Research Development and Engineering Command (RDECOM) is the Army's corporate, or central, laboratory. Its diverse assortment of unique facilities and dedicated workforce of government and private sector partners make up the largest source of world-class integrated research and analysis in the Army.

By combining its in-house technical expertise with those from academic and industry partners, ARL is able to maximize each dollar invested to provide the best technologies for our Soldiers. ARL’s program consists of basic and applied research and survivability/lethality and human factors analysis. ARL also applies the extensive research and analysis tools developed in its direct mission program to support ongoing development and acquisition programs in the Army Research, Development, and Engineering Centers (RDECs), Program Executive Office (PEO), and its own direct mission program.
ARL has consistently provided the enabling technologies in many of the Army’s most important weapons systems. Technology and analysis products are moved into RDECOM RDECs and to other Army, Department of Defense (DoD), government, and industry customers. The type of research solicited under a BAA attempts to increase knowledge in science and/or to advance the state of the art as compared to the practical application of knowledge.

**Open Campus Collaboration (not a funding opportunity, but research opportunity)**

ARL’s Open Campus is a collaborative endeavor, with the goal of building a science and technology ecosystem that will encourage groundbreaking advances in basic and applied research areas of relevance to the Army. Through the Open Campus framework, ARL scientists and engineers (S&Es) will work collaboratively and side-by-side with visiting scientists in ARL’s facilities, and as visiting researchers at collaborators’ institutions. Central to the research collaborations is mutual scientific interest and investment by all partners - ARL's Open Campus is not a funding opportunity. The global academic community, industry, small businesses, and other government laboratories benefit from this engagement through collaboration with ARL’s specialized research staff and unique technical facilities. These collaborations will build research networks, explore complex and singular problems, enable self-forming expertise-driven team building that will be well-positioned for competitive research opportunities, and expose scientists, engineers, including professors and students to realistic research applications and perspectives, helping to ensure our nation’s future strength and competitiveness in these critical fields.

### 3. BSF: United States-Israel Binational Science Foundation (Limited Submission)

<table>
<thead>
<tr>
<th>Website Link:</th>
<th>Deadline(s):</th>
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<tbody>
<tr>
<td><a href="http://www.bsf.org.il/BSFPublic/DefaultPage1.asp?PageId=41&amp;innerTextID=41">http://www.bsf.org.il/BSFPublic/DefaultPage1.asp?PageId=41&amp;innerTextID=41</a></td>
<td>Proposals to the regular program should be submitted via the BSF website in mid-November each year. For the exact date and for deadline dates in other programs, such as NSF-BSF and Transformative Science, please follow the announcements on the website.</td>
</tr>
</tbody>
</table>

#### Support Strategies:
- Research

#### Funding:
- Maximum grant request for a regular research grant is $230,000 for four years. Asking for a shorter period will not necessarily increase the size of the annual allocation.

  Start-up grants are limited to $75,000 over two years for each grantee (except a collaborating senior scientist, who is not entitled to receive support from the grant). Out of this sum, $60,000 will be paid by the BSF, and $15,000 is a contribution of the grantee institution that constitutes financial support (that would not have been given to him otherwise).

  Size of the grant is determined by factors such as research period, nature of the research (theoretical or experimental), and the number of PIs receiving support.

  BSF allows only 15% overhead to all grantee institutions.

  **BSF does not allow any salary payment to a PI, including no summer salary.**
Support can be made available to either the Israeli or American PI, or to both. The distribution of support must reflect the division of research tasks. Generally, the BSF respects the distribution of support requested by the PIs.

**Description:** The U.S.-Israel Binational Science Foundation (BSF) promotes scientific relations between the U.S. and Israel by supporting collaborative research projects in a wide area of basic and applied scientific fields, for peaceful and non-profit purposes.

Founded in 1972 by an agreement between the United States and Israel, the BSF is an independent body, directed by a board of governors consisting of five American and five Israeli members. Its base of operation is in Israel.

Funding for research derives from the annual interest on an endowment contributed in equal parts by the two countries. Grants are made on a competitive; peer-reviewed basis, juried by leading scientists from the U.S., Israel and around the world. Eligible projects must demonstrate outstanding scientific merit and clear collaboration between Israeli and American researchers from institutions throughout the two countries. Since its inception, the BSF has awarded about $600 million to over 5,000 research projects of the highest quality. Many of these have led to important scientific, medical and technological breakthroughs with wide-ranging practical applications.

The BSF is highly regarded among researchers in both countries as a facilitator of scientific cooperation. Numerous scientists participating in BSF programs have won prestigious awards such as Nobel Prizes, Turing Awards, and Fields Medals. For example, six out of the eight 2004 Nobel Prize Laureates in science were recipients of at least one BSF grant, and several of them have received extensive support from the BSF - most notably Profs. Avram Hershko, Aaron Ciechanover (Technion) and Irwin Rose (UC Irvine), who were awarded the Nobel Prize in Chemistry for their joint discovery of the ubiquitin system for protein degradation. The cooperation between the Israeli and U.S. research groups that led to this discovery was made possible by continuous support by the BSF over more than two decades.

Throughout the years, the BSF has had a very important impact on science in Israel. BSF grants have been a major source of funding for Israeli scientists and have facilitated access to leading U.S. investigators and to the unrivaled infrastructure of American science. BSF-sponsored visits to Israel by top U.S. researchers benefit the entire Israeli scientific community. Moreover, cooperation with top Israeli scientists has greatly benefitted many U.S. participants, who are typically from the most prestigious American universities and government research institutes.

The BSF makes a great effort to minimize administrative expenses. A small and efficient staff distributes some $15 million per year in grant monies, with about 94% of the annual budget allocated for science. The BSF is highly successful in achieving its two main goals: strengthening the U.S.-Israel partnership through science and promoting world-class scientific research for the benefit of the two countries and all mankind. The great challenge facing the BSF today is to continue to meet the ever-rising costs of innovative research and the growing needs of Israeli and American scientists, with an endowment that has not been increased since 1984. In recent years, the BSF has launched a cooperative set of joint funding programs with the U.S. National Science Foundation (NSF). This set of NSF-BSF Programs has expanded rapidly and is becoming an important vehicle to increase the scientific ties between the two countries. Israeli grantees in these programs are funded by the BSF, using support it receives from the Council of Higher Education. U.S. grantees receive regular NSF awards.

For more information about the BSF, please contact us at bsf@bsf.org.il.

<table>
<thead>
<tr>
<th>4. DARPA: Defense Advanced Research Projects Agency</th>
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<tr>
<td><strong>Search also for DARPA opportunities on:</strong> <a href="https://www.fbo.gov/index?s=agency&amp;mode=form&amp;tab=notices&amp;id=048f413b4c64abc6c0a9fc36b09f099d">https://www.fbo.gov/index?s=agency&amp;mode=form&amp;tab=notices&amp;id=048f413b4c64abc6c0a9fc36b09f099d</a></td>
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<tr>
<td><strong>Deadline(s):</strong> Varies</td>
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<tr>
<td><strong>Funding:</strong> Varies</td>
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<tr>
<td><strong>Support Strategies:</strong> Research</td>
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<td><strong>Description:</strong> For more than fifty years, DARPA has held to a singular and enduring mission: to make pivotal investments in breakthrough technologies for national security. The genesis of that mission and of DARPA itself dates to the launch of Sputnik in 1957, and a commitment by the United States that, from that time forward, it would be the initiator and not the victim of strategic technological surprises. Working with innovators inside and</td>
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outside of government, DARPA has repeatedly delivered on that mission, transforming revolutionary concepts and even seeming impossibilities into practical capabilities. The ultimate results have included not only game-changing military capabilities such as precision weapons and stealth technology, but also such icons of modern civilian society such as the Internet, automated voice recognition and language translation, and Global Positioning System receivers small enough to embed in myriad consumer devices.

DARPA explicitly reaches for a transformational change instead of incremental advances. But it does not perform its engineering alchemy in isolation. It works within an innovation ecosystem that includes academic, corporate and governmental partners, with a constant focus on the Nation’s military Services, which work with DARPA to create new strategic opportunities and novel tactical options. For decades, this vibrant, interlocking ecosystem of diverse collaborators has proven to be a nurturing environment for the intense creativity that DARPA is designed to cultivate. DARPA today is focusing its strategic investments in four main areas:

- **Rethink Complex Military Systems:** To help enable faster development and integration of breakthrough military capabilities in today’s rapidly shifting landscape, DARPA is working to make weapons systems more modular and easily upgraded and improved; assure superiority in the air, maritime, ground, space and cyber domains; improve position, navigation and timing (PNT) without depending on the satellite-based Global Positioning System; and augment defenses against terrorism.

- **Master the Information Explosion:** DARPA is developing novel approaches to deriving insights from massive datasets, with powerful big-data tools. The Agency is also developing technologies to ensure that the data and systems with which critical decisions are made are trustworthy, such as automated cyber defense capabilities and methods to create fundamentally more secure systems. And DARPA is addressing the growing need to ensure privacy at various levels of need without losing the national security value that comes from appropriate access to networked data.

- **Harness Biology as Technology:** To leverage recent breakthroughs in neuroscience, immunology, genetics and related fields, DARPA in 2014 created its Biological Technologies Office, which has enabled a new level of momentum for the Agency’s portfolio of innovative, bio-based programs. DARPA’s work in this area includes programs to accelerate progress in synthetic biology, outpace the spread of infectious diseases and master new neurotechnologies.

- **Expand the Technological Frontier:** DARPA’s core work has always involved overcoming seemingly insurmountable physics and engineering barriers and, once showing those daunting problems to be tractable after all, applying new capabilities made possible by these breakthroughs directly to national security needs. Maintaining momentum in this essential specialty, DARPA is working to achieve new capabilities by applying deep mathematics; inventing new chemistries, processes and materials; and harnessing quantum physics.

### 5. Department of Commerce

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<tr>
<th>Website Link:</th>
<th><a href="https://www.commerce.gov/work-with-us/grants-and-contract-opportunities">https://www.commerce.gov/work-with-us/grants-and-contract-opportunities</a></th>
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<tr>
<td>Deadline(s):</td>
<td>Varies</td>
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<tr>
<td>Search at:</td>
<td>Grants.gov for open Department of Commerce grants</td>
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<td>NIST Search engine:</td>
<td><a href="https://www.nist.gov/about-nist/funding-opportunities">https://www.nist.gov/about-nist/funding-opportunities</a></td>
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<tr>
<td>Support Strategies:</td>
<td>Research</td>
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<tr>
<td>Funding:</td>
<td>Varies</td>
</tr>
<tr>
<td>Description:</td>
<td>Grant Opportunities at Our Bureaus</td>
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<tr>
<td>Economic Development Administration (EDA)</td>
<td>The Economic Development Administration's (EDA's) mission is to lead the Federal economic development agenda by promoting innovation and competitiveness, preparing American regions for economic growth and success in the worldwide economy. Funding Opportunities</td>
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<tr>
<td>International Trade Administration (ITA)</td>
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<tr>
<td>Market Development Cooperator Program</td>
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<tr>
<td>National Institute of Standards &amp; Technology (NIST)</td>
<td>Measurement science and engineering. Working with industry and science to advance innovation and improve quality of life. Opportunities for research on</td>
</tr>
</tbody>
</table>
f=measurement and contrain through solving manufacturing problems, working with new technologies like virtual reality to solve problems, and also undergraduate program research with NIST scientists.

**Funding Opportunities**

**National Telecommunications & Information Administration (NTIA)**
- Telecommunications Grants

**National Oceanic & Atmospheric Administration (NOAA)**
- Coastal Ocean Program Grant Information
- Fisheries Saltonstall-Kennedy Grant Program
- National Undersea Research Program Funding Opportunities
- Grants Management Division
- Fisheries Grants Program
- National Sea Grant
- Office of Global Programs

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<tr>
<th>6. Department of Defense (DoD)</th>
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<tbody>
<tr>
<td><strong>Website Link:</strong> <a href="http://cdmrp.army.mil/funding/">http://cdmrp.army.mil/funding/</a></td>
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<tr>
<td><strong>Find DoD grants through:</strong></td>
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<tr>
<td>DoD Research and Engineering: <a href="https://www.acq.osd.mil/chieftecnologist/funding.html">https://www.acq.osd.mil/chieftecnologist/funding.html</a></td>
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<tr>
<td>Grants.gov <a href="https://www.grants.gov/">https://www.grants.gov/</a></td>
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<tr>
<td>Pivot: <a href="https://pivot.cos.com/funding_main">https://pivot.cos.com/funding_main</a></td>
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<tr>
<td>GrantForward: <a href="https://www.grantforward.com/index">https://www.grantforward.com/index</a></td>
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<tr>
<td><strong>Deadline(s):</strong> Various</td>
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<tr>
<td><strong>Support Strategies:</strong> Generally larger research grants related to military applications, veterans, or help for families of military</td>
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<tr>
<td><strong>Funding:</strong> Varies</td>
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<tr>
<td><strong>Description:</strong> DoD offers funding for research in the areas of medical biotechnology, engineering, and military technology.</td>
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<tr>
<td><strong>Funding Opportunities Medical</strong></td>
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<td>- Alcohol and Substance Abuse</td>
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<td>- Amyotrophic Lateral Sclerosis</td>
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<td>- Autism</td>
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<td>- Bone Marrow Failure</td>
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<td>- Breast Cancer</td>
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<td>- Defense Medical Research and Development Program</td>
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<td>- Medical Simulation and Information Sciences Research Program (JPC-1)</td>
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<td>- Duchenne Muscular Dystrophy</td>
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<td>- Epilepsy</td>
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<td>- Gulf War Illness</td>
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<td>- Hearing Restoration</td>
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<td>- Kidney Cancer</td>
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<td>- Neurofibromatosis</td>
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<td>- Orthotics and Prosthetics Outcomes</td>
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<td>- Ovarian Cancer</td>
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<td>- Parkinson’s</td>
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<tr>
<td>- Peer Reviewed Alzheimer’s</td>
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<tr>
<td>- Peer Reviewed Cancer</td>
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</table>
7. **DOE: Department of Energy**

**Website Link:** [https://science.energy.gov/funding-opportunities/find-funding/](https://science.energy.gov/funding-opportunities/find-funding/)  
**Interactive grants map:** [https://science.energy.gov/universities/interactive-grants-map/](https://science.energy.gov/universities/interactive-grants-map/)

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<thead>
<tr>
<th>Support Strategies: Research</th>
<th>Funding: Varies</th>
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**Deadline(s):** Varies

**Description:** The U.S. Department of Energy Office of Science is the lead federal agency supporting fundamental scientific research for energy and the Nation’s largest supporter of basic research in the physical sciences.

The Office of Science portfolio has two principal thrusts: direct support of scientific research and direct support of the development, construction, and operation of unique, open-access scientific user facilities.

These activities have a wide-reaching impact. The Office of Science supports research in all 50 States and the District of Columbia, at DOE laboratories and more than 300 universities and institutions of higher learning nationwide. The Office of Science User Facilities provides the Nation’s researchers with state-of-the-art capabilities that are unmatched anywhere in the world. Additional information on funding opportunities, including program contacts and general program announcements, can be found on the SC program offices’ funding opportunities pages:

- Advanced Scientific Research Computing (ASCR) funding opportunities information
- Basic Energy Sciences (BES) funding opportunities information
- Biological & Environmental Research (BER) funding opportunities information
- Fusion Energy Sciences (FES) funding opportunities information
- High Energy Physics (HEP) funding opportunities information
- Nuclear Physics (NP) funding opportunities information
- Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) funding opportunities information

The complete DOE National Laboratory funding announcement is posted on the Grants and Contracts website under reference number LAB 17-1761 (569KB). DOE national laboratory preproposals and full proposals must be submitted to the DOE Office of Science Portfolio Analysis and Management System (PAMS) website.

8. Institute of Education Sciences (IES)

Website Link: [https://ies.ed.gov/funding/](https://ies.ed.gov/funding/)
Funding Opportunities: [https://ies.ed.gov/funding/futureComp.asp](https://ies.ed.gov/funding/futureComp.asp)  

Support Strategies: Research, Evaluation, Statistics  
Funding: $25,000 to $200,000 (total cost) over 1 to 3 years. The size of the award depends on the scope and significance of the project

Description: The Institute’s mission is to expand fundamental knowledge and understanding of education and to provide education leaders and practitioners, parents, researchers, and the public with unbiased, reliable, and useful information about the condition and progress of education in the United States; about education policies, programs, and practices that support learning, improve academic achievement, and increase access to education opportunities for all students; and about the effectiveness of Federal and other education programs.

Steps to Applying for IES Grants
1. **Identify** a current funding opportunity that matches your research interests and identify the relevant Letter of Intent and application deadlines.
2. **View** a funding opportunities webinar to learn more about the application process and choosing an appropriate funding opportunity.
3. **Download** the appropriate Request for Applications and application package (Search for CFDA 84.305 or CFDA 84.324).
4. **Submit** your Letter of Intent (optional but strongly encouraged).
5. **Register** (or update) your organization on Grants.gov.
6. **Submit** your application to Grants.gov before the application deadline.
7. **This opportunity is for the unsolicited proposal.** Information can be found at [https://ies.ed.gov/funding/pdf/unsolicited2018.pdf](https://ies.ed.gov/funding/pdf/unsolicited2018.pdf).
8. **If you are interested in the unsolicited proposal opportunity, submit a short prospectus, no more than 6 pages.** The Institute recommends that the prospectus (not counting references and budget) be no more than 6 double-spaced, single-sided pages.
9. You must submit the prospectus via email to IESprospectus@ed.gov.

9. NASA

Website Link: [https://science.nasa.gov/researchers/sara/grant-solicitations](https://science.nasa.gov/researchers/sara/grant-solicitations)  
Grant stats: [https://science.nasa.gov/researchers/sara/grant-stats](https://science.nasa.gov/researchers/sara/grant-stats)  
SOMA: [https://soma.larc.nasa.gov/](https://soma.larc.nasa.gov/)

Support Strategies: Research  
Funding: Varies

Description: **FAQS**
The NASA Shared Services Center (NSSC) is the NASA organization that issues grants to non-civil servant PI’s. They report the number one cause of grant delays is a failure on the part of the proposer to submit accurate budget rates from their institution including approved indirect rates and appropriate justification for expenditures (see the budget details FAQ and the Guidebook for Proposers for instructions). This is one YOU can fix. Also, the more
detail in your budget justification (or narrative) the less likely your grant will be delayed. Try to explain procurements in a manner that would be understood by a non-scientist, but with enough detail that they know what will be purchased.

**How to Keep up With Changes to ROSES & NSPIRES**

ROSES, our omnibus solicitation for proposals, is constantly being amended, clarified, and updated. To learn of new program elements that are added and keep up with amendments to existing one’s proposers are strongly encouraged to subscribe to:

- The SMD mailing lists (by logging in at [http://nspires.nasaprs.com/](http://nspires.nasaprs.com/) and checking the appropriate boxes under "Account Management" and "Email Subscriptions"),
- The ROSES-2018 RSS feed for amendments, clarifications, and corrections to at [http://science.nasa.gov/researchers/sara/grant-solicitations/ROSES-2018/](http://science.nasa.gov/researchers/sara/grant-solicitations/ROSES-2018/), and
- The ROSES-2018 due date Google calendar. Instructions are at [https://science.nasa.gov/researchers/sara/library-and-useful-links](https://science.nasa.gov/researchers/sara/library-and-useful-links) (link from the words due to date calendar).

Finally, please review the frequently asked questions about ROSES-2018 at [http://science.nasa.gov/researchers/sara/faqs/](http://science.nasa.gov/researchers/sara/faqs/)

**Planetary Science Division Corner:** Most recent charts of the Planetary Science Division ROSES programs

You can find abstracts of the awards from each ROSES program posted on NSPIRES by following this procedure: go to [http://nspires.nasaprs.com/external/](http://nspires.nasaprs.com/external/) choose solicitations, then choose “Past Solicitations and Selection Dates” and then choose the year you want from the drop-down menu and click the “find” button. This will give you a list of all of the programs for that year. For each one there is a link to a unique NSPIRES page. On each NSPIRES page, there is a link under “Selections” to PDF file you can download with the abstracts of the winners.

"If you are not after the winners from a particular ROSES program but want to search more broadly, you can use the NSSC grant status page at [https://www.nssc.nasa.gov/grantstatus](https://www.nssc.nasa.gov/grantstatus) and search by the Institution, PI name or words in the title of the award. That will give you lists of awards but not their abstracts. If you need abstracts and want to search by keyword (etc.), you can use the research.gov search forms. The quick search form at [http://www.research.gov/research-portal/appmanager/base/desktop?_nfpb=true&_eventName=viewQuickSearchFormEvent_so_rsr](http://www.research.gov/research-portal/appmanager/base/desktop?_nfpb=true&_eventName=viewQuickSearchFormEvent_so_rsr) will return results for both NASA and NSF awards, but if you use the Advanced Search, you can narrow it down to just NASA and do some other cool things."

An archive of the submission and selection numbers for the NASA Earth and Space Science Fellowship (NESSF), our fellowships for graduate students, may be found at [researchers/sara/grant-stats/nasa-earth-and-space-science-fellowship-nessf-selections/](http://researchers/sara/grant-stats/nasa-earth-and-space-science-fellowship-nessf-selections/).

### 10. NNI: National Nanotechnology Initiative

**Website Link:** [http://www.nano.gov/](http://www.nano.gov/)

**Current funding initiatives:** [http://www.nano.gov/grants](http://www.nano.gov/grants)

**See also NSF nanotechnology solicitations:** [https://www.nsf.gov/funding/pgm_list.jsp?org=NNCO](https://www.nsf.gov/funding/pgm_list.jsp?org=NNCO)

**Support Strategies:** Research

**Funding:** Varies

**Description:** This is a website which helps you identify all federal grants from NSF, DOD, DARPA, NIH, etc. which relate to nanoscience and nanotechnology. Additionally, some Federal agencies have specific web pages for nanotechnology funding opportunities. You can also find a variety of Government programs on our Funding Opportunities page.

For a full list of all available Federal grants visit [www.grants.gov](http://www.grants.gov), as well as Fed Biz Opps.gov. As a note, solicitations are often worded generally and the technological tools to be employed, whether micro-, nano- or macro-scale, are not specified. Looking broadly into areas of interest—for instance, toxin removal or semiconducting materials—is often the best approach.

### 11. NSA: National Security Agency, Mathematical Sciences Program
Support Strategies: Conferences, workshops, and special infrastructure development

Funding: The stipend awarded by NSA for a conference or workshop cannot exceed $25,000 for a single year and will normally range between $10,000 and $15,000.

Description: Mission Statement
The National Security Agency/Central Security Service (NSA/CSS) leads the U.S. Government in cryptography that encompasses both Signals Intelligence (SIGINT) and Information Assurance (IA) products and services and enables Computer Network Operations (CNO) in order to gain a decision advantage for the Nation and our allies under all circumstances.

Core Values
- Commitment to Service - Knowing that the country, our friends, and allies are relying on us, we are dedicated to fulfilling our commitment to service and to excellence in the pursuit of our critical mission.
- Respect for the Law - Everything we undertake in our missions is grounded in our adherence to the U.S. Constitution and compliance with the U.S. laws, regulations and policies that govern our activities.
- Integrity - We are committed to communicating honestly and directly, acting ethically and fairly and carrying out our mission efficiently and effectively.
- Transparency - We are committed to fostering public understanding of NSA’s mission and to providing complete transparency to those who authorize and oversee NSA’s work on behalf of the American people.
- Respect for People - We are committed to ensuring that all NSA personnel are respected, included and valued for their diverse backgrounds, experiences, skills, and contributions to our mission and culture.
- Accountability - We are accountable for our actions and take responsibility for our decisions, practicing wise stewardship of public resources and placing prudent judgment over expediency.

12. National Science Foundation

Website Link: https://www.nsf.gov/
Broader Impacts Website: https://www.nsf.gov/od/oia/special/broaderimpacts/

Find grants through:
- NSF Area website (see links below)
- Grants.gov https://www.grants.gov/
- Pivot: https://pivot.cos.com/funding_main
- GrantForward: https://www.grantforward.com/index
- Federal GrantsWire: https://www.federalgrantswire.com/federal-grants-by-agency.html#.WjfFVWnGUk

Support Strategies:
- Research • RAPID & EAGER • RAISE • GOALI • Ideas Lab • FASED • Conferences • Equipment • Travel • Facility / Center • Fellowships

All NSF Grant Toolkits Available HERE:
1) CAREER
2) Discovery DRK-12
3) MRI
4) PFI
5) REU
6) Graduate Student Fellowship Program (GRFP)

Description: Areas:
- Biological Sciences (BIO)
- Computer and Information Science and Engineering (CISE)
- Education and Human Resources (EHR)
- Engineering (ENG)
- Environmental Research and Education (ERE)
- Geosciences (GEO)
- Integrative Activities (OIA)
Non-Government Funders

13. Academy of Medicine, Engineering and Science of Texas (Limited Submission)

<table>
<thead>
<tr>
<th>Website Link: <a href="http://tamest.org/">http://tamest.org/</a></th>
<th>Deadline(s): Internal submission by 12/01</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support Strategies: Biology, Engineering, Health &amp; Human Performance, Math, Physics</td>
<td>Funding: $25,000</td>
</tr>
</tbody>
</table>

**Description:** The Academy of Medicine, Engineering & Science of Texas promotes broader recognition of the state’s top achievers in medicine, engineering, and science, and to build a stronger identity for Texas as an important destination and center of achievement in these fields. The O’Donnell Awards annually recognize rising Texas researchers who are addressing the essential role that science and technology play in society, and whose work meets the highest standards of exemplary professional performance, creativity, and resourcefulness.

The O’Donnell Awards acknowledge outstanding achievements by Texas-based researchers in four categories: medicine, engineering, science, and technology innovation.

Each award includes a $25,000 honorarium and an invitation to present at TAMEST’s Annual Conference in January.

- [2018 Recipients](http://tamest.org/2018-recipients)
- [10th Anniversary Video](http://tamest.org/10th-anniversary-video)
- [Supporters](http://tamest.org/supporters)
- [Past Recipients](http://tamest.org/past-recipients)

14. Amazon

<table>
<thead>
<tr>
<th>Website Link: <a href="https://ara.amazon-ml.com/about/">https://ara.amazon-ml.com/about/</a></th>
<th>Deadline(s): September</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support Strategies: Computer &amp; Math Research</td>
<td>Funding: $80,000</td>
</tr>
</tbody>
</table>

**Description:** The Amazon Research Awards (ARA) program offers awards of up to $80,000 to faculty members at academic institutions in North America and Europe for research in these areas:

- Computer vision
- General AI
- Knowledge management and data quality
- Machine learning
- Machine translation
- Natural language understanding
- Personalization
- Robotics
- Search and information retrieval
- Security, privacy and abuse prevention
- Speech

The ARA program funds projects conducted primarily by Ph.D. students or postdocs, under the supervision of the faculty member awarded the funds. To encourage collaboration and the sharing of insights, each funded proposal team is assigned an appropriate Amazon research contact. We also invite ARA recipients to speak at...
Amazon offices worldwide about their work and to meet with our research groups face-to-face and encourage ARA recipients to publish their research outcome and commit related code to open-source code repositories.

### 15. American Chemical Society

| Website Link: [www.acs.org](http://www.acs.org) | Deadline(s): Varies |
| Support Strategies: Medicinal or Pharmaceutical Chemistry, Petroleum or Fossil Fuels | Funding: Varies based on project |

**Description:** The society works to advance the broader chemistry enterprise and its practitioners for the benefit of the earth and its people, and to improve people’s lives through the transforming power of chemistry.

**Research Grants**

- [Petroleum Research Fund](https://www.acs.org/content/acs/en/funding-and-awards/grants/petroleum-research-fund.html)
- [TEVA Pharmaceuticals Scholars Grants](https://www.acs.org/content/acs/en/funding-and-awards/grants/teva-pharmaceuticals-scholars-grants.html)
- [Herman Frasch Foundation Grants](https://www.acs.org/content/acs/en/funding-and-awards/grants/herman-frasch-foundation-grants.html)
- [Green Chemistry](https://www.acs.org/content/acs/en/funding-and-awards/grants/greenchemistry-grants.html)

**Teva Pharmaceuticals Marc A. Goshko Memorial Grant**

The program is a philanthropic grant program that supports academic researchers in the fields of organic and medicinal chemistry.

- **Amount:** $100,000 per year for 3 years, Number of awards: 3

**Research Area and Evaluation Criteria**

Applications for the Teva Pharmaceuticals Scholars grants must propose research in the area of organic chemistry, with potential or direct connections with medicinal or pharmaceutical chemistry, such that the successful results would be of potential practical benefit to the discovery of organic compounds useful as human medicines. Proposals are evaluated on: a) scientific merit, creativity and novelty; and b) addressing unexplored fields in organic and/or medicinal chemistry. General aspects of research proposals will also be considered, such as: Is the project achievable within the time frame? Are the personnel and facilities adequate? Does the applicant consider and address potential problems?

**Petroleum Research Fund**

**Description:** The Petroleum Research Fund is an endowed fund, managed by the American Chemical Society that supports fundamental research directly related to petroleum or fossil fuels at nonprofit institutions (generally colleges and universities) in the United States and other countries.

ACS Petroleum Research Fund (ACS PRF) grants are intended as seed money, to enable an investigator to initiate a new research direction. The investigator should not have published or received financial support from another funding agency for the proposed research. Also, proposals that the ACS PRF Advisory Board feels are a logical extension of an investigator’s previous research may be denied as “not a new direction.” Since the first ACS PRF grants were approved in 1953, several grant programs have evolved to serve segments of the scientific community, including “new investigator” grants and grants to support researchers in departments that do not award doctoral degrees.

**The scope of the Fund**

Proposals must be for fundamental research in “the petroleum field,” which is defined in our founding document as “petroleum, natural gas, coal, shale, tar sands and like materials.” Fundamental research encompasses the properties of these materials, whereas the petroleum industry undertakes “applied research,” which is outside the scope of ACS PRF. See our list of [Research Topics](https://www.acs.org/content/acs/en/funding-and-awards/grants/research-topics.html) that are supported and not supported by ACS PRF. ACS PRF research grant programs support fundamental research in the petroleum field and development of the next generation of engineers and scientists through advanced scientific education. Research areas supported include chemistry, the earth sciences, chemical and petroleum engineering, and related fields such as polymers and materials science. Membership in the American Chemical Society is not a requirement or a factor in awarding ACS PRF grants.

**Green Chemistry Grants**

A primary objective of the ACS Green Chemistry Institute® (ACS GCI) is to advance research in green chemistry by promoting funding, increasing opportunities, and developing information on the benefits of green chemistry. **Fellowships**

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Last edited November 2019

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Provided by the Research Development Stacey_L_Smith@baylor.edu X3252 or Virginia_Kearney@baylor.edu X6833
Public Policy Fellowships
Irving S. Sigal Postdoctoral Fellowship

Community Recognition
ACS Community Recognition Grants
Corporation Associates Local Section Grants
Corporation Associates Seed Grants

16. American Institute of Physics, Inc.

Website Link: https://www.aip.org/  
Deadline(s): Varies

Support Strategies: Physics awards and prizes  
Funding: Varies

Description: The American Institute of Physics advances, promotes and serves the physical sciences for the benefit of humanity.

As a federation of physical science societies, AIP offers programs, products, and services that:

• Advance and distribute the knowledge of the physical sciences and its applications;
• Enhance and cultivate the physical sciences disciplines;
• Enable and foster collaborative efforts among stakeholders in the physical sciences; and
• Promote the physical sciences to the public, leaders, government officials, agencies, and the media.

AIP Member Societies cover a broad range of fields in the physical sciences and collectively represent more than 120,000 scientists, engineers, educators and students in the global physical sciences community.

Andrew Gemant Award
Recognizes significant contributions to the cultural, artistic, or humanistic dimension of physics

Tate Medal for International Leadership in Physics
Presented for distinguished service to the profession of physics by a non-U.S. national

Compton Medal for Leadership in Physics
Presented for distinguished statesmanship in science

The prize for Industrial Applications of Physics
Sponsored by General Motors and awarded biennially to publicize the value of physics research in industry

Dannie Heineman Astrophysics Prize
Recognizes accomplishments in theoretical astrophysics, sponsored jointly with the American Astronomical Society

Dannie Heineman Mathematical Physics Prize
Recognizes accomplishments in mathematical physics, sponsored jointly with the American Physical Society

Abraham Pais Award for History of Physics
Recognizes outstanding scholarly achievements in the history of physics

Meggers Project Award
Awarded biennially for projects designed to improve high school physics

Fluid Dynamics Prize
Recognizes outstanding achievement in research with demonstrated major impact on the discipline, jointly sponsored with the American Physical Society’s Division of Fluid Dynamics

Science Communication Awards
Awarded for excellence in Science Communication in Physics and Astronomy for the non-specialist in three categories: science writing for a general audience, children’s writing, and new media

17. American Mathematical Society

Website Link: http://www.ams.org/opportunities  
Deadline(s): Varies

Support Strategies: Research support, prizes for books or papers, travel fellowships, student opportunities and links to open access funding help  
Funding: Varies
**Description:** The American Mathematical Society is dedicated to advancing research and connecting the diverse global mathematical community through our publications, meetings and conferences, MathSciNet, professional services, advocacy, and awareness programs.

**Our Mission**
The AMS, founded in 1888 to further the interests of mathematical research and scholarship, serves the national and international community through its publications, meetings, advocacy and other programs, which

- promote mathematical research, its communication, and uses,
- encourage and promote the transmission of mathematical understanding and skills,
- support mathematical education at all levels,
- advance the status of the profession of mathematics, encouraging and facilitating the full participation of all individuals,
- foster an awareness and appreciation of mathematics and its connections to other disciplines and everyday life.

**What We Do**
As a leader in the international mathematical community, the AMS is dedicated to partnering with mathematicians around the world to...

- Support and fund researchers and programs that advance new research;
- Publish foundational and new research in journals and books;
- Engage and nurture students to develop talent and interest in exploring mathematics and research;
- Provide forums to support and networking to advance research and professional goals;
- Advocate for funding and support of research and education in the US and internationally; and
- Collaborate with organizations across business, industry, and government to develop and highlight career options for mathematicians.

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**18. APS: American Physics Society**

**Website Link:** [https://www.aps.org/](https://www.aps.org/)
[https://www.aps.org/programs/honors/listings.cfm#CP_JUMP_347911]

**Deadline(s):** Varies

**Support Strategies:** Prizes, Awards, and Dissertation Awards

**Funding:** Varies

**Description:** The American Physical Society (APS) is a nonprofit membership organization working to advance and diffuse the knowledge of physics through its outstanding research journals, scientific meetings, and education, outreach, advocacy, and international activities. APS represents over 55,000 members, including physicists in academia, national laboratories, and industry in the United States and throughout the world. Society offices are in College Park, MD (Headquarters), Ridge, NY, and Washington, D.C.

APS prizes & awards recognize outstanding achievements in research, education and public service. With few exceptions, they are open to all members of the scientific community in the U.S. and abroad. The nomination and selection procedure, involving APS-appointed selection committees, guarantees their high standards and prestige.

ียว View all Prizes, Awards, and Dissertation Awards

**Public Outreach and Informing the Public Grants**

APS will award several grants to encourage new outreach activities. Programs to be funded may include not only the more traditional K-12 outreach but also engaging the general public with/in physics and informing them about the importance of physics in their daily lives.

**Purpose**
These grants are to foster new activities and not support ongoing programs or duplicate existing APS efforts or similar NSF funded activities. Current and past APS outreach programs can be found on the PhysicsCentral website. Innovative ideas and new approaches, particularly if they have the potential to lead to sustained activities beyond the duration of the grant, are particularly encouraged. Special consideration will be given to...
those proposals that are exceptionally innovative and/or have high impact, for example, involvement with public media such as radio, TV, print media, social media platforms, podcasts, etc.

**Award Amount**

It is expected the grants will be for amounts up to $10,000. However, exceptional proposals for amounts in excess of $10,000 will be considered.

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### 19. Bloomberg Data Science Grants (added 11/19)

**Website Link:** [https://www.techatbloomberg.com/data-science-research-grant-program/](https://www.techatbloomberg.com/data-science-research-grant-program/)

**Deadline(s):** April

**Support Strategies:** Research grants and PhD Fellowships in Data Science

**Funding:**

**Description:** Bloomberg invites academic researchers worldwide to apply for unrestricted gifts that support research in data science, typically focusing on natural language processing, information retrieval, machine learning, and crowdsourcing. We also invite proposals for the creation of, or contributions to, open source software used for data science. Faculty members, research scientists, and post-doctoral fellows at universities worldwide are eligible to serve as Principal Investigators (PIs). A PI can lead one proposal per cycle, but can serve as co-PI on other proposals.

Applications should be submitted [here](https://www.techatbloomberg.com/data-science-research-grant-program-program/) in PDF format. We prefer a single file containing all materials, named after the first PI's last name and first name. Please note that Bloomberg cannot accept any proposal containing confidential or proprietary information.

**Criteria:** We look for technical merit, novelty, and potential for impact. Good proposals present a data science problem, a specific idea, and argue that this idea has the potential to succeed. Proposals to investigate an area without a plan of attack are less likely to be funded. We also prefer to fund research that is not easily funded otherwise. Proposals are reviewed by a committee of Bloomberg employees from various areas of data science. The bulk of the proposal should be directed at a technical data science reviewer, but we also ask that it include one to two paragraphs making the case to a technical non-expert. Bloomberg employees in your research community can provide feedback before you submit a proposal. Contacting employees is not required for funding, but it can help. All funded projects will be assigned a contact at Bloomberg.

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### 20. Burroughs Wellcome Fund

**Website Link:** [https://www.bwfund.org/programs-offered](https://www.bwfund.org/programs-offered)

**Deadline(s):** Varies

**Support Strategies:** Research

**Funding:** Varies—see website for details

**Description:** The Burroughs Wellcome Fund's grantmaking strategies support biomedical scientists at the beginning of their careers and areas of science that are poised for significant advancement but are currently undervalued and underfunded.

**Grant Programs**

- Ad Hoc Grants
- Biomedical Sciences
- Career Guidance
- Diversity in Science
- Infectious Diseases
- Institutional Programs
- Interfaces in Science
- Regulatory Science
- Reproductive Sciences
- Science Education
Career Awards at the Scientific Interface (CASI) provide $500,000 over five years to bridge advanced postdoctoral training and the first three years of faculty service. These awards are open to U.S. and Canadian citizens or permanent residents as well as to U.S. temporary residents.

The Collaborative Research Travel Grant (CRTG) program provides up to $15,000 in support for relatively unrestricted travel funds to academic scientists (faculty and postdocs) at U.S. or Canadian degree-granting institutions. Grants must be used for domestic or international travel to another lab to learn new research techniques or begin or continue a collaboration to address biomedical questions. Applicants with a doctoral degree in the physical, mathematical, or engineering sciences working on a biological problem are encouraged to apply. Conversely, proposals from biological scientists who desire to collaborate with a physical scientist, mathematician, or engineer are also encouraged to apply.

The Career Guidance for Trainees (CGT) program provides grants of $30,000 - $50,000 over a one-year period to support demonstration projects that will model affordable approaches to improving trainees’ readiness for stable, fulfilling careers, whether by clarifying and improving their basic “Ph.D.-level” skills, by helping them identify how they can best use their skills and interests to serve the needs of potential employers, by providing them approaches to thinking through their career options, or by other strategies.

Ad Hoc: To complement these competitive award programs, we also make modest grants on an "ad hoc" basis to nonprofit organizations conducting activities intended to improve the general environment for science. These noncompetitive grants are for activities closely related to our focus areas identified above.

### 21. The Eppley Foundation for Research

| **Website Link:** [http://fdnweb.org/eppley/](http://fdnweb.org/eppley/) | **Deadline(s):** Sept. and March |
| **Funding priorities and how to apply:** [http://fdnweb.org/eppley/#priorities](http://fdnweb.org/eppley/#priorities) | **Funding:** $10,000 to $25,000 |

**Description:** The Eppley Foundation for Research was incorporated in 1947 for the purpose of "increasing knowledge in pure or applied science...in chemistry, physics and biology through study, research, and publication." Particular areas of interest include innovative medical investigations, climate change, whole ecosystem studies, as well as research on single species if they are of particular significance in their environments, in the U.S. and abroad. The Foundation does not fund work that can qualify for funding from conventional sources such as the National Science Foundation or the National Institutes of Health, or similar agencies at the state level.

It is important to the Foundation that the work proposed be novel in its insights and unlikely to be underway elsewhere. The Foundation is prepared to take risks.

**Who may apply**

The Eppley Foundation supports advanced, novel, scientific research by PhDs or MDs with an established record of publication in their specialties. Candidates with newly awarded doctorates occasionally, but rarely, meet the Foundation’s requirements for advanced research. Any applicant to the Foundation must be associated with a nonprofit organization with headquarters or a branch office in the US to process the funds. Checks are not issued directly to individuals.

**LOIs and Proposals**

Letters of inquiry and grant proposals should be written in language clear to the layman. LOIs, not to exceed 1,000 words, should be received by September 15th or March 15th. Submissions in advance of those deadlines are encouraged. LOIs should specify the sum that will be requested. Invited grant proposals are considered during board meetings in December and June of each year. For invited proposals, due on October 15 or April 15, there is no page limit, but the proposal — as the LOI — is expected to be concise and incorporate clear statements of significance, objectives, novelty, methods, expectations of success, and why the researcher believes the work cannot reasonably expect federal support or support from other conventional funding sources. There should also be a discussion of the broader ramifications of your work once it is completed. Notification of a successful application usually follows within two weeks of board meetings. A true emergency may be considered outside this schedule.

**Recent Past Grants**
$11,900, Natural History Museum of Los Angeles:
“Evolution and Paleobiology of Primitive Birds,” to study 100 Chinese fossils of the Mesozoic bird, Confuciusornis sanctus, which is at the crossroads of dinosaur-to-bird evolution.

$17,900, James Madison University:
“A systems biology approach to understanding an ecologically threatened river ecosystem in the Chesapeake Bay Watershed,” to sequence and investigate the impacts of increasing algal blooms.

$25,495, Drexel University:
“Erythritol sweetener as insecticide,” to explore the effectiveness of an insecticide that is not toxic to humans.

$24,000, College of the Atlantic
“Baleen whale survey” to explore the effectiveness of an insecticide that is not toxic to humans.

$28,290, New York Botanical Garden
“Laying the Foundation for Fern Genomics: Investigations in Marsilea Biology” to explore the effectiveness of an insecticide that is not toxic to humans.

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## 22. FQXI: Foundational Questions Institute

<table>
<thead>
<tr>
<th>Website Link: <a href="https://fqxi.org/grants">https://fqxi.org/grants</a></th>
<th>Deadline(s): February</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Support Strategies:</strong> Grants for researchers and members</td>
<td><strong>Funding:</strong> Typically, under $100,000</td>
</tr>
<tr>
<td><strong>Description:</strong> Since 2006, FQXi has awarded over $15M in Large and Mini-Grants to researchers and outreach specialists working on foundational questions in physics and cosmology.</td>
<td></td>
</tr>
</tbody>
</table>

### LARGE GRANTS

**Open to Researchers and Outreach Specialists Worldwide**

To learn more about the Large Grant program, please click [here](https://fqxi.org/grants) or to view a list or previous Large Grant winners, please click [here](https://fqxi.org/grants).

### MINI-GRANTS

**Open to FQXi Members Only**

To learn more about the Members-only Mini-Grant program, please click [here](https://fqxi.org/grants) or to view a list of previous Mini-Grant winners, please click [here](https://fqxi.org/grants).

### About the FQXi Fund

In efforts to streamline its programs, FQXi now directs grants through a Donor Advised Fund (DAF) at the Silicon Valley Community Foundation. FQXi continues to offer both Mini-Grant and Large Grant programs, soliciting and reviewing applications for these grants (in the case of the Large Grant, FQXi convenes expert review panels). On based on these reviews, FQXi advises the DAF on what grants to make. After grants have been made by the DAF, FQXi will work with the DAF to monitor the grantee’s performance via grant reports. In this way, researchers will continue to interact with FQXi, while the DAF interacts mostly with the researchers’ institutes’ administrative/grants management office.

For this reason, our website refers to the Mini-Grants and Large Grants as FQXi grant programs administered by a DAF. With this setup, FQXi can focus its work more on outreach and education, while the DAF administers the grantmaking program.

### As a scientist:

- All qualified researchers with a deep interest in foundational questions are encouraged to apply for FQXI grant programs and participate in contests. Watch for announcements of these opportunities at [FQXI.org](https://fqxi.org).
- Large Grant winners and top Essay Contest winners are automatically given Membership to FQXi. Additionally, nominations from the Membership itself are solicited semi-annually. Subject to approval by FQXi, individuals with multiple nominations are invited as Members. Members may participate in FQXI in a number of ways, such as applying for Mini-Grants and recommending new initiatives.
- [FQXI.org/Community](https://fqxi.org/community) serves as a central access point to both technical and non-technical talks and articles on foundational questions and hosts a number of discussion Forums.
- There will also be a number of smaller workshops and conferences sponsored by FQXI. These will provide an excellent opportunity for the scientific community to participate in, and contribute to, foundational questions research.

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Provided by the Research Development
Stacey_L_Smith@baylor.edu X3252 or
Virginia_Kearney@baylor.edu X6833

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### 23. Google

**Website Link:** [http://research.google.com/university/relations/research_awards.html](http://research.google.com/university/relations/research_awards.html)  
**Deadline(s):** See website

**Support Strategies:** Research  
**Funding:** Upper $150,000

**Description:** The Faculty Research Awards Program sometimes referred to as the Research Awards Program, supports academic research in computer science, engineering, and related fields. Through the program, Google funds world-class research at top universities, facilitate interaction between Google and academia, and support projects whose output will be made openly available to the research community.

The intent of the Google Research Awards is to support cutting-edge research in Computer Science, Engineering, and related fields. We ask applicants to categorize their proposals into one of the following broad research areas of interest to Google. Please note that this topic list has been revised since the last round of the Faculty Research Awards.

At this time, we are only considering proposals on the topics listed below:

- Computational neuroscience
- Geo/maps
- Human-computer interaction
- Information retrieval, extraction, and organization (including semantic graphs)
- Machine learning and data mining
- Machine perception
- Machine translation
- Mobile
- Natural language processing
- Networking
- Physical Interfaces and Immersive Experiences
- Privacy
- Security
- Software engineering and programming languages
- Speech
- Structured data and database management
- Systems (hardware and software)

Each funded project will be assigned a Google sponsor. The role of the sponsor is to support the project by discussing research directions, engaging with professors and students, and overseeing collaboration between the project team and Google. We encourage Research Awards recipients to visit Google to give talks related to their work and meet with relevant research groups here. Through the Research Awards program, we try to fund projects where collaboration with Google will be especially valuable to the research team.

### 24. InnoCentive Challenges

**Website Link:** [https://www.innocentive.com/ar/challenge/browse](https://www.innocentive.com/ar/challenge/browse)  
**Deadline(s):** Ongoing

**Support Strategies:** Variety of awards  
**Funding:** Up to $100,000

**Description:** Do you want to solve problems that matter? Sign up for InnoCentive to join our Solver network. After sign-up, you’ll have access to problems from a diverse set of corporations, public sector agencies, and non-profits from around the world – what we call ‘Seekers.’

Most challenges require solutions from STEM science, in particular: chemistry, physics, biology, and engineering. Some challenges are in education, communication science, and other disciplines.

If your solution is chosen by a Seeker, you will receive an award. The average award amount for a Challenge is $20,000, but some offer awards of over $100,000.
InnoCentive acts as an intermediary, protecting your intellectual property and insuring solutions are evaluated on merit alone.

**Sample challenges:**
- **Novel Methods for Controlling Non-native Marine Species**
- **Grunenthal Challenge: Restoring the Normal Function of Neurons After Intoxication by Tetrodotoxin (Fugu fish) or Similar Neurotoxins**
- **Minimally Invasive Methods for Sampling Microbiome from Hair Follicles**
- **Seeking a High-Temperature Resistant Method to Confer Water-Repellency to Glass**
- **The Perfect Microbead: Seeking a New Method to Produce Monodisperse Spherical Particles**
- **RUSAL Challenge: Usage of Petroleum Coke with Shot Coke Particles in Calcining and Anode Production**
- **Seeking an Alternative to Raw Wood for Packaging and Fastening of Cargoes in Sea Transportation**
- **AstraZeneca Challenge: Enhancing Therapeutic Delivery with Cell-Penetrating Peptides**
- **Ideas for Speech Recognition in Noisy Environments**

### 25. Johnson & Johnson (Limited Submission)

**Website Link:** [https://www.jnj.com/wistem2d](https://www.jnj.com/wistem2d)  
**Deadline(s):** internal submission by 8/14

**Support Strategies:** Engineering, Manufacturing and Design, Math, Science, Technology  
**Funding:** $150,000 in funding and three years of mentorship from Johnson & Johnson leaders as well as members of the Award’s Advisory Board

**Description:** The Johnson & Johnson Scholars Award Program aims to fuel the development of female STEM2D leaders and feed the STEM2D talent pipeline by awarding and sponsoring women at critical points in their research careers, in each of the STEM2D disciplines: Science, Technology, Engineering, Math, Manufacturing, and Design.

### 26. Kern Family Foundation

**Website Link:** [https://www.kffdn.org/](https://www.kffdn.org/)  
**Deadline(s):** Varies

**Support Strategies:** Education, STEM, Entrepreneurship  
**Funding:** Varies

**Description:** The Foundation enriches American lives by promoting the value of work, developing the formation of good character, increasing educational achievement – particularly in science, technology, engineering and math – and instilling an entrepreneurial mindset, especially in undergraduate engineering students.

We intentionally focus on systemic change, rather than charity, by partnering with broad-impact, long-term programs that align with one or more of our focus areas:

1. **Forming Good Character**
2. **Providing Quality Education**
3. **Instilling an Entrepreneurial Mindset**
4. **Rediscovering the Value of Work**

### 27. Mathematical Association of America

**Website Link:** [https://www.maa.org/programs/maa-grants](https://www.maa.org/programs/maa-grants)  
**Deadline(s):** Varies

**Support Strategies:** Grants for math education and student grants  
**Funding:** Varies

**Description:** While the MAA is not a grant-making organization, we administer a variety of programs funded by public and private sources that provide funding to support activities that help advance the Association’s goals. Some of these programs are ongoing, while some may only be funded for a few years.

- **Dolciani Mathematics Enrichment Grants (DMEG)** support projects designed to develop mathematical enrichment programs for talented students in middle or high school.
- **National Research Experience for Undergraduates Program (NREUP)** supports the participation of mathematics undergraduates from underrepresented groups in focused and challenging research experiences to increase their interest in advanced degrees and careers in mathematics.
- **PIC Math** prepares mathematical sciences students for industrial careers by engaging them in research problems that come directly from industry.

*Provided by the Research Development  
Stacey_L_Smith@baylor.edu X3252 or  
Virginia_Kearney@baylor.edu X6833*
• **Tensor Grants for Women and Mathematics** support projects designed to encourage college and university women or high school and middle school girls to study mathematics.

• **Tensor-SUMMA Grants: Strengthening Underrepresented Minority Mathematics Achievement** support programs designed to encourage pursuit and enjoyment of mathematics among middle school students, high school students, and/or beginning college students from groups traditionally underrepresented in the field of mathematics.

• **Travel Grants for Undergraduates** to attend MAA National Meetings. Students can receive up to $500 to cover travel and lodging expenses if they are presenting at MathFest or the Joint Mathematics Meetings.

### 28. Oak Ridge Institute for Science and Education

**Website Link:** [https://orise.orau.gov/stem/internships-fellowships-research-opportunities/faculty.html](https://orise.orau.gov/stem/internships-fellowships-research-opportunities/faculty.html)

**Deadline(s):** Varies

**Support Strategies:** Short and long-term research programs for faculty or faculty-student teams to collaborate with scientists at Oak Ridge

**Funding:** Varies

**Description:** Are you a college or university faculty member looking to collaborate with principal investigators at national laboratories and federal research facilities? The Oak Ridge Institute for Science and Education (ORISE) provides short- and long-term research programs for either faculty or faculty-student teams to collaborate with world-class science and engineering partners. The length of the faculty programs vary from summer internships to year-long sabbaticals, but all programs enable faculty members to broaden their professional outlook beyond the classroom to the application of laboratory research.

Browse the listings below to view a sampling of opportunities available through Zintellect. Access the entire Zintellect catalog to set up a profile and narrow your search by keyword, academic level, discipline, citizenship, organization, program, or location.

### 29. Princeton Institute for Advanced Study (Mathematics)

**Website Link:** [https://www.ias.edu/](https://www.ias.edu/)

[https://www.ias.edu/apply](https://www.ias.edu/apply)

**Deadline(s):** See website

**Support Strategies:** Visiting Scientist

**Funding:** Varies

**Description:** Each year, the Institute for Advanced Study selects approximately 200 Members from an average of more than 1,500 applicants. Members are selected by the Faculty of each School, and come to the Institute for periods as short as one term or as long as several years. Young scholars and applicants from non-traditional backgrounds who have outstanding promise are considered, as are senior scholars whose reputations are already well established. The major consideration in the appointment process is the expectation that each Member’s period of residence at the Institute will result in work of significance and originality. Many Members pursue research related to the special interests of one or more of the Faculty. In other instances, the research of Members is in areas not currently represented by a member of the Faculty.

Applications must be submitted during the academic year preceding the year of membership.

Application materials and guidelines are available from each of the four Schools:

- **School of Historical Studies**
- **School of Natural Sciences**
- **School of Social Science**
- **School of Mathematics**

Approximately 75 mathematicians and computer scientists are invited to the School each year to work on their individual research projects, with each other or with the school faculty. A small number of memberships for a longer period of time (two years) are also available. Some mathematicians are supported by the Institute, while others receive financial aid from their home institutions, foundations or governments. While many members are at the postdoctoral level, the school hosts mathematicians at all stages of their careers. Special fellowships and joint programs with neighboring institutions are described below.

The deadline for School applications, including supporting letters of recommendation, is December 1, 2017.
To apply to the School of Mathematics, please go to [https://www.mathjobs.org/jobs](https://www.mathjobs.org/jobs).

Each year the School's Special-Year program focuses on one area of mathematics. Typically these programs comprise up to one-third of the memberships.

For information about special programs, see [http://www.math.ias.edu/special-years](http://www.math.ias.edu/special-years).

Up to eight von Neumann Fellowships will be awarded each year. The fellowship supports a one-year membership, and interested applicants should be at least 5, but no more than 15, years past the receipt of their Ph.D.

The Veblen Research Instructorship is a three-year position which was established in partnership with the Department of Mathematics at Princeton University in 1998. Three-year instructorships will be offered each year to candidates in pure and applied mathematics who have received their Ph.D. within the last three years. The first and third year of the instructorship will be spent at Princeton University and will carry regular teaching responsibilities. The second year will be spent at the Institute and dedicated to independent research of the instructor’s choice. Applicants wishing to be considered for a Veblen Research Instructorship must also submit an application to the Princeton University Mathematics Department.

Postdoctoral computer science and discrete mathematics applicants may be interested in applying for a joint (2-year) IAS position with one of the following: the Department of [Computer Science at Princeton University](http://www.cs.princeton.edu), DIMACS at Rutgers, The State University of New Jersey, or the [Simons Foundation Collaboration on Algorithms and Geometry](http://www.simonsfoundation.org/). For a joint appointment, applicants should apply to the School as well as to the above, noting their interest in a joint appointment.

### 30. Research Corporation for Science Advancement: Cottrell Scholars

**Awards CSA**

**Website Link:** [http://rescorp.org/cottrell-scholars/summary-of-awards](http://rescorp.org/cottrell-scholars/summary-of-awards)  
**Deadline(s):** May

**Support Strategies:** Early Career Award in chemistry, physics, and astronomy  
**Funding:** $100,000

**Description:** The Cottrell Scholar (CS) program champions the very best early career teacher-scholars in chemistry, physics, and astronomy by providing significant discretionary awards for research. Nurturing an interdisciplinary community of outstanding scientific/academic leaders, the CS program fosters synergy among faculty at major American research universities and primarily undergraduate institutions. Cottrell Scholars engage in an annual networking event, providing them an opportunity to share insights and expertise through the Cottrell Scholar Collaborative. Outstanding candidates are admitted to the ranks of Cottrell Scholars through a stringent peer-review process based on their innovative research proposals and education programs. As Scholars rise to academic leadership roles, several levels of competitive funding are available to assist them.

Post-tenure Cottrell Scholars may compete for the prestigious FRED Award supporting early stage, potentially transformative research.

**Private Operating Foundation** RCSA is a private operating foundation that aids basic research in the physical sciences (astronomy, chemistry, physics, and related fields) at U.S. colleges and universities. It supports research independently proposed by college and university faculty members, convenes conferences and actively advocates for science advancement. RCSA is a strong supporter of improvements in science education. [Mission and Vision](http://www.rescorp.org/cottrell-scholars/mission-and-vision). **RCSA’s Rich History of Supporting Science** Throughout the last hundred years, RCSA has been characterized by programs and initiatives that blaze a trail to where science is going, not just where it is. Consistently, RCSA has been willing to make a bet on young researchers and implement initiatives anticipating the direction of science. And RCSA has utilized its relatively small total resources to catalyze big results.

### 31. Rhodes University in South Africa

**Website Link:** [https://www.ru.ac.za/researchgateway/researchexcellence/researchfellowshipsandfellowships/hughkellyfellowship/](https://www.ru.ac.za/researchgateway/researchexcellence/researchfellowshipsandfellowships/hughkellyfellowship/)  
**Deadline(s):** August

**Support Strategies:** 3-10-month fellowships for study for a senior scholar in sciences or mathematics  
**Funding:** Airfare, accommodation and cash supplement

**Description:** Hugh Kelly Fellowship

Provided by the Research Development  
Stacey_L_Smith@baylor.edu  
X3252 or  
Virginia_Kearney@baylor.edu  
X6833
The Hugh Kelly fellowship is for a senior scholar with a well-established research record. The fellowship is open to those researchers who were awarded their PhDs more than five years ago. Only qualified applicants should apply. If your Ph.D. was awarded within the last five years rather apply for the Rhodes University post-doctoral fellowship.

Hugh Kelly Application Form

The Hugh Kelly Fellowship is awarded to enable senior scientists to devote themselves to advanced work in any of the following disciplines:


The value of the Fellowship covers:

- Direct return economy class airfare from the Fellow’s residence.
- University accommodation with electricity and water included.
- R5000.00 monthly cash stipend to supplement the Fellow's usual source of income, or if you are accompanied by your partner R7500.00 per month cash stipend.
- If the Fellow accepts the appointment for at least four months and is accompanied by a partner, the partner's return economy airfare will also be paid.

Applicants should be senior scholars of standing with an extensive research publication record. Please apply to the Research Office, Rhodes University enclosing a full statement of the work proposed, together with a curriculum vitae and the names of three referees who can attest to the applicant's standing.

The tenure of the Fellowship can be for periods of between three and ten months. The Fellow will be required to reside in Grahamstown and will be an honorary member of the staff of the University for the term of the Fellowship. The Fellow will be provided with internet access and use of the Library, as well as such facilities as may be required for research. At the conclusion of the Fellowship, the Fellow will be required to present a concise report on the work completed.

32. Samsung - Global Collaboration: GRO Program

Website Link: [https://www.sait.samsung.co.kr/saithome/about/who.do](https://www.sait.samsung.co.kr/saithome/about/who.do)  
Deadline(s): June

Support Strategies: Research  
Funding: $100,000

Description: Samsung explore opportunities to build research partnerships with academia and research institutions for creating the future. SAIT is actively engaged in the pursuit of open innovation to foster the discovery of new ideas and technological breakthroughs.

- First, we develop the world's best or world's first technologies for new markets.
- Second, we create new convergence technologies.
- Third, we advance science-based nanotechnology research.
- Fourth, we develop disruptive technologies going beyond current paradigms.

**Augmented Reality**

Integrating information and imagination into the real world

**Deep Learning**

Understanding users and environments with human-level intelligence

**Autonomous Driving**

Sensing the environment and navigating without human input

**Brain inspired computing & device**

A new computing processor that mimics the human brain

**Healthcare Platform**

The advent of a healthcare system without man

**Metaphotonics**

The New Synthesis of Robotics, Machine Intelligence to Transformour Future Lifestyle

**Graphene/2D**

2-Dimensional Material
Organic Electronic Materials
Novel Technologies for New Electronics Devices

Optical Component Materials
New Materials for Device Innovation

Functional Inorganics.
New Materials for Device Innovation

Quantum Dot
The Next-generation Luminescent Material

Next Generation Battery
A Power Solution to Realize e-Mobility and Future Mobile Devices

Biomaterials
Developing Microbial Catalysts/Biomaterials for a Clean Earth

Computational Science
Computational modeling to provide fundamental insights and to accelerate R&D

33. Semiconductor Research Corporation
Website Link: [https://www.src.org/compete/grc/](https://www.src.org/compete/grc/)
Deadline(s): Watch website for deadline

Support Strategies: Research
Funding: Varies

Description: As a mission-driven research consortium, GRC funds research to address a member-defined research agenda. GRC addresses the broader agenda of the industry through core research and the specific research agenda of individual members through custom research. While selections of core research projects are made by member community representatives familiar with the technical area in focus, selection of custom research projects are made by individual, eligible member companies. Custom research currently comprises about one-fifth of the overall research budget.

GRC may issue a call for white papers; promising projects result in requests for proposal. The typical result of a successful research proposal is a multi-year research contract with an initial 12-month funding term. At the end of the research contract period, researchers may re-compete for new support. Alternatively, GRC may issue a call for grant applications; in this case, successful submissions are funded as grants.

34. Simons Foundation: Mathematical and Physical Sciences
Website Link: [http://www.simonsfoundation.org/](http://www.simonsfoundation.org/)
Deadline(s): Varies

Support Strategies: Research
Funding: Varies dependent upon project

Description:
The Simons Foundation’s mission is to advance the frontiers of research in mathematics and the basic sciences. The Simons Foundation’s Mathematics and Physical Sciences (MPS) division invites applications for its Targeted Grants in MPS program.

Rationale
The program is intended to support high-risk theoretical mathematics, physics, and computer science projects of exceptional promise and scientific importance on a case-by-case basis.

Funding and Allowable Expenses
The Targeted Grant in the MPS program provides funding for up to five years. The funding level and duration is flexible and should be appropriate based on the type of support requested in the proposal. There is no recommended or assumed funding level for this program.

Allowable expenses include:
- Up to one month of summer salary and related benefits per year for the PI and any co-Investigator(s).
- Domestic or international travel for the PI and co-Investigator(s).
- Research equipment, experiments, computations and other expenses directly benefiting the research.
- Salary support and related benefits, including tuition support, for staff/research scientists, postdoctoral fellows, and research associates, graduate students or undergraduate research assistants.

Grants to Individuals
### Grants to Institutions
- Simons Institute for the Theory of Computing
- Targeted Grants to Institutes
- NSF-Simons MathBioSys Initiative
- Africa Mathematics Project

### Conferences & Symposia
- Conferences
- Symposia
- Lectures

### Simons Collaborations in MPS
- Arithmetic Geometry, Number Theory, and Computation
- Cracking the Glass Problem
- Special Holonomy in Geometry, Analysis, and Physics
- The Nonperturbative Bootstrap

### Mathematical Modeling of Living Systems
- Targeted Grants in MMLS
- Simons Investigators in MMLS

### Infrastructure
- MAGMA (Software download)
- arXiv

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### 35.(Alfred P.) Sloan Foundation (Limited Submission)

<table>
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<tr>
<th>Website Link: <a href="http://www.sloan.org/">http://www.sloan.org/</a></th>
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<th>Deadline(s): Internal deadline 7/01</th>
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<tr>
<td><a href="https://sloan.org/grants/apply">https://sloan.org/grants/apply</a></td>
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<td>Funding: Varies dependent upon funding opportunity</td>
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**Support Strategies:**
- Information and Referral
- Program evaluations
- Public engagement and education
- Regulation and administration
- Research
- Research and evaluation

**Funding:** Sept. for Research Fellows

**Description:** The Alfred P. Sloan Foundation makes grants primarily to support original research and education related to science, technology, engineering, mathematics, and economics. The Foundation believes that these fields—and the scholars and practitioners who work in them—are chief drivers of the nation's health and prosperity. The Foundation also believes that a reasoned, systematic understanding of the forces of nature and society, when applied inventively and wisely, can lead to a better world for all.

**Sloan Research Fellowships**
Must be early career tenure-track faculty in chemistry, computational or evolutionary molecular biology, computer science, economics, mathematics, neuroscience, ocean sciences, physics or related field. 2-year fellowships to 126 researchers each year ($65,000)

**Up to 3 candidates can be nominated by a department.**
Apply through the foundation’s portal: [https://sloan.org/fellowships/apply](https://sloan.org/fellowships/apply)
The Foundation awards approximately 200 grants per year (excluding the Sloan Research Fellowships), totaling roughly $80 million dollars in annual commitments in support of research and education in science, technology, engineering, mathematics, and economics

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Last edited November 2019

Provided by the [Research Development](mailto:Stacey.L.Smith@baylor.edu X3252) or [Virginia.Kearney@baylor.edu X6833](mailto:Virginia.Kearney@baylor.edu X6833)
36. Sony Research Award Program - Focused Research Award and Faculty Innovation Award

Website Link: [https://www.sony.com/research-award-program](https://www.sony.com/research-award-program)  
Deadline(s): September

Support Strategies: Research  
Funding: Upper $150,000

Description: As part of one of the world’s most innovative and recognizable brands, Sony is committed to supporting university research and innovation in North America, while also fostering partnerships with university faculty and researchers.

**Faculty Innovation Award** [https://www.sony.com/research-award-program#FacultyInnovationAward](https://www.sony.com/research-award-program#FacultyInnovationAward)
Up to $100K in funds to conduct cutting-edge research in Sony’s general areas of interest

**Focused Research Award** [https://www.sony.com/research-award-program#FocusedResearchAward](https://www.sony.com/research-award-program#FocusedResearchAward)
Up to $150K in funds to conduct research in the areas of Sony’s immediate interest

Submission Guidelines [https://www.sony.com/research-award-program#SubmissionGuidelines](https://www.sony.com/research-award-program#SubmissionGuidelines)

Current Interests:

- **Advanced Image Processing enabled by AI**
  Sony is looking for innovative research in image processing that is based on machine learning to significantly improve existing image processing techniques and applications.

- **Volumetric/Holographic Display System**
  As immersive visual experiences such as VR and AR become popular, the recordable field of view (FoV) is now expanded to 360 degrees. Furthermore, the degrees of freedom of the viewpoint is also increased by storage of the light field or 3D modeling of the object. While display systems are also evolving with this advancing freedom for visual representation, there is still room to extract its full potential. Sony believes it can create new customer value if a display system can be developed which enhances visual expression at a practical cost and size.

- **Non-verbal Interaction between a Virtual Human and the Real World**
  Due to the growing interest in VR/AR, creating a realistic virtual human (3D human model) is attracting much attention in both academia and industry. This endeavor has benefited greatly from the collaboration of computer graphics, computer vision, and machine learning. However, current efforts are mainly focused on improving the accuracy of geometry, photometry, and kinetics, with less attention paid to the ability to naturally interact with the real world. As a result, current virtual humans can only play a limited role in potential applications like free-view-point, virtual agent, and telepresence in which interaction, especially non-verbal interaction, is a highly desirable experience for communication between a virtual human and a real human.

- **Higher-order Attribute Recognition of Indoor 3D Scenes and Objects**
  The application of machine learning techniques to object recognition in 3D environments has become a very active field recently. Furthermore, higher-order attribute recognition such as "object part recognition,"
"recognition of the function of an object or parts," "recognition of the material of an object or parts" is a new outgrowth of this effort. Sony has developed cameras and depth sensors that acquire information from a 3D environment, display devices that present 3D visual information to humans, VR/AR systems, and robots that actively move around 3D environments.

**3D/4D Semantic Scene Understanding**

Deep learning has shown its power to solve pixel-wise semantics, depth, flow, and detection problems. However, many of the problems are still solved in 2D planes, and there still remain challenges about how to efficiently combine the scene understanding in a 3D environment (including temporal for 4D). Novel methods to combine SLAM, semantic segmentation and panoptic segmentation methods are therefore needed to solve real-world problems.

**Machine Learning based Detection and Classification utilizing mm-Wave Radar**

Machine learning and deep learning approaches have demonstrated remarkable performance gains in speech and image recognition applications. It is thus conceivable that these approaches could also benefit the performance of mm-Wave radars, where the detection of targets still needs to be improved for efficient and robust sensing. Furthermore, similar performance enhancements may be applicable to sensor fusions, which is key to reliable self-driving cars.

**5G Radio Access for Robotics Applications**

Sony is seeking wireless communication technologies based on the 5G cellular network for robotics applications.

**industrial IoT (Internet of Things).** In order to support human/robotics to robotics communications in the future, new applications (e.g., remote robotics control, automated robotics operation, etc.) must be realized. Solutions should achieve the desired performance such as much higher reliability (e.g., 10^-6 block error rate at 256+ bytes) and lower latency (1 ms/sec round trip time) in comparison to existing technologies such as the 4G cellular network.

**Novel Actuator**

The actuator is one of the key components for robotic applications. The combination of an electro-magnetic motor, reduction gears such as a harmonic drive, and an encoder should be the most popular way to construct an actuator; but it is still heavy and expensive. To make robots ubiquitous, a new actuator that is safer and less costly is strongly demanded, where a new driving principle other than electromagnetism is employed, and the gear reduction mechanisms are integrated.

**Non-Camera-Based Position Tracking**

Position tracking finds important applications in sports, arts, entertainment, and navigation. In order to improve position tracking reliability, it is possible to employ the fusion of different sensor technologies such as accelerometers, gyroscopes, IMUs, velocity sensors, odometers, magnetometers, barometers, etc. Cutting-edge technologies could improve the performance of position tracking by (i) the advancement of sensor units by new physical methods, unique materials, and innovative fabrication techniques, and/or (ii) smart fusion technologies and smart computational algorithms.

**3D Generic Real World Object Recognition**

Object recognition is one of the key technologies for AR which can provide a variety of useful information to users in support of daily activities. However, current object recognition technologies, which are primarily based on 2D vision recognition algorithms, have limitations in detecting the 3D shape of objects, including curved surfaces. Sony ideally seeks a technology that can recognize a real-life 3D generic object as it appears in a wide variety of scenes in order to display more accurate and advanced information to users.

**High-Precision Sensing Technology of Human Body Motion in Living Spaces**

There are systems that detect the motion of human bodies and provide functions adaptively. However, the type of motion detected by ordinary image recognition is limited, making it difficult to realize a system that understands the user's conscious and unconscious behavior. If one could sense the motion of the human body with high accuracy in the living space continuously and constantly, one would be able to realize a system that comfortably carries out advanced support for all the behaviors of living.

**High-Robustness Hand and Finger Recognition Technique**

When considering various applications for mobile and wearable devices, various interactions are made possible by recognizing the movements of a user's hand with high accuracy. Advanced sensing techniques are required...
to capture the dynamic movement of hands and the delicate movement of fingers. Key criteria for technical performance are accuracy and robustness. Moreover, for mobile and wearable devices, it should not be environmentally fixed, but be fully compatible with portable recognition technology, so that the range of future experiences of HCI will be greatly expanded by such technology.

**Optical See-through Display for AR/MR Glasses**

AR/MR (augmented reality/mixed reality) eyewear technology is evolving rapidly. One of the big challenges to achieve high viewing reality and wearing comfort is to realize a compact AR/MR see-through eyewear display with a wide field of view. It is well-known that there are trade-offs between the size of AR/MR optics and the field of view provided as well as between optical efficiency and see-through transmittance.

| 37. VentureWell |
|-----------------|-----------------|-----------------|
| **Website Link:** [https://venturewell.org/faculty-grants/](https://venturewell.org/faculty-grants/) | **Deadline(s):** Fall |
| **Recent Grants:** [https://venturewell.org/portfolio-category/faculty-grants/](https://venturewell.org/portfolio-category/faculty-grants/) | **Support Strategies:** STEM education grants |
| **Funding:** $30,000 | **Description:** VentureWell Faculty Grants provide up to $30,000 to help fund and support faculty with innovative ideas to create new or transform existing courses and programs to help students develop novel, STEM-based inventions and gain the necessary entrepreneurial skills needed to bring these ideas to market. We will be seeking proposals for areas that will support the emerging generation of inventors and innovators and the i&e ecosystems critical to their success. Successful grant proposals include: |
| | • A focus on technology entrepreneurship |
| | • Experiential learning by doing, and creative approaches to solving real world problems, |
| | • The formation of student teams focused on technology inventions with positive social and/or environmental impact |
| | • A supportive entrepreneurial ecosystem for student teams to pursue commercialization |
| | • A plan for continuation of the course or program after VentureWell funding |
| For questions please contact: grants@venturewell.org |