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## Funding Opportunities

### December 5, 2022

*The opportunities listed here may be limited submissions. Please contact the **Research Office** to determine if there is an active or upcoming internal process for any opportunity of interest.*

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*Department of Energy*

#### **Department of Energy Computational Science Graduate Fellowship**

**Due: January 18, 2023**

**Summary:** The DOE CSGF provides outstanding benefits and opportunities for doctoral students in various fields that use high-performance computing to solve complex problems in science and engineering. Renewable up to four years, the fellowship also seeks candidates researching applied mathematics, statistics, computer science or computational science advances that contribute to more effective use of emerging high-performance systems.

- **DOE CSGF SCIENCE & ENGINEERING TRACK:** Since 1991, the DOE CSGF has supported doctoral students in fields of study that advance the use of high-performance computing (HPC) to solve specific, complex science and engineering problems. These fields span science and technology, ranging from engineering to biological sciences and from astrophysics to geophysics.
- **DOE CSGF MATHEMATICS/COMPUTER SCIENCE TRACK:** In 2018, the DOE CSGF expanded to accept doctoral candidates researching HPC-enabling technologies in applied mathematics, statistics, computer science or computational science — in one of these departments or their academic equivalent. Unlike students in the DOE CSGF's Science & Engineering Track, mathematics and computer science fellows need not focus on a particular science or engineering application.

**Benefits Include:** \$45,000 yearly stipend; payment of full tuition and required fees; yearly program review participation; annual professional development allowance; 12-week DOE laboratory research practicum experience.

**Informational Webinar:** Thursday, December 8 at 2:30 pm EST. This Zoom session ([register here](#)) will provide an overview of the DOE CSGF and guidance for applying, and it will serve as a forum to ask related questions in a live Q&A format. A recording will also be made available via the fellowship website.

**Additional Information:** [DOE CSGF](#)

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*Department of Energy, Office of Science*

#### **Integrative Computational Tools for Systems Biology Research**

**Pre-Application: January 10, 2023 | Full: March 28, 2023**

**Summary:** The DOE Office of Science (SC) program in Biological and Environmental Research (BER) hereby announces its interest in receiving applications to support research on the development of bioinformatics and computational applications within the Biological Systems Science Division's (BSSD) Genomic Science Program (GSP) mission-space. For this FOA, BSSD solicits applications for the development of novel and innovative computational approaches or applications that have the potential to transform or advance systems biology research of plant and microbial systems relevant to DOE missions in energy security and resilience.

Research topics appropriate for this FOA include, but are not limited to the development of novel computational, bioinformatics, statistical, algorithmic, analytical approaches, tool kits, or software for:

- The derivation of a systems-level understanding from orthogonal datasets of microbial cultures and communities, via the development of integrated networks and computational models.
- Data mining and comparative analysis across large-scale data sets to infer microbial community composition and interactions or microbial community analysis to handle a wide range of functional genomics data types.
- Data mining and comparative plant genomics or multi-omics to facilitate gene function discovery, investigate evolutionary relationships at the genome scale, and/or identify candidate gene and regulatory networks that influence plant adaptability to the environment.
- Development of innovative computational strategies to enhance, scale, and optimize the management and processing throughput of large, complex, and heterogeneous biological data generated across scales for integration and interpretation.
- Data integration approaches and new software frameworks for management and analysis of large-scale, multimodal, and multiscale data that enhance the transparency of approach, effectiveness, and efficiency of data processing.

- The integration of data across any two or more of biochemical and biophysical measurements, omics data, and image data to provide insights into fundamental biological processes and to identify novel biological paradigms, for example but not limited to: (1) Convert information from images to enable integration with other data types; (2) Integrate genomic and biophysical/biochemical data

**Estimated Funding/Number of Awards:** The ceiling (\$350,000 multi-institutional collaborations / \$200,000 single institution) and floor (\$200,000 multi-institutional collaborations / \$100,000 single institution) represent the expected range of award sizes. Approximately five (5) to ten (10) awards are expected.

**Additional Information:** [DE-FOA-0002878](#)

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*Department of Energy, National Energy Laboratory*

**(RFI) Carbon Dioxide Transportation Infrastructure Finance and Innovation (CIFIA Program: Future Growth Goals**

**Due: January 15, 2023**

**Summary:** This Request for Information is to help inform DOE's implementation of Future Growth Grants in the Carbon Dioxide Transportation Infrastructure Finance and Innovation (CIFIA) Program, which is authorized and appropriated in Section 40304 of the Infrastructure Investment and Jobs Act (IIJA), also commonly known as the Bipartisan Infrastructure Law (BIL). The purpose of the CIFIA Program is to provide direct loans and loan guarantees (CIFIA Loans) and Future Growth Grants that will support the development of regional and national CO2 transport networks and infrastructure to accelerate the deployment and development of carbon capture and storage (CCS) projects. Specifically, Future Growth Grants may cover at least a portion of upfront costs for developing extra transport capacity that would not typically be constructed under the current open-season approach which is based on contracted demand.

**Additional Information:** [DE-FOA-0002894](#)

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*Department of Energy, National Energy Technology Laboratory*

**(RFI) Carbon Storage Technology Operations & Research CarbonSTORE**

**Due: January 9, 2023**

**Summary:** The Carbon Capture and Storage provisions of the Bipartisan Infrastructure Law represent the nation's commitment to demonstrating at commercial scale the types of CCS infrastructure needed to help decarbonize the US economy to net zero CO2 emissions by 2050. This unprecedented investment in CCS deployment means DOE FECM needs to accelerate technology development through field tests in carbon storage settings. FECM is seeking public input on the best approaches and options for developing field laboratories, whether at Carbon Storage Assurance Facility Enterprise CarbonSAFE initiative project sites or other sites, to catalyze the rapid development and field testing of technologies that would support a safe and affordable CCS industry.

**Additional Information:** [DE-FOA-0002900](#)

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*National Science Foundation*

**NSF Scholarships in Science, Technology, Engineering, and Mathematics**

**Due: March 29, 2023**

**Summary:** The main goal of the S-STEM program is to enable low-income students with academic ability, talent or potential to pursue successful careers in promising STEM fields. Ultimately, the S-STEM program seeks to increase the number of academically promising low-income students who graduate with a S-STEM eligible degree and contribute to the American innovation economy with their STEM knowledge. Recognizing that financial aid alone cannot increase retention and graduation in STEM, the program provides awards to institutions of higher education (IHEs) not only to fund scholarships, but also to adapt, implement, and study evidence-based curricular and co-curricular [1] activities that have been shown to be effective supporting recruitment, retention, transfer (if appropriate), student success, academic/career pathways, and graduation in STEM.

To be eligible, scholars must be domestic low-income students, with academic ability, talent or potential and with demonstrated unmet financial need who are enrolled in an associate, baccalaureate, or graduate degree program in an S-STEM eligible discipline. Proposers must provide an analysis that articulates the characteristics and academic needs of the population of students they are trying to serve. NSF is particularly interested in supporting the attainment of degrees in fields identified as critical needs for the Nation. Many of these fields have high demand for training professionals that can operate at the convergence of disciplines and include but are not limited to quantum computing and quantum science, robotics, artificial intelligence and machine learning, computer science and computer engineering, data science and computational science applied to other frontier STEM areas, and other STEM or technology fields in urgent need of domestic professionals. It is up to the proposer to make a compelling case that a field is a critical need field in the United States.

- **S-STEM Eligible Degree Programs:** Associate of Arts, Associate of Science, Associate of Engineering, and Associate of Applied Science; Bachelor of Arts, Bachelor of Science, Bachelor of Engineering and Bachelor of Applied Science; Master of Arts, Master of Science and Master of Engineering; Doctoral (Ph.D. or other comparable doctoral degree)

- **S-STEM Eligible Disciplines:** Disciplinary fields in which research is funded by NSF, including technology fields associated with the S-STEM-eligible disciplines (e.g., biotechnology, chemical technology, engineering technology, information technology, etc.).

**Additional Information:** [NSF-23-257](#)