
Funding Opportunities

February 6, 2023

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.

National Science Foundation

Pathways to Enable Open-Source Ecosystems

Due: September 7, 2023

Summary: The Pathways to Enable Open-Source Ecosystems (POSE) program aims to harness the power of open-source development for the creation of new technology solutions to problems of national and societal importance. Many NSF-funded projects result in publicly accessible, modifiable, and distributable open-source products, including software, hardware, models, specifications, programming languages, or data platforms, that catalyze further innovation. In some cases, an open-source product that shows potential for wide adoption forms the basis for a self-sustaining open-source ecosystem (OSE) that comprises a leadership team; a managing organization with a well-defined governance structure and distributed development model; a cohesive community of external intellectual content developers; and a broad base of users across academia, industry, and government. The overarching vision of POSE is that proactive and intentional formation of managing organizations will ensure a broader and more diverse adoption of open-source products; increased coordination of external intellectual content developer contributions; and a more focused route to technologies with broad societal impact. Toward this end, the POSE program supports the formation of new OSE managing organizations based on an existing open-source product or class of products, whereby each organization is responsible for the creation and management of processes and infrastructure needed for the efficient and secure development and maintenance of an OSE.

This solicitation seeks two types of proposals, allowing teams to propose specific activities to scope and plan the establishment of an OSE (Phase I), and to establish a sustainable OSE based on a robust open-source product that shows promise in the ability to both meet an emergent societal or national need and build a community to help develop it (Phase II).

- **Phase I: OSE Scoping and Planning Proposals** – Phase I projects are for open-source research products with a small community of external users though the product may not necessarily have external content developers. The objectives of Phase I projects are to: (1) enable scoping activities that will inform the transition of promising research products that are already available in open-source formats into sustainable and robust OSEs that will have broad societal impacts, and (2) provide training to teams interested in building such an OSE.
- **Phase II: Establishment and Expansion Proposals** – Phase II projects are for open-source research products with a small community of external users and external content developers. The objective of Phase II projects is to support the transition of a promising open-source product into a sustainable and robust OSE. Phase II proposals are expected to have conducted the scoping activities (not necessarily via a Phase I award) needed to develop a detailed project plan to support the community-driven distributed development and deployment of successful open-source tools into operational environments. The proposals must include a community outreach plan that outlines activities to engage the intended intellectual content developer community that will further develop and maintain the technology and identifies user communities and/or organizations that will serve as early adopters of the technology.

Estimated Funding/Number of Awards: 30 – 50 awards are anticipated with anticipated funding of \$27,800,000. Phase I proposals are limited to a total budget of \$300,000 with durations of up to one year. Phase II proposals are limited to a total budget of \$1,500,000 with durations of up to two years.

Additional Information: [NSF 23-556](#)

Department of Energy – Office of Science, Advanced Scientific Computing Research

EXPRESS: 2023 Exploratory Research for Extreme-Scale Science

Pre-Application: March 8, 2023 | Full: April 19, 2023

Summary: The DOE SC program in Advanced Scientific Computing Research (ASCR) announces its interest in basic research to explore potentially high-impact approaches in scientific computing and extreme-scale science. Extreme-scale science recognizes that disruptive technology changes are occurring across science applications, algorithms, computer architectures and ecosystems. Recent reports point to emerging trends and advances in high-end computing, massive datasets, scientific machine learning, artificial intelligence (AI) on increasingly heterogeneous architectures, including neuromorphic and quantum systems. Significant innovation will be required in the development of effective paradigms and approaches for realizing the full potential of scientific computing from emerging technologies. Proposed research should not focus strictly on a specific science

use case, but rather on creating the body of knowledge and understanding that will inform future advances in extreme-scale science. Consequently, the funding from this FOA is not intended to incrementally extend current research in the area of the proposed project. It is expected that the proposed projects will significantly benefit from the exploration of innovative ideas or from the development of unconventional approaches.

Exploratory Research for Extreme-Scale Science (EXPRESS) opportunities exist for the following research topics:

- Modeling Future Supercomputing Systems
- Programming Techniques for Computational Physical Systems
- Quantum Algorithms across Models

Estimated Funding/Number of Awards: DOE anticipates a total of up to \$10 million in current and future fiscal year funds will be used to support awards under this FOA. The maximum and minimum award size are dependent on how applicants and their team members are classified. Award sizes will be at the following amounts:

- DOE National Laboratories: \$450,000 per year
- DOE National Laboratories: \$500,000 per year if partnering with a non-R1 minority serving institution (MSI) or an EPSCoR academic institution
- Non-R1 MSIs: \$250,000 per year
- EPSCoR academic institutions: \$250,000 per year
- All other applicants: \$200,000 per year

Informational Webinar: February 8, 2023 | 12:00 pm EST | [Register](#)

Additional Information: [DE-FOA-0002950](#)
