Funding Opportunities
February 20, 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.*

Department of Energy – Office of Science
Accelerate Innovations in Emerging Technologies
Pre-Proposal: March 29, 2023 | Full: June 7, 2023

Summary: DOE SC announces its interest in receiving applications to conduct basic research with a focus on accelerating the transition from discovery to commercialization of new technologies that will form the basis of future industries. For a technology to complete this transition, it must cross what is often referred to as the "valley of death" – the gap between new discoveries and applied research and development (R&D). Bridging this gap will require basic research to be conducted with an eye to an innovation's end application, considering discovery, creation, and production of materials and products with approaches that can be scaled and readily transitioned into new products and capabilities to support the economic health and security of the nation.

Towards this goal, SC welcomes research proposals from multi-disciplinary and multi-institutional teams led by DOE National Laboratories that will enhance the required scientific understanding and advance capabilities that will accelerate this innovation cycle. The research should integrate novel concepts and approaches in use-inspired basic research to address gaps or challenges that limit the ultimate transition to applied research for further development and demonstration. Achieving these research goals will greatly accelerate the innovation cycle, which currently can take years to decades to realize.

Estimated Funding/Number of Awards: Total combined planned funding is up to $80 million over two years, with outyear funding contingent on congressional appropriations. The funding anticipated for each award is $2M to $4M per year. Between 10 and 20 awards are expected for this Announcement.

Informational Webinar: February 27, 2023 at 2:00pm EST | **Register**

Additional Information: LAB-23-3010

Department of Energy – Advanced Projects Research Agency Energy
Sensing Exports of Anthropogenic Carbon through Ocean Observation
Concept Paper: April 4, 2023 | Full: TBD

Summary: Marine carbon dioxide removal (mCDR) will be an essential component of a future negative emissions industry, which alongside emissions reduction is necessary to restrict climate warming to less than 2°C and avoid global, irreversible, and catastrophic changes caused by this temperature rise. This program seeks to accelerate the development of the mCDR industry through the development of scalable Measurement, Reporting and Validation (MRV) technologies. MRV must be of sufficient quality to quantify carbon drawdown magnitudes, the degree of permanence, and bound the uncertainties associated with these parameters so that carbon markets can ascertain credit quality and financial institutions can make informed decisions regarding investment risk. To achieve these goals, a paradigm shift in chemical oceanographic data collection is required, moving from a single-point collection paradigm towards a goal of persistent sensing of parameters across large areas and/or volumes.

ARPA-E considers the following advancements ones that would most rapidly enable effective MRV and the robust establishment of financial value for the mCDR industry:

1. Sensing approaches to quantify oceanographic carbon properties, which boast:

- Large spatial scale, volumetric, or area-survey sensing capability with precision and accuracy (equivalent to bias and variance) comparable to today's single-point state-of-the-art sensing approaches.
- Size, weight, and power requirements that enable utilization on existing ocean data collection platforms.
- Deployment periods exceeding one year without a reliance on physical human interaction.

2. Regionally focused models representing relevant ocean carbon fluxes and cycles at resolutions suitable to distinguish the additionality associated with mCDR events, with root-mean-square errors (RMSE) and anomaly correlation coefficients (ACC) at least comparable to general state-of-the-art ocean models.

Estimated Funding/Number of Awards: $45,000,000 total / $10,000,000 ceiling / $500,000 floor

Additional Information: DE-FOA-0002989