Congress saw a few moments of progress in the past couple of weeks as the continuing resolution (CR) passed to keep the government running at fiscal year (FY) 2021 levels and Senate Republicans came to the table to agree to raise the debt ceiling, both through December. However, both of these temporary agreements will have to come up once again when they expire in just two short months. Reconciliation negotiations also continue with Democrats debating internally over which programs should be cut in order to downsize the final package. The $3.5 trillion price tag has drawn pushback from moderate Democrats, who are now working with progressive Democrats to come to an agreement that will likely fall somewhere between $1.9 trillion and $2.3 trillion. These negotiations have also further complicated the House passage of the bipartisan infrastructure bill that passed the Senate in August, as Republicans who originally supported the bill are now wavering in their support. It is still expected that infrastructure spending will be passed in some form before the end of the calendar year.

The University of Minnesota Washington Update provides intelligence and analysis on recent federal activities. Faculty visiting Washington, D.C. are encouraged to contact Sarah Neimeyer, Director of Government Relations, at neimeyer@umn.edu. Contact Christina Laridaen, Lewis-Burke Associates LLC, at christina@lewis-burke.com with any questions or comments related to the Update’s content.

Funding Opportunities and Agency Updates

Agency Update: DOE Releases New Funding Opportunities in Physical Sciences, Cybersecurity, Hydropower and Wind

The Department of Energy (DOE) released additional funding opportunities, including the Office of Science open call, university-based regional electric power cybersecurity research and development centers, technology innovations to increase hydropower flexibility, bat-wind turbine interactions, and a new Inclusive Energy Innovation Prize. DOE is now accepting applications for its lab embedded entrepreneurship program. DOE is also accepting applications for students interested in Office of Science STEM fields; carbon capture, utilization and sequestration; and building sciences, and will start accepting applications for the Collegiate Wind Competition in March 2022. As reported previously, DOE is also seeking feedback from stakeholders to help shape research priorities and funding opportunities in biological and environmental research.
New Funding Opportunities

- **$400 million for the Office of Science Open Call**: The call is open October 1, 2021 through September 30, 2022.
  - This annual funding call allows the Office of Science to solicit applications for research in areas not covered by more specific, topical funding opportunity announcements that are issued throughout the fiscal year.
  - All Office of Science programs participate and list areas of interest including: Advanced Scientific Computing Research, Basic Energy Sciences, Biological and Environmental Research, Fusion Energy Sciences, High Energy Physics, Nuclear Physics, Isotope R&D and Production and Accelerator R&D and Production.
  - Awards range from $200,000 to $5 million in annual funding over three to five years.
  - DOE usually makes about 300 new awards each year, in addition to renewing prior funding awards.

- **$10 million for University-Based Regional Electric Power Cybersecurity Research and Development Centers**: Concept papers due October 13.
  - The centers will address research and development challenges related to cybersecurity and critical energy infrastructure, and will take into consideration the distinctive characteristics of each region’s electricity system, network infrastructure, and workforce expertise.
  - DOE expects to make four awards of $2.5 million for each center over two years.
  - Each center is expected to provide a $1 million or 29 percent cost share to match federal funding for a total center award of $3.5 million.

- **$8.5 million for Technology Innovation to Increase Hydropower Flexibility**: Concept papers due November 2.
  - The focus is on developing and testing next-generation technologies to improve the flexible capabilities of the U.S. hydropower fleet.
  - This includes technologies that can increase the flexibility of hydropower units by expanding operating range, faster ramping and start-stops, and improved frequency and voltage control. Also of interest are innovations to reduce the negative impacts, such as accelerated machine wear-and-tear, associated with operating the unit more flexibly.
  - This will be funded through DOE’s Water Power Technologies Office as part of the HydroWIRES Initiative, which seeks to improve hydropower and pumped storage hydropower’s contributions to the reliability, resilience, and integration of the grid.
  - DOE plans to make between two and six awards ranging from $1 million to $4 million over three years.

- **$3 million for Bat-Wind Turbine Interactions and Deterrents**: Applications due December 8.
  - DOE’s Wind Technologies Office is seeking research proposals that examine how bats behave near wind turbines and how they respond to tools intended to keep bats away from turbines.
  - DOE plans to make up to four awards ranging from $450,000 to $700,000 over two years. Cost sharing of between 20 percent and 30 percent required for each topic area.

- **$2.5 million for the Inclusive Energy Innovation Prize**: Applications due February 25, 2022.
  - DOE plans to award cash prizes to groups and organizations, including university-based programs, that support entrepreneurship and innovation in communities historically underserved in climate and energy technology funding.
  - Up to 10 organizations would share a total prize pool of $2.5 million.
  - Some focus areas include:
    - Clean energy and climate innovation with entrepreneurship programming and capabilities at colleges and universities that serve large populations of students.
underrepresented in STEM, Minority Serving Institutions, community colleges, and undergraduate institutions.

- Identify and fund activities that will help disadvantaged communities become aware of, apply, or secure DOE funding or other federal, state, local government, or private funding in support of Justice40 goals.

- **Lab Embedded Entrepreneurship Program**: 2022 Cohort applications now open
  - Entrepreneurial scientists and engineers are selected to help them commercialize clean energy technologies by embedding them with experts at DOE national laboratories and providing them access to unique tools and capabilities.
  - DOE is holding webinars for each of the three program sites that host entrepreneurial fellows:
    - **Chain Reaction Innovations** at Argonne National Laboratory: Register to attend one of four informational webinars. Applications open on September 21, 2021.
    - **Innovation Crossroads** at Oak Ridge National Laboratory: Register to attend one of four informational webinars. Applications open on September 21, 2021.
    - **Cyclotron Road** at Lawrence Berkeley National Laboratory: Register to attend one of six informational webinars. Applications open on October 15, 2021.

**Ongoing Student Opportunities**

- **Research Experience in Carbon Sequestration (RECS) program**: Applications due October 15
  - This is an education and training program focused on carbon capture, utilization and sequestration (CCUS) which includes virtual CCUS site tours, live lectures, discussion, and group exercises.
  - Managed by the Office of Fossil Energy and Carbon Management, this year’s program is scheduled for early December and will be a virtual, online program.
  - The program is open to Ph.D. or graduate students in geoscience, engineering, physics, climate science, science communications, and related business and social science fields.
  - Enrollment is competitive and limited to 25 participants who are required to commit to the full program.
  - Applicants must be U.S.-based.

- **Office of Science Graduate Student Research program**: Applications due November 10
  - This program supports awards to U.S. graduate students to conduct part of their graduate thesis research at a DOE national laboratory or host site in collaboration with a DOE laboratory scientist.
  - The program is open to current Ph.D. students in qualified graduate programs at accredited U.S. academic institutions, who are conducting their graduate thesis in STEM fields relevant to the Office of Science.
  - DOE started accepting applications on September 22 and appointments will begin in Summer/Fall 2022.

- **Innovation in Buildings Graduate Research Fellowship (IBUILD)**: Applications due by December 1
  - This program is open to Master’s and Ph.D. students doing research in building sciences.
  - The focus of this year’s solicitation is on students working on deployment and market barriers research as well as those conducting collaborative research to increase market adoption around building energy efficiency and building decarbonization technologies.
• Fellows would receive financial awards to support research at their home institutions and participate in professional development activities that provide access to a network of mentors and potential internships with national laboratories or industry.
• The Fellowship is renewable for up to 3 years.

• **Collegiate Wind Competition**: March 2022
  • The competition allows multidisciplinary teams of undergraduate students to design, build, and test a prototype wind turbine; develop a site plan and cost-of-energy analysis for a wind farm; and conduct outreach to the wind industry, their local communities, and local media outlets.
  • DOE plans to start accepting applications in March 2022 for the 2022-2023 academic year.
  • DOE plans to invite qualifying teams in June 2022 to compete for the Fall 2022 semester.
  • DOE plans to select final teams in December 2022 to compete in the 2023 Collegiate Wind Competition at the American Clean Power Association’s CLEANPOWER Conference in New Orleans, Louisiana, in May 2023.

Ongoing Engagement Opportunities

• **Request for Information on Assessing the National and International Standing of Biological and Environmental Research**: Responses due October 31
  • DOE’s Office of Science is seeking input on how to maintain U.S. competitiveness in comparison to other international efforts and grow research efforts of the Biological and Environmental Research (BER) program.
  • Specifically, DOE is seeking information on the status of current capabilities, partnerships, funding mechanisms, and workforce development in atmospheric science; earth and environmental system modeling; environmental science; bioenergy and bioproducts; plant and microbial genomics; data analytics and management; and scientific user facilities.
  • Responses will feed into recommendations the BER Advisory Committee (BERAC) is preparing for DOE that was tasked with assessing BER’s standing in related research efforts nationally and internationally and to consider strategies that would increase BER’s ability to conduct world-class science in core BER research areas. BERAC is expected to issue its final report and recommendations in Spring 2022.
  • BER is expected to receive significant funding increases during the Biden Administration since it is aligned with two major Administration priorities: climate science and biotechnology. The FY 2022 President’s budget request proposed a 10 percent increase for BER.

[back to the top]

*Agency Update: DOE Highlights Upcoming Opportunities and Future Research Directions for Advanced Scientific Computing Research*

The report below provides advance intelligence on future research directions for the Department of Energy (DOE) Office of Science (SC) in applied math, computer science, and high performance computing. The analysis is based on information from the September 29-30 Advanced Scientific Computing Advisory Committee (ASCAC) meeting and discussions with DOE program managers. This analysis also provides some additional details on planned FY 2022 funding solicitations and research directions since the last update in July. ASCAC provides advice to SC to advance the research and infrastructure priorities of the Advanced Scientific Computing Research (ASCR) program.
FY 2022 Funding Priorities
Congress has not yet completed fiscal year (FY) 2022 appropriations. However, based on funding direction in the House and Senate FY 2022 Energy and Water bills, DOE’s FY 2022 budget request, and presentations to ASCAC, ASCR is likely to advance the following funding opportunities between October 2021 and March 2022:

- **Up to $25 million** to support early-stage research, including novel devices and hardware, to continue building out and testing the first dedicated Quantum Internet and Communications Network. This includes basic research in quantum information networks that overcomes challenges in transporting and storing quantum information over interconnects and networks.
- **$15 million** for the Computational Science Graduate Fellowship Program, an increase of $5 million over prior years. The increased funding is focused on increasing the number of fellows in Artificial Intelligence (AI) and quantum information science as well as outreach to under-represented groups.
- **$30 million** for Scientific Discovery through Advanced Computing (SciDAC) Institutes and partnerships (SciDAC-5). The two ASCR-funded SciDAC Institutes are up for recompetition as well as SciDAC partnerships with Nuclear Physics, High Energy Physics, Fusion Energy Sciences, and Biological and Environmental Research. DOE typically funds two SciDAC Institutes—one in mathematics and one in computer science—at around $6 million a year over four years for each center. DOE also typically awards three to six projects in each program area between $1 million and $2 million a year over four years for each project. As an example, DOE just awarded new SciDAC projects for Basic Energy Sciences. SciDAC projects are collaborative basic research efforts involving teams of physical scientists, mathematicians, computer scientists, and computational scientists working on major software and algorithm development to conduct complex scientific and engineering computations on leadership-class and high-end computing systems at a level of fidelity needed to simulate real-world conditions. Each Office of Science program has different priorities and will issue a separate funding call. For example, Fusion Energy Sciences would like to fund a new portfolio of projects focused on an integrated simulation capability expanding from whole-device to whole-facility modeling capabilities.
- **$20 million** for math centers. The Mathematical Multifaceted Integrated Capability Centers (MMICCS) are up for recompetition. DOE typically awards three centers funded at around $2.5 million a year over four years. These centers allow applied mathematics researchers to work together in large, collaborative teams to develop the mathematics needed to address significant scientific computing research challenges in DOE mission areas of energy, environment, and security. An example of the last funding call is [here](#) and examples of existing MMICCS are [here](#).
- **$20 million** for applied mathematics and computer science in support of the science of AI, including domain-aware, interpretable, and robust machine learning systems as well as data-intensive, machine-learning enhanced modeling and simulation, and intelligent automation and decision support capabilities. Targeted funding calls are likely in the following topic areas:
  - Data visualization beyond 4D;
  - Federated scientific machine learning;
  - Explainable AI (initial direction for this and the former topics can be found in the Basic Research Needs for Scientific Machine Learning report);
  - Randomized algorithms for scientific computing (based on research priorities from the December 2020 and January 2021 workshops and summary slides); and
  - Parallel discrete event simulation (based on research priorities from the September 2021 Roundtable; no materials yet available).
- **$10 million** for operating-systems research, including improved storage systems and input/output (I/O) processes and exploring high-productivity environments for scientific computing. Initial research
directions are based on the January 2021 Roundtable on Operating-Systems Research and the December 2020 User Facilities Roundtable.

- In January 2021, ASCR sponsored a Roundtable Discussion on Operating-Systems Research. This led to the publication of two whitepapers that identified future research opportunities—Research Opportunities in Operating Systems for High-Performance Scientific Computing and Research Opportunities in Operating Systems for Scientific Edge Computing. The first focuses on research opportunities related to full-stack co-design for extreme heterogeneity and scalability, adaptive management and partitioning of resources, and smart supercomputer systems and facilities. The second white paper focuses on deploying large numbers of edge resources, with scalable access control mechanisms, to support much more heterogenous computing resources and more complex organizational structures as well as supporting smart systems, instruments and facilities to support science breakthroughs with autonomous experiments, “self-driving” laboratories, smart manufacturing, and AI-driven design, discovery and evaluation.

- $5 million for the DOE national labs to launch a Biopreparedness Research Virtual Environment (BRaVE), which would be an evolution of the National Virtual Biotechnology Lab (NVBL) that was used to leverage DOE capabilities to address the COVID-19 pandemic. BRaVE would be a virtual platform to rapidly mobilize DOE’s bioscience R&D assets in response to future pandemics and other national crises. The purpose would be to provide DOE research teams rapid access to high performance computing resources and x-ray and neutron characterization facilities; collaborative design-build-test-lean workflows using DOE’s biological, chemical, and materials databases; and medical radioisotopes. This capability would also help DOE further develop future biotechnology capabilities, such as analytical technologies, new instruments, and medical isotope processing.

- Up to $2 million for the planning of a new High Performance Computing Data Facility (HPDF) at a DOE national lab on the East Coast. The purpose is to support high performance, real-time data processing; data handling; and scientific computing workflow management. The facility would also be integrated with edge computing at remote sites to provide real-time access to computing resources that are architecturally diverse than other ASCR facilities as well as support acquisition and distribution of data of existing ASCR facilities.

- Another $1 million (for a total of $2 million) for DOE national labs to expand collaborations with the National Institute of Health Bridge2AI program focused on privacy-preserving algorithms for AI datasets.

**New Requirements for FY 2022 Funding Proposals**

Starting with FY 2022 funding opportunity announcements, the DOE Office of Science will require two major changes to proposal submissions to increase transparency, avoid conflicts of interest in the review process, standardize information, and address research security issues:

- **New collaborator template**: A lead applicant must submit an excel file that lists all individual collaborators that are senior or key personnel on a proposal. The information will be used to manage reviewer selection.

- **New biosketches and current and pending financial support disclosures**: For calls after January 2022, the Office of Science, working with SciENcV, will release a template for biosketches and current and pending financial and other support disclosures. DOE plans to link SciENcV to ORCID accounts to access existing data.
The DOE Office of Science will also add additional requirements and review criteria for data management plans. DOE is concerned that scientific data is not properly being stored and curated. To help with this requirement, which has often been an unfunded mandate, proposals may include requested funding to implement a data management plan and will be considered as part of the merit review. To provide additional guidance, DOE is updating the Suggested Elements of a Data Management Plan. The current guidance will remain in effect for all solicitations issued through December 31, 2021. However, the updated guidance will be effective for all solicitations issued after January 1, 2022. Merit reviewers will also receive training on this issue and the Office of Science is releasing Guidance for Reviewers of Data Management Plans. Additional information is available here and below is a summary of future changes.

Source: DOE Office of Science.

Software Stewardship

Within the next month, DOE will release a Request for Information on software stewardship to seek broad feedback from the science community. In October 2020 ASCAC released its “Transitioning ASCR after ECP” report with recommendations to DOE on how to take advantage of new exascale computing investments and transition funding to new research programs that will shape the future of high performance computing. The RFI addresses one of the main recommendations, which was to launch a software stewardship program to develop key applications to take advantage of exascale computing, including new and expanded evaluation systems, software libraries, demonstration applications, and software engineering. Reponses to the RFI would provide guidance on future DOE actions and funding opportunities.

Funding Outlook for ASCR

Since the last update in July, the Senate advanced its FY 2022 Energy and Water bill, which funds the Department of Energy. The Senate bill would provide ASCR with $1.040 billion, an increase of $25 million or nearly 2.5 percent over the FY 2021 enacted level. This amount is equal to that of the President’s budget request and $15 million above the House bill. Within the overall amount, the bill would provide $270 million for Mathematical, Computational and Computer Sciences Research, which is $20 million above FY 2021 enacted level and the House bill. The Senate bill would increase funding for the Leadership Computing Facilities at Argonne and Oak Ridge National Laboratories as well as provide $130 million for the National Energy Research Scientific Computing Center at Lawrence Berkeley National Laboratory and $93.9 million for ESnet. Meanwhile, the Computational Science Graduate Fellowship program would be funded at $20 million, an increase of $10 million or 100 percent over FY 2021 enacted levels and $5 million more than the House
The report would also provide $129 million for the Exascale Computing Project. Unlike the House bill, the report does not recommend funding for the development of AI-optimized emerging memory technology for AI specialized hardware. In addition, the Committee would provide $120 million for Artificial Intelligence and Machine Learning initiatives, $5 million above the House level, and encourages ASCR to play a lead role in those activities.

On September 30, Congress passed a Continuing Resolution (CR) to avert a government shutdown and maintain FY 2022 funding levels through December 3. This gives Congress and the Biden Administration time to negotiate a budget agreement that would allow them to finalize FY 2022 appropriations bills. Under a CR, DOE would not be able to start any new activities, programs, or projects. In addition to annual appropriations, Congress is also negotiating a reconciliation package that would provide additional funding to DOE. The House advanced its $3.5 trillion package and the ASCR-relevant provisions, mostly focused on computing infrastructure, include:

- $494 million for the Frontier exascale computer at Oak Ridge National Laboratory;
- $427 million for the Aurora exascale computer at Argonne National Laboratory;
- $340 million for a quantum computing user facilities network;
- $302 million for a High Performance Data Facility
- $220 million for Exascale Computing Project
- $155 million for the National Energy Research Scientific Computing Center at Lawrence Berkeley National Laboratory
- $116 million for the Computational Science Graduate Fellowship program
- $39 million for the Energy Sciences Network

The Senate has not yet advanced its reconciliation bills. Whether DOE and ASCR receive any of these proposed investments will be contingent on Congress negotiating and passing a final reconciliation package.

Agency Update: OSTP Releases ARPA-H Listening Sessions Summary Report

The White House Office of Science and Technology Policy (OSTP) released a report summarizing recommendations and findings from a series of fifteen listening sessions held this summer by OSTP and the National Institutes of Health (NIH) regarding the proposed Advanced Research Projects Agency for Health (ARPA-H). ARPA-H, the Biden Administration’s signature biomedical research policy initiative, would use nontraditional approaches to “drive transformational health research innovation and speed medical breakthroughs.” The observations generated by the listening sessions, and summarized in the accompanying report, will be used by policymakers in Congress and the Executive Branch to help shape ARPA-H’s scale, scope, and approach.

Most of the listening sessions focused on a specific research area such as cancer, genomics, and translational research, among others. Other invitation-only sessions provided a space for stakeholder organizations and advocacy groups to provide feedback regarding the potential structure and scope of an ARPA-H.

Based on stakeholder feedback, several areas of possible scientific emphasis for ARPA-H were highlighted in the report including:
• Focusing on technologies that address a wide array of diseases to ensure positive patient outcomes, such as artificial intelligence, machine-learning algorithms, and wearable digital technologies;
• Developing and implementing data sharing platforms, including the integration of electronic health record (EHR) systems, to allow for more interdisciplinary research approaches;
• Centering early detection, diagnostic, and treatment platforms as opposed to focusing on disease-driven outcomes; and
• Ensuring research activities complement and do not compete with NIH’s research portfolio or the private sector.

Listening session participants also highlighted the significant role that diversity and equity should play in the overall mission of ARPA-H, not only as it pertains to agency leadership and program managers, but also in proposal reviews and award stages, and participant recruitment in clinical trials. Participants also emphasized the need for ARPA-H to establish diverse multi-sector partnerships and collaborations with federal agencies, pharmaceutical companies and other industries, academic institutions, and non-governmental entities, among others. In particular, partnerships with the U.S. Food and Drug Administration (FDA) and the Centers for Medicare and Medicaid (CMS) will be essential in establishing stable manufacturing supply chains, promoting insurance reimbursement for new technologies and therapeutics, and enabling wide-scale distribution of novel treatments and technologies.

OSTP and NIH will be holding another ARPA-H Listening and Feedback Session on October 20, 2021 from 2:30 – 4:00 pm. To submit public comments regarding ARPA-H, please send them to ARPAHcomments@nih.gov. Registration information for the upcoming listening session can be found here.

Sources and Additional Information:

• A list of past and upcoming ARPA-H listening sessions can be found at https://www.nih.gov/arpa-h/events.

[back to the top]


The National Institute of Justice (NIJ), the Department of Justice’s (DOJ) primary research office, released a funding call for the W.E.B. Du Bois Program of Research on Reducing Racial and Ethnic Disparities in the Justice System for fiscal year (FY) 2021. The program seeks to fund research that uncovers ways to reduce empirical racial and ethnic inequalities at the criminal and juvenile levels of the justice system. Research topics can include policing practices, defense resources, pre-trial release practices, charging practices, sanctions, access to treatment services, and post-release programs. This program furthers DOJ’s mission to promote civil rights by adding to the base of knowledge on the intersections of race, crime, violence, and justice. This is the program’s first competition since FY 2018.

NIJ will award funding in two categories:
1. **W.E.B. Du Bois Scholars**: Projects should support researchers who are advanced in their careers as they train and mentor less-experienced justice researchers. Proposals must include the curriculum vitae of the mentee, a career development plan, a description of mentoring resources and their availability, career skills training plan(s), and a statement assuring that “at least one peer-reviewed journal article will be first-authored by the mentee.” Normally, projects will be funded at a minimum of $500,000. Grant periods are expected to be around 3-5 years.

2. **W.E.B. Du Bois Fellows**: Early-career fellowships enable a single researcher to undertake projects with the option of a short-term residency at NIJ. Fellowships are expected to last 24 months and be funded at a minimum of $250,000. Prospective fellows must “possess a terminal degree in their field, and not have been awarded tenure by December 31, 2021.”

All proposals must investigate racial and ethnic inequality in the justice system through the context of criminal or juvenile justice, or both. NIJ encourages researchers from underrepresented communities to apply. Proposers may choose to form researcher-practitioner partnerships in which researchers propose “practical solutions” to issues of racial and ethnic disparity in the justice system, and criminal justice practitioners assess research and measure potential outcomes. Through these partnerships, NIJ hopes to marry academic research excellence with end-user realities. Partnership proposals should include a letter of support from the partnering agency and a formal agreement. The letter of support should be signed on behalf of the partnering agency certifying that research data will be de-identified and archived in the National Archive of Criminal Justice Data (NACJD) at the end of the project. NIJ strongly encourages proposers and partners to review NACJD's policies [here](https://nij.ojp.gov/funding/opportunities/onnij-2021-171008).

**Eligibility**: All higher education institutions, small businesses, for-profit organizations, nonprofits, independent school districts, Native American tribal governments and organizations, county governments, special district governments, and state governments are eligible to apply to this solicitation.

**Awards**: NIJ anticipates awarding a total of $3 million for this program. In certain cases, NIJ will provide additional funding to awardees through continuation awards. Proposers are encouraged to structure proposals into phases with milestone funding delineated.

**Submission Process and Key Dates**: DOJ has a new submission process for FY 2021. Applicants must submit a SF-424 and SF-LLL to [grants.gov](https://grants.gov) or [here](https://nij.ojp.gov/funding/opportunities/onnij-2021-171008). For assistance when submitting your SF-424 and SF-LLL, email [support@grants.gov](mailto:support@grants.gov). These items are due by **December 30, 2021, at 11:59 PM ET**. Full applications are due by **January 13, 2022, at 11:59 PM ET** to JustGrants, at [JustGrants.usdoj.gov](https://JustGrants.usdoj.gov).

NIJ will hold a webinar on **October 19, 2021, at 1:00 PM ET** to provide application guidance and discuss the goals and purpose of this program, which you can register for [here](https://nij.ojp.gov/events/web-du-bois-program-research-reducing-racial-and-ethnic-disparities-justice-system-fiscal).

**Sources and Additional Information**:

- The full solicitation can be found at [https://nij.ojp.gov/funding/O-NIJ-2021-171008.pdf](https://nij.ojp.gov/funding/O-NIJ-2021-171008.pdf).

[back to the top]
**Funding Opportunity: ONR and NOPP Release BAA for Advancing Ocean Modeling**

The Office of Naval Research (ONR) released a broad agency announcement (BAA) as part of its involvement with the National Oceanographic Partnership Program (NOPP). NOPP, a congressionally established program designed “to promote the national goals of assuring national security, advancing economic development, protecting quality of life, and strengthening science education and communication by improving knowledge of the ocean” is a collaboration between over 20 federal agencies, and supports a broad array of multidisciplinary multi-sector marine science and ocean research.

This BAA specifically will focus on two topics: 1) a global multi-agency experiment on internal wave energy, mixing and interactions in the ocean and their representation in global ocean models and operational forecasts, and 2) high resolution ocean models for coupled earth system prediction across space and time scales. Research under the first topic will investigate how oceanographic internal gravity waves form and propagate. Proposals should be able to forecast oceanic flows and be able to model interactions of internal waves between the deep ocean and the shore. Research under the second topic will support improving ocean models as an input into earth system modeling. Proposals should be able to predict ocean flows on regional scales and improve ocean prediction of phenomena such as tropical cyclones, Arctic ice, and coastal zones among others. ONR is also interested in methods that incorporate artificial intelligence and machine learning in their model predictions. ONR notes that neither topic will support the development of new models or frameworks but will instead improve existing models with new capabilities and understanding.

ONR and NOPP anticipate making up to nine total awards, evenly divided between three award categories. Topic one will make up to three awards of between $750,000 and $1.5 million to focus on modeling, and up to three awards of between $1.5 million and $4.5 million to focus on field work. Topic two will make three awards of between $1.35 million and $1.8 million. All awards would be funded over a period of three years. ONR and NOPP anticipate $23 million in total funding will be available. Proposers must be teams drawn from academia; industry; or state, local, or tribal governments with members represented from at least two of the three sectors. While abstracts or pre-proposals are not being solicited for this opportunity, engaging with ONR program managers before submitting a full proposal is highly encouraged. Full proposals are due January 7, 2022, at 3:00 PM ET. The full BAA can be found on [www.grants.gov](http://www.grants.gov) under funding opportunity number “N00014-22-S-B003” or [here](http://www.grants.gov).

**NSF Releases Critical Aspects of Sustainability (CAS) Dear Colleague Letter**

The National Science Foundation (NSF) released a Dear Colleague Letter (DCL) titled [Critical Aspects of Sustainability (CAS): Innovative Solutions to Climate Change](http://www.nsf.gov) which encourages applicants for programs across the agency to pursue interdisciplinary research aimed at combatting climate change and reducing emissions. While the DCL does not establish any new programs, it notes the cross-cutting nature of understanding and combating climate change and thus intends to create a path for sustainability, environmental, and climate change mitigation studies to have a role across NSF’s existing core programs. The DCL also supports research aligned with the [Growing Convergence Research](http://www.nsf.gov) (GCR) solicitation and NSF’s Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs related to climate change.

The Letter calls for interdisciplinary workshops, high-risk high-reward Early-concept Grants for Exploratory Research (EAGER) proposals, and standard research projects which will then be directed toward an appropriate participating core program or division. Through this letter, participating programs and interested researchers are encouraged to expand their scope to include climate change mitigation efforts.
The Letter lists numerous climate applications that could be advanced under existing programs, but encourages other ideas:

- Reduce Greenhouse Gas (GHG) Emissions and Energy Use
- Energy Innovations Relevant to Climate Change Mitigation
- Enhance GHG Sequestration
- Accelerating Strategies for Climate Change Adaptation
- Research Addressing Synergistic Topics

Interested investigators should email cas@nsf.gov with a brief outline of the project before drafting a full proposal to determine if the idea is suitable through the DCL, they should not go directly to individual division directors. The letter was signed by the leaders of all of NSF’s Directorates and almost all of the divisions, but interested individuals should see the full list in the DCL for more information.