On April 21, the Senate reintroduced the Endless Frontier Act in a bipartisan effort to advance U.S. scientific and technological innovation. This bill proposes an additional $100 billion for the National Science Foundation (NSF) over five-years and would also include significant resources for translational research. Furthermore, a bipartisan agreement on President Biden’s infrastructure package, the American Jobs Plan, seems less and less likely given that Senate Democrats and Republicans are divided on how to pay for the package. Therefore, it is likely that Democrats will pursue a reconciliation path for their priorities. The path forward will be even more complicated after the Biden Administration releases its $1 trillion American Families Plan next week, with more focus on health care and education infrastructure. Congress will then have to work to find a compromise to combine the American Jobs and Families Plans into a single package and the House hopes to have it on the floor in July.

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.

Congressional and Administration Updates
Congressional Update: Endless Frontier Act
After much anticipation, Senator Schumer (D-NY) and Senator Young (R-IN) have introduced the new version of the Endless Frontier Act (EFA). The driver of the bill is to protect the U.S. position as the global leader in scientific and technological innovation to strengthen economic and national security. The bill would establish a new Directorate for Technology and Innovation at the National Science Foundation (NSF), would establish a regional technology hub program led by the Department of Commerce (DOC), and would aim to address issues related to economic security, science, research, innovation, manufacturing, and job creation, to establish a critical supply chain resiliency program. The original version of the bill was introduced in the fall of 2020.

The bill would authorize $100 billion for a new Directorate for Technology and Innovation at NSF over five years. The new Directorate would focus on use-inspired basic research and commercialization in initial key
technology areas including Artificial Intelligence (AI), High-Performance Computing (HPC), Semiconductors, Quantum, Robotics, Advanced Manufacturing, Climate Change, Advanced Communications, Biotechnology, Cybersecurity, Advanced Energy, and Advanced Materials. It would also facilitate innovation activities to accelerate the translation of research. The new Directorate would be staffed similarly to the Defense Advanced Research Projects Agency (DARPA) and awards would be assessed on intellectual merit and broader impacts. While the funding would all be directed to the new Directorate, the bill would enable partnerships with other parts of NSF to pursue basic research related to natural, human, and physical phenomena that could help advance key technology areas and allows the new Directorate to also provide funds to other Federal agencies for research activities. Of the funding authorized for the new Directorate, no less than 20 percent is designated to support research in key technology focus areas through the Established Program to Stimulate Competitive Research (EPSCoR). EFA would establish new NSF University Technology Centers to support basic and translational research, accelerate innovation, broaden participation, contribute to U.S. manufacturing capabilities, job creation, and facilitate entrepreneurship. The University Technology Centers would require collaboration with industry partners and must include partnership with Minority Serving Institutions (MSIs), emerging institutions, or institutions that participate in EPSCoR. EFA would create a new program to establish and operate test beds and fabrication facilities, in coordination with other facilities already supported by NSF and Manufacturing USA, to accelerate innovation of the key technology areas. The new Directorate would also be able to award scholarships, fellowships, and other student support, including programs to increase the participation of underrepresented populations.

The bill would create 10-15 new Regional Technology Hubs led by DOC and funded at around $10 billion. The hubs would support regional economic development investments to advance research, development, workforce training, entrepreneurship, and manufacturing across a range of technology and innovation sectors. Composition of the hubs would have to include institutions of higher education, local and state government, economic development organizations, industry, labor organizations, and workforce development boards. Eligible consortia may also include National Laboratories, Manufacturing USA Institutes, and other organizations. Selection of the hubs will be made by the Secretary of Commerce’s office with support from an interagency working group. The process would prioritize regional diversity with at least three hubs supporting small and rural communities and five hubs featuring at least one partner from an EPSCoR state. In making awards, the Secretary of Commerce would be required to consider the ability of a consortium to advance efforts in a key technology focus area, engage with Federal research entities, engage the private sector, carry out workforce development, improve STEM education, and the likelihood of the consortium becoming a global technology hub, among other considerations. Further, the Office of Science and Technology Policy (OSTP) and the Office of Management and Budget (OMB) would be charged with working with federal research agencies to set goals to at least double the amount of federally funded research for selected regions served by the hubs.

The bill would also create a comprehensive Regional Technology Strategy grant program that would provide funding to consortia that would largely meet the same eligibility criteria as the Regional Technology Hubs with a particular emphasis on inclusion of small, medium, and large metropolitan communities. Funding would support efforts to address gaps in a regional economic ecosystems and develop plans to make a region more competitive through a comprehensive strategy. Federal agencies would be allowed to provide technical assistance to grantees as needed. The bill would authorize $100 million for fiscal years (FY) 2022 and 2023 and $125 million for FY 2024 through 2026.

EFA would increase funding for Manufacturing USA and the National Institute of Standards and Technology (NIST). The bill would authorize $2.4 billion through FY 2026 to support and expand the Manufacturing USA program, including $1.19 billion to establish new manufacturing institutes and $725 million to support existing
The bill would also create an advisory council for the Manufacturing USA program and would authorize $100 million to support programming for commercialization, workforce training, and supply chain investment across the Manufacturing USA network. As noted above, in collaboration with NIST, NSF would create a competitive award program for institutions of higher education or consortia to operate test beds and fabrication facilities to advance the operation, integration, deployment, and, as appropriate, manufacturing of new, innovative technologies in the key technology focus areas, which may include hardware or software. The bill would also create a new program focused on increasing the resiliency of supply chains for critical technologies.

In addition to EFA, several other bills and proposals also include recommendations for a new technology Directorate at NSF. These are summarized below.

- The House Science NSF for the Future Act (reauthorization bill) would create a new Directorate for Science and Engineering Solutions (SES) at NSF funded at $1 billion in FY 2022 up to $5 billion in FY 2026.
- The President’s budget request for NSF for FY 2022 proposes a 20 percent increase for NSF including a new Directorate for Technology, Innovation, and Partnership, to strengthen U.S. leadership in emerging technology areas, including AI, HPC, disaster response and resilience, quantum information systems, robotics, advanced communications technologies, biotechnology, and cybersecurity.
- President Biden’s American Jobs Plan proposed $50 Billion for NSF to establish a new technology directorate in support of collaborative, use-inspired, and translational research in emerging technology areas. The proposal highlights investments in semiconductors, next-generation computing, advanced communications, clean energy technologies, and biotechnology.

The path forward for EFA is not straight forward. Senator Schumer would like to move aggressively to pass the Endless Frontier Act, which as an authorization bill, would still have to be funded. A Senate-passed bill that can then be conferred with a House version, like the NSF for the Future Act, has a greater likelihood of being included in an infrastructure package or a stand-alone innovation bill.

A broader innovation bill could also include funding to support research, development, and manufacturing of semiconductors that were authorized into law in December 2020 in the CHIPS for America Act. There is also growing interest in including funding for the Department of Energy (DOE) and the national laboratories to support emerging technologies and commercialization activities. While there is bipartisan support for research and development (R&D) investments and competing with China on science and technology innovation, many Republicans are concerned at the growing price tag for these efforts, which could limit their support for these bills.

Additional Resources:

- The full text of EFA is available at https://www.democrats.senate.gov/imo/media/doc/Endless%20Frontier%20Act%20FINAL%20117th.pdf.
The Lewis-Burke analysis of President Biden’s American Jobs Plan is available at https://old.lewis-burke.com/sites/default/files/policy_update_-_biden_administration_announces_2.25_trillion_infrastructure_and_economic_stimulus_plan_1.pdf

Funding Opportunities and Agency Updates

Funding Opportunity: DOD Announces FY 2021 Defense Manufacturing Community Support Program

The Department of Defense’s (DOD) Office of Local Defense Community Cooperation (OLDCC) released the first notice of its two-step funding opportunity announcement (FOA) for the fiscal year (FY) 2021 Defense Manufacturing Community Support Program (DMCSP). The DMCSP is designed to spearhead long-term investments in “critical skills, facilities, research and development, and small business support” to strengthen manufacturing capabilities and national security in designated defense manufacturing communities. The DMCSP allows organizations to obtain Defense Manufacturing Community (DMC) designation and funding and aims to recognize communities where local stakeholders are able to utilize long-term planning to attract and expand defense manufacturing through private and public investments.

OLDCC, formerly the Office of Economic Adjustment (OEA), has only released the first step of the FOA, which includes proposal requirements for seeking designation as a Defense Manufacturing Community. The second step, which is by invite only, will be a separate grant application for funding.

Key factors in competitive proposals will include direct alignment with DOD priorities including the National Defense Strategy, the Fiscal Year 2020 Industrial Capabilities Report to Congress, and DOD Research and Engineering modernization priorities. The program also seeks to complement the DOD-sponsored Manufacturing Innovation Institutes program and industry- and association-initiated Industry 4.0 efforts, as well as “leverage the whole of federal government resources to amplify the execution of its proposed activities.”

In addition to the proposal for Defense Manufacturing Community designation, each proposal must include a plan of proposed activities to improve the community’s defense industrial base, which may include the following types of investments:

- “Workforce training, retraining, or recruitment and retention, including that of women and underrepresented minorities;
- Business incubators;
- Advanced research and commercialization, including with Federal laboratories and depots;
- Supply chain development; and
- Small business assistance.”

Webinar: OLDCC will be hosting a pre-proposal webinar on April 23, 2021 and April 26, 2021 at 11:00 AM PDT to review the objectives of DMC and answer questions. More information can be found in the full notice.

Submission Information: OLDCC must receive full proposals no later than June 15, 2021 at 5:00 PM PDT. If designated, OLDCC will assign Project Managers to winning consortia on or about August 14, 2021 for the submission of a grant application.
Total Award Funding: The program has been allocated $25 million for FY 2021, with individual grants up to $5 million per award. DMC designations last for a period of five years with the option to renew designations for two additional two-year periods.

Eligibility: Consortia composed of members from “academia, defense industry, defense industry and association-led organizations, non-profit organizations, State and local government organizations and various combinations” are eligible to apply for DMC designation. A Lead Organization must apply on behalf of a regional manufacturing consortium. Eligible Lead Organizations must be one of the following entities:

- “Institution of higher education or a consortium of higher education institutions
- Public or private non-profit consortium of defense industries
- State, local or tribal government organization”

Note: Consortia that received Defense Manufacturing Community designation and grant funding in FY 2020 as a result of the first round of this program are not eligible for additional designation or funding under this announcement.

Cost Share: Proposals must match at least 20 percent of the proposed program.

Sources and Additional Information:

- Full funding opportunity announcement can be found on www.grants.gov under funding opportunity number “OLDCC-21-F-0001” or here.
- More information on the DMCSP can be found here.

Funding Opportunity: Air Force Announces Solicitation for Brain-Inspired Computing Center of Excellence

The Air Force Office of Scientific Research (AFOSR) released a Funding Opportunity Announcement (FOA) for a University Center of Excellence (COE) in Brain-Derived Neuromorphic Computing with Intelligent Materials. Through this FOA, a partnership between AFOSR and the Air Force Research Laboratory (AFRL), the Air Force seeks to develop high-efficiency computing systems with cognitive and learning abilities that can meet the ever-growing data demands facing the military. This effort will also provide training and experience in this growing field to the next generation of Air Force and Space Force scientists. Proposals under this FOA must address four research objectives:

1. “Explore and understand bio-realistic algorithms and models to identify key computing elements and neuromorphic dynamics;
2. Discover intelligent materials and devices with intrinsic dynamics to enable bio-realistic algorithms and models;
3. Design innovative circuits based on intelligent materials to realize computing elements required by algorithms and models; and
4. Explore and design scalable, reliable architectures for bio-realistic algorithms and models.”

Proposals must address all four research objectives to be considered eligible for funding.

AFOSR is looking for multidisciplinary teams of researchers with a variety of skills to address the program’s research objectives, and notes its preferences for proposals with multiple approaches that will provide the Air Force with increased opportunities for information and technology transfer. Proposers are encouraged to
reach out to and coordinate AFOSR and AFRL prior to submitting a proposal. AFOSR will host a virtual Proposer’s Day on May 3, 2021, and proposers can sign up by April 28, 2021 to give a five minute “elevator pitch” to other attendees to help facilitate teaming. Pre-registration for the proposer’s day is required to attend.

**Due Dates:** White papers, while not required, are encouraged and may be submitted until June 1, 2021 at 11:59 PM EDT. AFOSR expects to respond to submitted white papers with feedback by July 1, 2021. Full proposals must be submitted through www.grants.gov by August 16, 2021.

**Total Funding and Award Size:** AFOSR intends to make one award in the form of a grant of up to $1 million per year for a base period of three years with the option to extend the COE for an additional two years.

**Eligibility:** This FOA is open to proposals from local educational agencies, colleges, universities, or other nonprofit institutions dedicated to improving science, mathematics, and engineering. Historically Black Colleges and Universities and Minority Serving Institutions (HBCUs/MSIs) and Tribal Colleges and Universities are encouraged to submit proposals or participate on proposing teams.

**Sources and Additional Information:**
- The full AFOSR solicitation can be found here, or at www.grants.gov under Funding Opportunity Number “FOA-AFRL-AFOSR-2021-0005.”

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**Funding Opportunity: NSF Announces Racial Equity in STEM Education Program**

The National Science Foundation (NSF) Education and Human Resources Directorate (EHR) recently announced the Racial Equity in STEM Education Program. Through this program, NSF will support bold and transformative fundamental and applied research on racial inequality and systemic racism in the science, technology, engineering, and mathematics (STEM) fields. Proposals must be led by or developed with communities that are impacted by systemic racism and their experiences must be central to the proposal for it to be competitive. Proposals must demonstrate how the work funded by the project will create positive outcomes for communities suffering from systemic racism and explicitly explain how the project will address systemic racism and advance racial equity.

Proposals should “consider systemic barriers to opportunities and benefits, and how these barriers impact access to, retention in, and success in STEM education, research, and workforce development.” Competitive proposals will utilize both research and practice, including but not limited to activities such as building theory, testing approaches and interventions, establishing authentic partnerships, changing organizational structural behavior, and focusing on cultural and social components of systemic racism and their implications. Research can focus on a number of STEM education contexts, including K-12, undergraduate, graduate, and informal STEM education as well as STEM workplaces.

Projects funded by the Racial Equity in STEM Education Program are expected to:
- “Advance the science and promotion of racial equity in STEM;
- Substantively contribute to removing systemic barriers that impact STEM education, the STEM workforce, and scientific advancement;
- Institutionalize effective and inclusive environments for STEM learning, STEM research, and STEM professionals;

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UMN Washington Update
Prepared by Lewis-Burke Associates LLC
April 23, 2021
• Diversify the project leadership (PIs and co-PIs), institutions, ideas, and approaches that NSF funds; and
• Expand the array of epistemologies, perspectives, and experiences in STEM.”

NSF is expected to host a webinar on this program in the coming weeks, though details are still being determined. Interested applicants are encouraged to submit a one-page concept paper to EHRRacialequityPD@nsf.gov ahead of submitting a proposal.

**Due Date:** The first application deadline is **July 13, 2021**. There will also be an application deadline on October 12, 2021. For 2022 and following years, applications will be due on the fourth Tuesday of March and the second Tuesday of October.

**Sources and Additional Information:**
- Additional information on the Racial Equity in STEM Education Program is available at https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505910.

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**Funding Opportunity: NIH Releases RFA for Centers for Multiple Chronic Diseases Associated with Health Disparities**

The National Institutes of Health (NIH) has released two new funding opportunities to address chronic diseases and health disparities in the nation. These funding opportunities are a direct result of congressional interest in addressing health disparities and chronic disease, the importance of which has been highlighted by the COVID-19 pandemic. Specifically, the fiscal year (FY) 2021 appropriations bill allocated $45 million to the National Institute on Minority Health and Health Disparities (NIMHD) to support the establishment of comprehensive research centers focused on the prevention, treatment and management of comorbid chronic diseases associated with health disparities. These diseases include but are not limited to diabetes, heart disease, cancer, and obesity.

The **Centers for Multiple Chronic Diseases Associated with Health Disparities**, to be funded using the P50 mechanism, will be regionally focused with a goal to address disparities within that region for one or more populations that endure health disparities. Applicants should be prepared to provide a rationale for why the selected geographic region is best for addressing a particular chronic disease. Centers proposed must also address two or more chronic diseases that disproportionately affect populations with health disparities. In addition, Centers should include lead investigators from at least two research institutions and a coalition of relevant stakeholders from the region. These stakeholders should reflect the needs of the research proposed and may include but are not limited to community-based organizations, social service agencies, school systems, and patient advocacy groups. Applications for the Centers must also include at least one Center Research Project that involves a clinical trial that tests an intervention. NIMHD will work in collaboration with the National Cancer Institute (NCI), National Heart, Lung, and Blood Institute (NHLBI), National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), and National Center for Advancing Translational Sciences (NCATS) to support research at these Centers.

The **Multiple Chronic Disease Disparities Research Coordinating Center**, to be funded through the U24 cooperative agreement mechanism, will coordinate activities across the Centers for Multiple Chronic Diseases. The Research Coordinating Center will oversee harmonizing projects across the centers through data...
sharing, facilitating outreach to the network, and providing mechanisms for collaboration and communication among individual researchers.

NIH has always been committed to understanding the root causes of health disparities and the complex factors that contribute to quality of health across the life span. Despite investments in research in this area, NIH recognizes there has been insufficient progress toward reducing health disparities found in the incidence, morbidity, and mortality of chronic diseases. These new Centers, along with the new funding opportunities NIH will release through the NIH UNITE initiative, will support the expansion of health disparity, minority health, and health equity research at NIH in a transdisciplinary way.

**Funding Opportunity Information:**

The application due date for the Centers Funding Opportunity is **June 10, 2021**, with a letter of intent due on **May 8, 2021**. The earliest start date is **September 2021**. The application due date for the Research Coordinating Center Funding Opportunity is **June 11, 2021** with a letter of intent due on **May 11, 2021**. The earliest start date is **December 2021**.

For the Centers Funding Opportunity, NIH intends to commit up to $40.5 million to fund up to 8 to 9 awards in FY 2021. For the Research Coordinating Center Funding Opportunity, NIH intends to commit up to $4.5 million in FY 2021 to fund one award. For both opportunities, the application budgets are limited to $3,000,000 in direct costs annually and the maximum project period may not exceed five years.

**Applicant Information:**

Any public or private institution of higher education, non-profit research institution, for-profit business, or state or local government entity may apply for the Centers or the Research Coordinating Center opportunities.

**Pre-Application Webinars:**

NIH will host a pre-application Technical Assistance webinar for prospective applicants on **Tuesday April 27, 2021, from 3 – 5 pm ET** for the Centers Funding Opportunity. An additional webinar will be held for the Research Coordinating Center Funding Opportunity on **Tuesday, May 4, 2021, from 3 – 5 pm ET**. Both webinars will clarify expectations for the funding opportunities, outline the goals of the objectives, while answering questions from attendees. Webinar information can be found in the relevant funding opportunity and below.

- Centers for Multiple Chronic Diseases Associated with Health Disparities – [Webinar Link](#)
- NIMHD Multiple Chronic Disease Centers Research Coordinating Center – [Webinar Link](#)

**Sources and Additional Information:**

- The funding opportunity for the Research Coordinating Center can be found at [https://grants.nih.gov/grants/guide/rfa-files/RFA-MD-21-008.html](https://grants.nih.gov/grants/guide/rfa-files/RFA-MD-21-008.html).

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Funding Opportunity: NIFA Releases Solicitation for Military REACH Program

On April 20, the U.S. Department of Agriculture’s (USDA) National Institute of Food and Agriculture (NIFA) released a Request for Applications (RFA) for the Military REACH program for land-grant institutions. REACH stands for “Center for Research and Outreach” at USDA. The program aims to provide high-quality resources for the U.S. Department of Defense (DoD) in the form of research and professional development tools across the spectrum of family support, resilience, and readiness for military families. This opportunity comes in response to Goal 4 of the 2022 USDA Strategic Plan, which is to “plan and facilitate rural prosperity and economic development” and specifically responds to USDA Objective 4.2 “to expand rural business opportunity and rural quality of life with access to capital; improve infrastructure, broadband access and connectivity; and support workforce availability.”

REACH will focus on the following activities and products:

- **Timely, quality research reports at the request of the DOD.** The goal of this effort is to provide research reports when the DoD has specific knowledge of needs pertaining to a particular aspect of the well-being of Service members and their families.

- **Online library of current research related to the well-being of military families.** This library will provide information about current research for policymakers and professionals who work with and on behalf of military families.

**Due Dates:** Applications must be received by **5 p.m. Eastern Time on Wednesday, May 19, 2021.**

Applications received after this deadline will normally not be considered for funding. Comments regarding this request for applications (RFA) are requested within six months from the issuance of this notice.

**Total Funding and Award Size:** Total anticipated amount available is $700,020.

**Eligibility:** Only land-grant institutions are eligible to receive the award through the Military REACH program. Eligible land-grant institutions include all 1862, 1890, and 1994 land-grant institutions.

The award recipient may subcontract to organizations not eligible to apply provided such organizations are necessary for the conduct of the project. Failure to meet an eligibility criterion by the time of application deadline may result in the application being excluded from consideration or, even though an application may be reviewed, will preclude NIFA from making an award.

**Sources and Additional Information:**

Funding Opportunity: Army Releases BAA for NSA Quantum Computing Collaboration

The Army Research Office (ARO), in partnership with the National Security Agency’s (NSA) Laboratory for Physical Sciences (LPS), released a multi-year Broad Agency Announcement (BAA) seeking proposals for collaborative qubit research. ARO and LPS seek disruptive fundamental research to improve the current state of quantum computing and qubit development. In addition, this BAA seeks to bring together researchers from a variety of backgrounds including academia, private industry, and government laboratories in order to address long-term challenges pertaining to quantum information science (QIS). ARO will accomplish this by
forming Collaboratories, “a center without walls,” in which researchers can collaborate and share information and data regardless of physical location.

Three types of proposals will be funded under this BAA:

1. **Incubators:** This opportunity will provide funding to single investigators or small teams for proposals addressing the BAA’s research thrusts or generally of interest to the QIS field, but lack the research infrastructure to pursue this research at their own institutions. Incubator teams will be able to collaborate with LPS staff and leverage the Lab’s research infrastructure.

2. **Collaboratories:** This opportunity aims to bring from academia, private industry, and government laboratories to advance long-term projects developing fundamental research in qubit technology and quantum information science. Collaboratories are expected to last between one to three years in order to develop proof-of-concept experiments and/or explore new theories relevant to QIS.

3. **Quantum Computing Research (QuaCR) Fellowships:** this opportunity will support U.S. graduates and postdoctoral students entering the field of quantum information processing and quantum sensing. QuaCR fellows will spend at least one summer working with an LPS researcher at the Lab.

In fiscal year (FY) 2021, ARO and LPS have identified six research thrusts as part of the BAA. More information on each can be found in the full BAA:

- Spin qubits, fast
- More epitaxy, better qubits?
- Voltage controllable superconducting qubits
- Going hot and not looking back
- Beyond Moore, before Shor
- Accelerated learning of quantum information concepts

**Due Dates:** This BAA will be open until **April 30, 2026**. White papers, while not required, are highly encouraged to be submitted via email to usarmy.rtp.devcom-arl.mesg.qcbox@mail.mil between **February 1 to May 30** of each year. Full proposals should be submitted through grants.gov before June 1 in order to be considered for funding during that fiscal year.

**Award Information:** ARO anticipates funding multiple awards under each category, subject to the availability of funding. This includes:

- Incubator proposals will be funded up to $500,000 per year for one to three years.
- Collaboratory proposals will be funded at up to $800,000 per year for two to three years
- QuaCR fellowships will be funded for three years for graduate students and two years for postdoctoral candidates.

**Eligibility:** This BAA is open to proposals from institutions of higher education, non-profit and industry (for-profit) organizations. Historically Black Colleges and Universities and Minority Serving Institutions (HBCUs/MSIs) are encouraged to apply. Applicants for the Quantum Computing Research (QuaCR) Fellowship must be U.S. citizens in a graduate or postdoctoral position and must work with a principle investigator or co-investigator of ARO quantum information science research awards.

**Sources and Additional Information:**
The full ARO solicitation can be found [here](#), or at [www.grants.gov](http://www.grants.gov) under Funding Opportunity Number “W911NF-21-S-0009.”