UNIVERSITY OF MINNESOTA WASHINGTON UPDATE – FEBRUARY 24, 2023
PREPARED BY LEWIS-BURKE ASSOCIATES LLC

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With both chambers of Congress on recess this week, lawmakers will return to Washington next week and ramp up activities preparing for the fiscal year (FY) 2024 appropriations process ahead of the expected release of President Biden's annual budget request in early March. Subcommittees of the Senate Appropriations Committee have released their deadlines for requests from members, leading all personal Senate offices to begin setting their own deadlines for request submissions from interested stakeholders in their districts and states. Subcommittees of the House Appropriations Committees are expected to release their own deadlines soon. In a divided government and with a sizable portion of the Republican caucus aiming to cut federal spending, the funding environment is expected to be much tighter for agencies such as the National Institutes of Health (NIH) and Department of Defense (DOD). The first glimpse of Republican priorities in FY 2024 appropriations legislation is expected when the Republican-led House Budget Committee releases their own budget or a budget is released by the Republican Steering Committee.

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.

Policy, Agency Updates and Funding, Engagement Opportunities
Policy Update: Biden Administration Issues Report on Mental Health Research Priorities
In advance of President Biden's second State of the Union address, the White House Office of Science and Technology Policy (OSTP) and the Domestic Policy Council (DPC) issued the *White House Report on Mental Health Research Priorities*. The report, led by OSTP Director Dr. Arati Prabhakar and Assistant to the President and Domestic Policy Advisor Ambassador Susan Rice, is the first of its kind to outline an Administration-wide set of critical needs and opportunities in the mental health research space. The report includes both cross-cutting research priorities and topical research priorities as well as outlines critical gaps and opportunities in each area. It is likely that federal agencies will include more information on mental health research directions in the President's Budget Request, slated to be released on March 9. The report builds on the progress of the White House's March 2022 strategy to address the national mental health crisis, which included priority areas in strengthening system capacity, connecting Americans to care, and supporting Americans by creating healthy environments.

This report is the result of an OSTP effort to establish cross-agency scientific research priorities to improve prevention, diagnosis, treatment, and de-stigmatization of mental health conditions. In particular, the report focuses on research into mental health conditions that have been exacerbated by the COVID-19 pandemic, are associated with social stigma, and/or disparately impact or persist in certain populations due to inequities caused by historical and structural racism. The report aims to ensure coordination across federal research agencies, inform resource allocation, identify and maximize opportunities for federal agency collaboration while reducing duplication, and guide the broader scientific community. Key cross cutting and topical research priorities include:

Cross Cutting Research Priorities

- **Advancing equity in promoting mental health and in understanding, preventing, identifying and treating mental health conditions.**
  - Advancing mental health equity through research; and
  - Representation in clinical and implementation research.
- **Understanding and leveraging digital mental health interventions**.
  - Developing and assessing digital mental health interventions; and
  - Developing digital data standards.
- **Supporting and expanding the mental health workforce.**
  - Supporting and expanding the supply, capacity and diversity of the workforce trained to address mental health;
  - Addressing health worker burnout; and
  - Training mental health care providers in evidence-based therapies that address co-occurring physical health and substance use conditions.

Topical Research Priorities

- **Increasing the availability, quality, and impact of interventions for mental disorders in health care systems, communities, and justice settings.**
  - Testing and evaluating care delivery approaches that increase system capacity and improve mental health care access across different settings without reducing quality and outcomes;
  - Development, validation, and implementation of mental health-specific quality measures to evaluate access to care, service delivery, and treatment outcomes; and
  - Broadening implementation of measurement-based care in care settings.
- **Integrating substance use disorder and mental health research and treatment.**
  - Promoting research in comprehensive, coordinated, and collaborative care;
  - Training providers in evidence-based therapies that address co-occurring mental health and substance use disorder (SUD) conditions;
  - Optimizing treatment for mental disorders co-occurring with SUDs; and
  - Supporting primary prevention and health promotion research.
- **Developing and improving treatments for serious mental illnesses.**
  - Fostering long-term engagement in care and recovery;
  - Advancing precision mental health; and
  - Optimizing available treatments.
- **Supporting youth mental health.**
  - Understanding and addressing the impacts of social media use on mental health;
  - Understanding how social media can be leveraged to promote mental health; and

o   Assessing and optimizing school-based interventions.

OSTP and DPC indicated opportunities for input and contributions by external nongovernmental experts and organizations would be part of the next steps, and that the Biden Administration is exploring further cross-agency opportunities for additional planning and implementation of mental health research priorities.

Sources and Additional Information:
- The full report is available at https://www.whitehouse.gov/wp-content/uploads/2023/02/White-House-Report-on-Mental-Health-Research-Priorities.pdf.
- The OSTP press release announcing the release of the report is available at https://www.whitehouse.gov/ostp/news-updates/2023/02/07/white-house-report-on-mental-health-research-priorities/.
- The fact sheet announced President Bidens strategy to address the national mental health crisis is available at https://www.whitehouse.gov/briefing-room/statements-releases/2022/03/01/fact-sheet-president-biden-to-announce-strategy-to-address-our-national-mental-health-crisis-as-part-of-unity-agenda-in-his-first-state-of-the-union/.

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Agency Update: NIST Industrial Advisory Committee Previews Upcoming CHIPS R&D Funding and Programs

The Department of Commerce's National Institute of Standards and Technology (NIST) held its second Industrial Advisory Committee (IAC) on February 7, 2023. The IAC, stood up to advise on Creating Helpful Incentives to Produce Semiconductors (CHIPS) for America R&D, unveiled additional details on upcoming opportunities and timelines for microelectronics R&D efforts. Dr. Eric Lin, Interim Director for CHIPS R&D, detailed NIST's approach and timeline for developing microelectronics programs, noting that NIST is coordinating with other federal agencies and wants to move quickly on standing up programs, prioritizing the National Semiconductor Technology Center (NSTC). **In the coming months, NIST will publish a call for "statements of interest" for all anticipated CHIPS programs applicants, regardless of when funding opportunities are released.**

Dr. Lin shared the following timeline for developing CHIPS R&D programs at NIST:
- **National Semiconductor Technology Center (NSTC)**
  - Late March 2023 – White paper release detailing plans, followed by additional opportunities
  - Summer 2023 – Establish NSTC
- **National Advanced Packaging Manufacturing Program**
  - Summer 2023 – Outline program strategy
- **Manufacturing USA Institute(s)**
  - Spring 2023 – Provide summary of Request for Information (RFI) responses
  - Fall/Winter 2023 – Select topics for the institute(s), begin proposal process
- **Metrology R&D**
  - Spring 2023 – Internal NIST investment
  - Summer 2023 -- Select programs to stand up

Upcoming Incentives Opportunities

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Prepared by Lewis-Burke Associates LLC
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Separate from the $11 billion in funding for CHIPS R&D, the IAC announced that the CHIPS Incentives program ($39 billion) will start releasing notices of funding opportunities (NOFOs) as soon as this month. Intended to provide incentives to industry (though universities can likely partner), the upcoming solicitations will provide funding opportunities for domestic facilities and equipment related to semiconductors:

- In February 2023, DOC will release its first NOFO for commercial leading edge semiconductor fabrication facilities.
- In Spring 2023, DOC will release its second NOFO for materials and equipment.
- **In Fall 2023, DOC will release its third NOFO for construction of semiconductor R&D facilities.**

National Semiconductor Technology Center (NSTC)
Dr. Lin stated that establishing the NSTC is NIST's top priority. The IAC recommended the NSTC organization include a NSTC Fiduciary Board, a NSTC Technical Advisory Board (TAB), and a NSTC CEO who has "deep technical expertise and experience in the semiconductor industry." The NSTC will likely use an Other Transaction Authority (OTA) for awards.

The NSTC is expected to be an independent, public-private consortium that will be centrally operated but include a network of directly funded entities. Of most interest to the research community, the **IAC recommended the establishment of multiple Coalitions of Excellence (COE) to comprise the NSTC network.** While the NSTC would be the core of in-house research, engineering, and program capabilities, the NSTC would fund and leverage existing U.S. infrastructure across the multiple COEs. **The COEs would prototype R&D concepts for domestic production at fabrication facilities**, thus bridging the gap between microelectronics R&D and volume manufacturing. However, NIST noted they have not yet addressed how the COEs will work with other entities like the Department of Defense's Microelectronics Commons or the National Science Foundation.

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Funding Opportunity: USDA NIFA Releases FY 2023 AFRI Sustainable Agricultural Systems RFA
On February 17, the U.S. Department of Agriculture (USDA) National Institute of Food and Agriculture (NIFA) released a request for applications (RFA) for the Agriculture and Food Research Initiative (AFRI) Sustainable Agricultural Systems (SAS) program, which aims to transform U.S. food and agricultural systems to support increased production while addressing environmental sustainability challenges to ultimately bring about societal benefits and improved quality of life. The fiscal year (FY) 2023 SAS solicitation focuses on local and regional climate-smart products; nutritious, safe, and accessible foods; and rural economic development. Proposals must address current challenges and incorporate an interdisciplinary vision of resilient future food systems, including projected social, economic, cultural, health, and environmental impacts of these systems.

This solicitation is for integrated projects only, which means that each proposal should include research, education, and extension components. Applicants are encouraged to take a systems-level approach, utilize advancements in science and technology to solve pressing agricultural challenges, and to demonstrate and distribute the economic and environmental benefits of sustainable agriculture. Education activities should focus on supporting the training and development of an agricultural workforce with skills relevant to the program. The research components should seek to identify and address knowledge gaps. Extension should encourage the adoption of sustainable production and consumption practices and engage the target populations in the design.

Applications must address one of the following goals:

- **Climate-Smart Agriculture and Forestry (CSAF):** CSAF aims to "improve mitigation, adaptation, and resiliency of agricultural and forestry production systems to climate change." These projects must enhance understanding of **at least one** of the following: greenhouse gas mitigation, markets and socioeconomics, or regionally appropriate climate adaptation and resilience.
- **Strengthening the Bioeconomy:** These projects should aim to "foster economic development and prosperity in rural America by developing and advancing production of clean, renewable, and sustainable energy and biobased products from forests and agriculture." Projects must address sustainable bioenergy and bio-based products, resilience and robustness of the food and agricultural system, **and** potential sustainability impacts.
- **Nutrition Security:** These projects should aim to "Enhance the importance of food and agriculture to health of the nation through resilient local and regional food systems, adoption, and application of new or existing technologies, tools, education, and other resources to ensure access to adequate, safe, nutritious, equitable, and affordable food." Nutrition Security projects must address **at least one** of the following: local and regional food systems, nutrition-sensitive climate-smart agriculture, or nutrition security and diet-related health disparities.

Due to the long-term focus of the SAS program, proposals should include concrete metrics for success, which may include measures of a system's productivity and profitability, impact on the environment, contributions to food supply and safety, employment opportunities, benefits to underserved communities, and/or improvements to human health and nutrition.

Eligibility: Colleges and universities are eligible to apply for Integrated Projects.

Deadlines: Letters of intent are due **April 13, 2023 at 5:00pm ET**. Applications must be submitted by **July 13, 2023 at 5:00pm ET**.

Total Funding and Award Size: USDA anticipates making $80 million available for this program. Individual award amounts may not exceed $10 million with a program period of up to five years.

Cost-Share Requirement: Applicants must provide matching contributions on a dollar-for-dollar basis for all Federal funds granted. If an Integrated Project is commodity-specific and not of national scope, matching funds from non-Federal sources with cash or in/kind contributions are required. NIFA may waive this requirement if the project meets criteria specified in the RFA.

Sources and Additional Information:
- The full SAS RFA is available at https://www.nifa.usda.gov/sites/default/files/2023-02/FY23-AFRI-SAS-RFA-508-CC.pdf.
- FY AFRI SAS program page is available at https://www.nifa.usda.gov/grants/funding-opportunities/agriculture-food-research-initiative-sustainable-agricultural-systems.
- Application for the AFRI SAS grant is available at https://www.grants.gov/web/grants/view-opportunity.html?oppId=346239.

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Funding Opportunity: DOD Releases FY 2024 Multidisciplinary University Research Initiative (MURI) FOA

The Department of Defense (DOD) released a funding opportunity announcement (FOA) for the fiscal year (FY) 2024 Multidisciplinary University Research Initiative (MURI). Initiated over 25 years ago, MURI remains one of the most popular programs among researchers at institutions of higher education and stands as the benchmark for building a defense-oriented research capability on campus. With the goal of understanding and achieving revolutionary breakthroughs on behalf of the warfighter, each MURI program is managed closely by a program manager from one of the Services supporting high-risk basic research in science, economic growth, and military technology.

The Army, Navy, and Air Force basic research offices have released 25 topics this year. While most topics are new compared to FY 2023, the FY 2024 subjects demonstrate continued interest in photonics, semiconductors, materials, and quantum sciences. A list of the FY 2024 MURI topics of interest by service is provided below:

Office of Naval Research (ONR)

1. Interventions in Large and Complex Networks: Prediction, Monitoring and Evaluation
2. The Deep Sea Benthic Boundary Layer; Interactions and Coupling with the Deep Seabed
3. Machine Learning Methods for Phase Change Heat Transfer Modeling and Design Fundamental Processes in Solid-Fuel Combustion
4. Complexity Science Disorder-Promoted Synchronization
5. Theory and Algorithms for Learning and Decision-Making in Multi-Agent Systems
6. Reexamining Ocean Effects on Atmospheric Wind Drag and Enthalpy Flux
7. Understanding Thermal and Mechanical Behavior in High Temperature Materials
8. Understanding and Tailoring the Interactions between Metamaterials and Hypersonic Flows
9. Cognitive and Neuroscience-Inspired Problem-Solving for Autonomous Systems in Physical Environments

Air Force Office of Scientific Research (AFOSR)

10. Plasmon-Controlled Single-Atom Catalysis
11. New Mathematical Paradigm for Integrating Data, Models, Decisions
12. AlN Semiconductors for High-Power Electronics
13. Compositionally Complex Ceramics (CCCs) via Knowledge-Guided Pyrolysis for Hypersonics
14. Piezoelectric Materials Interfaced with Semiconductors for Integrated Quantum Systems
15. Space-Based Characterization of Arctic Permafrost Dynamics
16. Modeling and Measuring Multilevel Resonance
17. Fundamental Limits of Passive Heterodyne Photodetection of Incoherent, Broadband Sources
18. Tensor Networks and Low-Rank Methods for High-Dimensional Computing

Army Research Office (ARO)

19. Bioinspired Vibronic Coherence in Molecular and Solid-State Systems
20. Engineered Quantum Materials Approaches to Room-Temperature Single Photon Detection in Infrared Range
21. The Ecological Succession of Environmental Films at the Gas-Solid Interface
22. Predicting Performance Outcomes for Heterogeneous Materials under Complex Loading
23. Synchronization in Natural and Engineered Systems

24. Ferroelectric Group III and II-IV-Nitride Semiconductors for Photonics and Electronics
25. SCAMP 3D- Synthetic Colloidal Assemblies for Meta-Photonics in Three Dimensions

Full descriptions of the topics of interest by service can be found in Section II. H entitled "TOPIC DESCRIPTIONS" in the FOA. DOD encourages faculty to engage with the Research Topic Chiefs assigned to each topic area (see section II.H) through the white paper process to assess the feasibility of proposed topics. Topics listed above describe the focus areas important to each Service and are not meant to restrict the possible directions awarded research could take.

White Papers: While not required, prospective awardees are strongly recommended to submit white papers before 11:59 PM Eastern Time on May 19, 2023, to minimize the labor and cost associated with the production of detailed full proposals.

Timeline for Submission:

- Questions on eligibility and technical requirements are due by **May 5, 2023**
- White papers are due **May 19, 2023, by 11:59 PM ET**
- Notifications of initial evaluations of white papers are expected on **June 12, 2023**
- Questions for Grants Officer on proposal submission are due by **August 25, 2023, by 5:00 PM ET**
- Full proposals are due on **September 8, 2023, by 5:00 PM ET**
- Notification of selection for awards are expected to be made on **February 1, 2024**
- Grants are estimated to start on **May 1, 2024**

Total Funding and Award Size: DOD expects $276 million to be made available for five years, pending out-year appropriations. This figure represents an increase of $86 million over the FY 2023 cycle. The typical individual award ranges from $1.25 to $1.5 million per year. For select topics, an additional $1.5 million per topic over five years is available to specifically support Historically Black Colleges and Universities (HBCUs) and Minority-Serving Institution (MIs) participation in MURI research teams.

Eligibility and Limitations: The competition is open to U.S. institutions of higher education, including DOD institutions of higher education, with degree-granting programs in science and/or engineering. A University Affiliated Research Centers (UARC) is an eligible applicant if it is affiliated with a U.S. institution of higher education and not a Federally Funded Research and Development Center (FFRDC). While industry, DOD laboratories, and foreign universities may not receive funding, DOD encourages universities to collaborate with entities focused on applied and transitional research for potential commercial applications of MURI-funded research.

Sources and Additional Information:
- The full FY 2024 MURI solicitation is available at www.grants.gov by searching any of the following Funding Opportunity numbers for each military service: "N00014-23-S-F003" (Navy), "W911NF-23-S-0005" (Army), and "FOA-AFRL-AFOSR-2023-0004" (Air Force).
- Additional information on DOD's university-focused basic research efforts, including MURI, can be found by visiting the following Services' websites:
  - Navy - https://www.onr.navy.mil/Education-Outreach/Sponsored-Research/University-Research-Initiatives/
  - Army - https://www.arl.army.mil/business/

- o Air Force - https://www.afrl.af.mil/About-Us/Fact-Sheets/Fact-Sheet-Display/Article/2282120/afosr-funding-opportunities-university-research-initiative-uri/#anchor3

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Engagement Opportunity: NIH ACD Working Group on Re-envisioning NIH Supported Postdoctoral Training is Seeking Input

The recently established National Institutes of Health (NIH) Advisory Committee to the Director (ACD) Working Group on Re-envisioning NIH-Supported Postdoctoral Training is seeking input from the biomedical and behavioral research community to share its thoughts on issues impacting and possible solutions for the recent decline in the postdoctoral trainee workforce. Over the last several years, despite the steady growth in U.S. graduate students in science, engineering and health the growth in postdoctoral trainee appointments has decreased significantly compared to previous years. The reduced growth in postdoctoral trainees raises concerns for the future biomedical research workforce and U.S. competitiveness and innovation in biomedical research. For years there has been documented financial challenges for postdoctoral trainees and these challenges have been compounded by the COVID-19 pandemic. As a result, the NIH has decided now is a critical time to evaluate the current postdoctoral training system.

This working group has provided two methods for the community to engage and share insights on this pertinent issue. The first is a Request for Information (RFI) seeking input on "Re-envisioning U.S. Postdoctoral Research Training and Career Progression within the Biomedical Research Enterprise." This RFI seeks input, but is not limited to the following:

- "Perspectives on the roles and responsibilities of the academic postdoc (e.g., what the postdoctoral position means to you, how you view it).
- Fundamental issues and challenges inhibiting recruitment, retention, and overall quality of life of postdoctoral trainees in academic research.
- Existing NIH policies, programs, or resources that could be modified, expanded, or improved to enhance the postdoctoral training ecosystem and academic research career pathways.
- Proven or promising external resources or approaches that could inform NIH's efforts to enhance the postdoctoral training ecosystem (e.g., improving postdoctoral recruitment, training, working environment, mentoring, job satisfaction)."

The deadline to respond is **Friday, April 14, 2023 at 11:59 pm ET**. All comments must be submitted through the submission website.

The working group also will hold several listening sessions to hear from stakeholders about their experiences and insights on the current postdoctoral training infrastructure and potential solutions to common challenges in the postdoctoral trainee community. These listening sessions will take place throughout March with a specific topic for each session. **Those who would like to participate can register at https://www.cvent.com/c/express/50df3f1e-a283-42a8-9237-6cd45d90025f.** The sessions will cover the following:

- "Wednesday**, March 8**, 12:30 – 1:30 p.m. ET: Role, duration, structure, and value of the academic postdoc, including the effects on underrepresented populations.
- **Friday, March 10**, 1:30 – 2:30 p.m. ET: International trainee concerns.

- **Friday, March 17**, 12:30 – 1:30 p.m. ET: Compensation and benefits, including childcare and dependent care.
- **Monday, March 20**, 1:30 – 2:30 p.m. ET: Job security, career prospects, and quality of life."

Both the RFI responses and listening sessions will contribute to the next steps and the recommendations of the ACD working group.

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