Earlier this week, the Senate passed a $3.5 trillion fiscal year (FY) 2022 budget resolution on a party-line vote of 50-49 which the House is expected to vote on the week of August 23. This lays out the framework and process for Congress to fund priorities included in the Biden Administration's American Jobs Plan and American Families Plans, such as action on climate change, spending on innovation and global competitiveness, and improving affordable access to health care, education, and child care.

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: Senate Passes $3.5 Trillion Budget Resolution To Advance Climate Change, Research Infrastructure, Health Care, and Education Priorities

On August 11, the Senate on a party-line vote of 50-49 passed a $3.5 trillion budget resolution that would allow Democrats to start work on President Biden’s sweeping economic agenda without Republican support. The House and Senate would have until September 15 to produce a spending package. House Majority Leader Steny Hoyer (D-MD) announced the House will cut short its August recess and vote on the budget resolution the week of August 23. This comes on the heels of a $550 billion bipartisan Infrastructure Investment and Jobs Act passed in the Senate by a vote of 69-30 on August 10 and which the House is likely to take up in late August or September. While the bipartisan legislation mainly focuses on transportation, energy, and broadband infrastructure, the $3.5 trillion package will focus on a broader range of issues to address long-term economic growth, including climate change, innovation and global competitiveness, health care, education, and child care. Provisions in this larger package are meant to complement the bipartisan infrastructure bill and advance a broader set of priorities in President Biden’s Build Back Better agenda.
The budget resolution is not a funding package and lacks many important details. First, a budget resolution sets a top line funding level for a future spending package—in this case $3.5 trillion. Second, the budget resolution specifies the scope of offsets required to pay for the $3.5 trillion package. The budget resolution requires only a partial offset of $2 trillion and leaves it to House and Senate tax-writing committees to identify pay-fors, such as increases in taxes or health care savings. Third, the budget resolution allows the package to be considered under “reconciliation,” which allows the passage with a simple majority in both the House and the Senate. This is especially important in the Senate as Democrats can bypass the threat of a 60-vote filibuster to advance legislation. Fourth, the budget resolution directs 12 Senate and 13 House committees to draft funding legislation by September 15. These Committees are responsible for drafting and advancing funding provisions for federal agencies, programs, and activities. Each Committee is allocated a specific funding amount (see tables below).

<table>
<thead>
<tr>
<th>House of Representatives Committees</th>
<th>Senate Committees</th>
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<tbody>
<tr>
<td>Education and Labor</td>
<td>Health, Education, Labor, and Pensions</td>
</tr>
<tr>
<td>Financial Services</td>
<td>Banking, Housing, and Urban Affairs</td>
</tr>
<tr>
<td>Energy and Commerce</td>
<td>Energy and Natural Resources</td>
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<tr>
<td>Agriculture</td>
<td>Agriculture, Nutrition, and Forestry</td>
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<tr>
<td>Judiciary</td>
<td>Judiciary</td>
</tr>
<tr>
<td>Science, Space, and Technology</td>
<td>Commerce, Science, and Transportation</td>
</tr>
<tr>
<td>Transportation and Infrastructure</td>
<td>Environment and Public Works</td>
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<tr>
<td>Homeland Security</td>
<td>Homeland Security and Governmental Affairs</td>
</tr>
<tr>
<td>Small Business</td>
<td>Small Business and Entrepreneurship</td>
</tr>
<tr>
<td>Natural Resources</td>
<td>Indian Affairs</td>
</tr>
<tr>
<td>Veterans’ Affairs</td>
<td>Veterans’ Affairs</td>
</tr>
<tr>
<td>Oversight and Reform</td>
<td></td>
</tr>
</tbody>
</table>

In additional to the above, the House Ways and Means and Senate Finance committees are allocated roughly $1.5 trillion based on their jurisdiction over tax policy and revenue to advance priorities such as paid family and medical leave; expanding Medicare to include dental, vision, and hearing benefits and lowering the eligibility age; and clean energy, manufacturing, and transportation tax credits and other incentives.

A memo addressed to Senators from Majority Leader Schumer (D-NY) also outlined recommendations on new initiatives or categories of funding that should be advanced. Some of the most relevant for the science, technology, and academic medicine communities include funding for:

- National Science Foundation research and a new technology directorate,
- Department of Energy National Labs research infrastructure,
- Research infrastructure across federal science agencies, including for HBCUs, MSIs, HSIs, TCUs, and ANNHIs,
• Investments in technology, research, manufacturing, and economic development,
• Coastal and ocean resiliency programs,
• Establishing a Civilian Climate Corps,
• Increasing the maximum Pell grant award,
• Immigration reform, including lawful permanent status for qualified immigrants,
• Expanding Medicare to include dental, vision, hearing benefits and lowering the eligibility age
• Addressing health care provider shortages (Graduate Medical Education),
• Investments in primary care, including Community Health Centers, National Health Service Corps, Nurse Corps, and Teaching Health Center Graduate Medical Education,
• Health equity (maternal, behavioral, and racial equity health investments),
• Pandemic preparedness,
• Agricultural climate research and research infrastructure,
• Tuition-free community college,
• Education investments in HBCUs and MSIs,
• Student success grants and teacher prep investments, and
• Workforce development and job training.

The next month – and possibly through the end of the year – will be an intense work period for House and Senate Democratic authorizers as they craft legislation that meets the reconciliation instructions. This includes translating priorities articulated in the American Jobs Plan and American Families Plan into legislative text, but also resolving differences between congressional committees over the amount of funding for individual agencies. As an example, congressional committees, such as House Science, Senate Commerce, and Senate Energy and Natural Resources, will have to come to an agreement on funding distribution for agencies such as NSF, DOE, NIST, and NASA within a $45 billion allocation for research and development and research infrastructure in the physical sciences. This allocation is significantly less than amounts proposed in the American Jobs Plan, the Senate-passed United States Innovation and Competition Act, and the House-passed NSF for the Future Act and DOE for the Future Act.

Lewis-Burke is actively gathering information from congressional staff as the process continues to unfold. Details on the budget resolution are available here:

- Bill text
- Summary
- Memo

Appropiations Update: Senate Appropriations Committee Unveils FY 2022 Agriculture Bill

On August 4, the Senate Appropriations Committee unveiled its fiscal year (FY) 2022 Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations bill and the accompanying report. The bill would provide a total of $25.855 billion in discretionary funding for the U.S. Department of Agriculture (USDA) and the Food and Drug Administration (FDA). The House passed its version on July 29, timing for full consideration by the Senate is uncertain.

USDA’s intramural research arm, the Agricultural Research Service (ARS) would receive $1.675 billion for its Salaries and Expenses account, approximately $184 million above the FY 2021 enacted level. Within the report, the committee explicitly notes that it “expects extramural research to be funded at no less than the
fiscal year 2021 levels.” Contained in the report are over one hundred activities singled out within ARS, ranging from alfalfa research to chronic wasting disease to human nutrition throughout the lifespan to precision agriculture to hemp research. Some of these priorities are included to remind ARS of the committee’s ongoing interest in an area, others would receive new or additional funding.

While the Senate report mentions climate change, it would allocate significantly less funding for climate change activities than the House report. The Senate committee would provide $5 million “to establish ARS research teams to support regional Climate Hubs” and $2.5 million to “develop methods to reduce and mitigate the impacts of climate change on pests and pathogen infestations of livestock, poultry, and aquaculture.” Additionally, the committee would provide another $5 million in funding for a fellowship program that supports climate hubs. Within the Natural Resources Conservation Service (NRCS), the committee would provide $15 million for the establishment of a new Working Land Resilience grant program in collaboration with the National Fish and Wildlife Foundation (NFWF) to help implement climate-smart soil health promotion, wetland and drainage practices, and other environmental management strategies.

Of note, the committee would provide $15 million to support Big Data, which would support the expansion of ARS’ “high-speed network, high-performance computing capabilities, big data storage, and modern informatics expertise to meet both current and future needs.” Lastly, the committee notes the important collaborations between ARS and universities and “directs ARS to submit a report...on the current utilization of ARS facilities by universities and cooperators, as well as the extent to which ARS is housed in cooperator facilities.”

Within the National Institute of Food and Agriculture (NIFA), many of its signature research and extension programs would see modest funding increases. Specifically, the Agriculture and Food Research Initiative (AFRI) would receive $445 million, an increase of $10 million over the FY 2021 enacted level but much less than the requested $700 million. Hatch, Smith-Lever, McIntire-Stennis, and Education Grants for Hispanic-Serving Institutions would all see increases. Flat funding of $5 million would be provided for Capacity Building for Non-Land Grant Colleges of Agriculture.

Similar to ARS, the report singles out numerous areas of interest within NIFA, including: Genome to Phenome ($2 million, same as House), agroacoustics, diversification in agriculture, food safety and defense technology, aquaculture, oak mites, seafood, sustainable agriculture, veterinary shortages, workforce development, Extension Design Initiative, and minority outreach. Of note, the committee recognizes the “Inadequate Infrastructure at Colleges of Agriculture” and “directs the Administration to demonstrate a commitment to this critical research infrastructure and maintenance backlog to ensure that America remains a global leader in agricultural production, research, and education.”

Beyond ARS and NIFA, the committee would not provide funding for the Agriculture Advanced Research and Development Authority (AGARDA). In addition, $30 million would be provided to support three Institutes for Rural Partnerships at land-grant universities that must meet very specific criteria. The bill would also provide $700 million for the ReConnect Broadband Pilot authorized in the 2018 Farm Bill.

Finally, over $194 million is designated for “Congressionally Directed Spending”, or earmarks, the first time in over a decade earmarks have been included in the congressional appropriations process. Importantly, the House Agriculture Appropriations Subcommittee also supported over $200 million in earmarks and the two chambers will have to negotiate on which earmarks make it into a final package.
## FY 2022 Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations

*(In thousands)*

<table>
<thead>
<tr>
<th></th>
<th>FY 2021 Enacted</th>
<th>FY 2022 House</th>
<th>FY 2022 Senate</th>
<th>Senate vs. FY 2021 Enacted</th>
<th>Senate vs. FY 2022 Request</th>
<th>Senate vs. House</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Research Service, Salaries &amp; Expenses</td>
<td>1,491,784</td>
<td>1,637,046</td>
<td>1,675,040</td>
<td>183,256</td>
<td>-174,550</td>
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<tr>
<td>National Institute of Food and Agriculture</td>
<td>1,570,089</td>
<td>1,654,804</td>
<td>1,656,820</td>
<td>86,731</td>
<td>-299,043</td>
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<td>AFRI</td>
<td>435,000</td>
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<td>445,000</td>
<td>10,000</td>
<td>-255,000</td>
<td>-5,000</td>
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<td>Hatch Act</td>
<td>259,000</td>
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<td>275,000</td>
<td>16,000</td>
<td>-54,000</td>
<td>10,000</td>
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<td>Smith-Lever Act 3(b) and 3(c)</td>
<td>315,000</td>
<td>320,000</td>
<td>330,000</td>
<td>15,000</td>
<td>15,000</td>
<td>10,000</td>
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<tr>
<td>McIntire-Stennis Act</td>
<td>36,000</td>
<td>38,000</td>
<td>40,000</td>
<td>4,000</td>
<td>-5,783</td>
<td>2,000</td>
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<tr>
<td>Education Grants for Hispanic-Serving Institutions</td>
<td>12,500</td>
<td>20,000</td>
<td>14,000</td>
<td>1,500</td>
<td>1,500</td>
<td>-6,000</td>
</tr>
<tr>
<td>Food Safety and Inspection Service (FSIS)</td>
<td>1,075,703</td>
<td>1,153,064</td>
<td>1,153,064</td>
<td>77,361</td>
<td>-12,525</td>
<td>0</td>
</tr>
<tr>
<td>Animal and Plant Health Inspection Service (APHIS), Salaries &amp; Expenses</td>
<td>1,064,179</td>
<td>1,121,427</td>
<td>1,122,116</td>
<td>57,937</td>
<td>19,894</td>
<td>689 (0.0001%)</td>
</tr>
<tr>
<td>Community Project Funding (House)/Congressionally Directed Spending (Senate)</td>
<td>NA</td>
<td>202,259</td>
<td>194,460</td>
<td>NA</td>
<td>NA</td>
<td>7,799 (3.9%)</td>
</tr>
</tbody>
</table>

Funding Opportunities and Agency Updates

Funding Opportunity: NCATS Announces Structural Change to CTSA Program and Releases New CTSA Hub Solicitation

In response to stakeholder feedback on the National Center for Advancing Translational Sciences (NCATS) Clinical Translational Science Awards (CTSA) Program, the National Institutes of Health (NIH) has issued the first of an updated suite of funding opportunity announcements for these awards. The NCATS CTSA program is a collaborative research program designed to turn impactful and innovative observations in the laboratory, clinic, and community into interventions that can improve the health of the public. The NCATS CTSA Hub award, originally funded through the U54 mechanism as a single award, will now be divided into five separate funding opportunities, with the CTSA hub supported through the UM1 mechanism. The solicitation for the CTSA Hub award is now published (PAR-21-293) and NIH anticipates releasing related opportunities for other components of the program in the fall of 2021.

Changes to the CTSA program were all based on solicited feedback from a wide variety of stakeholders including but not limited to CTSA application peer reviewers, comments from a 2019 Request for Information (NOT-TR-19-027), and NCATS staff and leadership. In a Notice of Intent to Publish (NOT-TR-21-030) previewing these changes to the CTSA program, NIH emphasized that their intent in soliciting and implementing this feedback was to ensure the long-term stability and sustainability of the program and to reduce administrative burden on applicants.

In addition to the change in the funding mechanism, NIH announced several other changes to the CTSA program that will impact the project period, award calculations, and the career development and training portions of the award. Those changes include but are not limited to:

- **Project Period:** The shift of the CTSA Hub to a UM1 mechanism instead of the U54 mechanism will expand the project period from 5 to 7 years. The remaining funding opportunities for the additional components of the CTSA program will remain on a five-year project period.

- **Award Calculations:** The CTSA Hub (UM1) award calculation has been modified to be based on the five-year average of the **direct costs** in NIH funding of the **applicant institution** and the five-year average of **total costs** in NIH funding for any **clinical research partners**. The previous CTSA award budget was based on the total **direct costs** in NIH funding from the **applicant institution** and **ALL partner institutions**. NIH has stated that this change is not meant to decrease funding but to improve program sustainability and increase clinical capabilities. Significant changes in funding will be based on the partner institutions involved in the CTSA Hub award.

- **Career Development and Training:** The required career development component (KL2) will transition to a Clinical Scientist Institutional Career Development Program Award (K12). The optional training component (TL1) will now be issued as three separate optional funding opportunities that are listed below.
  - Ruth L. Kirschstein National Research Award (NRSA) Predoctoral Research Training Grants (T32)
  - Ruth L. Kirschstein National Research Award (NRSA) Postdoctoral Research Training Grants (T32)
  - Research Education Grant (R25)
Details on the changes listed above and additional changes can be found in the Notice of Intent to Publish (NOT-TR-21-030) and Funding Opportunity Announcement (PAR-21-293). NIH is also hosting a technical assistance webinar on Tuesday, September 28 at 1 pm ET for interested applicants; more information and registration instructions are available here.

CTSA Hub Funding Opportunity Information:

The first application due date for the CTSA Hub Funding Opportunity is January 26, 2022 with a letter of intent due 30 days prior to the application due date. The earliest start date is December 2022.

Award Information: The maximum project period is 7 years. Applicants can request funding based on the amount of NIH funding they receive using the formula provided in Section IV of the funding opportunity.

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 CTSA Hub.

Sources and Additional Information:

- The funding opportunity for the CTSA Hubs can be found at https://grants.nih.gov/grants/guide/pa-files/PAR-21-293.html.
- The Notice of Intent to Publish a suite of updated funding opportunities for the NCATS CTSA Awards can be found at https://grants.nih.gov/grants/guide/notice-files/NOT-TR-21-030.html.
- Information about the upcoming technical assistance webinar for the CTSA hubs can be found at https://grants.nih.gov/grants/guide/notice-files/NOT-TR-21-031.html.

Agency Update: DOE Leadership and New Funding Opportunities

The Senate has made some progress in advancing key Department of Energy (DOE) officials. At the end of July, Jill Hruby and Frank Rose were confirmed as the Administrator for the National Nuclear Security Administration/Under Secretary for Nuclear Security and Principal Deputy Administrator, respectively, filling key positions for DOE’s national security missions. On August 3, the Senate Energy and Natural Resources Committee held nominations hearings for Dr. Geraldine Richmond for Under Secretary for Science and Energy and Dr. Asmeret Berhe for Office of Science Director. The Biden Administration has not yet made any nominations for the applied energy offices or ARPA-E.

The Department of Energy (DOE) is also finalizing and about to release the last of its fiscal year (FY) 2021 funding opportunities and starting to turn to FY 2022, with the first FY 2022 funding call for High Energy Physics research. While many of the FY 2022 funding calls will be contingent on final congressional appropriations, DOE is already starting to collect information from stakeholders to help shape future opportunities. Below are highlights of major planned funding opportunities.

Open Funding Opportunities

- $100 million for University-Based High Energy Physics Research (HEP): Letters of Intent due August 31
  - This annual funding call supports new and renewal grant applications for the Office of Science high energy physics program.
  - Topic areas of interest:
    - Experimental research at the Energy Frontier
Experimental research at the Intensity Frontier
Experimental Research at the Cosmic Frontier
Theoretical research in HEP
Accelerator science and technology research and development for HEP
Detector research and development in HEP

- In FY 2021, DOE made 70 awards.

- $42 million for Advanced Manufacturing: Concept papers due September 10
  - This annual funding call supports manufacturing innovations for clean energy technologies to drive economy-wide reductions in carbon emissions.
  - The focus this year is on:
    - next-generation manufacturing processes that improve energy efficiency and reduce the carbon footprint of energy-intensive industries;
    - development of novel materials that improve the energy efficiency of manufacturing processes and resulting products; and
    - improving the systems and processes for how energy is stored, converted, and used, including manufacturing of lithium-ion batteries to support electric vehicles.
  - Specific topic areas include:
    - efficiency improvement for drying processes, advanced tooling for lightweight automotive components, sustainable chemistry practices in manufacturing, materials for harsh service conditions, development of aluminum-cerium alloys and processing to enable increased energy efficiency in aerospace applications, and structured electrode manufacturing for lithium-ion batteries.
    - DOE anticipates making up to 30 awards ranging from $500,000 to $4 million. A 20 percent cost share is required.
    - In FY 2020, 40 percent of awards went to research universities.

- 2022 Geothermal Collegiate Competition: Submissions due November 4
  - A national competition that encourages students to develop innovative solutions for geothermal energy applications for a community or campus application.
  - The focus this year is the use of geothermal to heat and cool buildings, campuses, and districts in an area that would benefit disadvantaged communities and underrepresented groups.

Planned Funding Opportunities

- August 2021: $15 million for Advanced Building Construction
  - This would fund research that could accelerate the renovation and construction of affordable, appealing, and energy-efficient buildings.
  - The objectives for the FY 2021 funding call are to benefit underserved communities by advancing energy-efficient buildings with low-carbon footprints and lower energy bills; faster renovation and construction with less disruption to building occupants; increased affordability for developers and consumers; and improved indoor air quality and comfort while reducing maintenance.
  - The three topic areas in the funding call will include:
    - Quick and inexpensive process to zone central air systems in existing homes, focusing on solutions that maximize zoning and minimize distribution losses for central systems in single family and multifamily homes with forced air systems.
    - Quick and inexpensive hidden-issue detection methods for retrofits, to develop tools and/or a process to both detect the presence of substantial moisture, mold or mildew...
without removing a substantial amount of the existing cladding and identify a way to mitigate any problems that were found.

- Quick, low cost and reliable connections for new construction and retrofits, focusing on finding low-cost solutions that speed up the connection process of modules, panels and equipment on site.
  - DOE plans to fund up to 15 awards up to $2 million each over two years. In FY 2020, of 40 DOE project awards, eight, or 20 percent, went to research universities. Additional information on topic areas can be found here.

- September 2021: $20 million for Natural Gas Demand Response Pilots
  - DOE plans to fund several regional natural gas demand response pilot programs in collaboration with utilities, local distribution companies, and public utility commissions.
  - This includes exploring incentive structures such as changes in the per-unit price paid for consumption during peak periods compared to off-peak periods, incentive payouts, and greater social acceptance.

- September 2021: $8.5 million for Technology Innovation to Increase Hydropower Flexibility
  - This will fund next-generation technologies that can improve the flexible capabilities of the U.S. hydropower fleet.
  - Areas of interest include:
    - Technologies that can expand the operational flexibility of the hydropower unit to provide grid services, such as expanded operating range, faster ramping and start-stops, and improved frequency and voltage control.
    - Capabilities to reduce the negative impacts, such as accelerated machine wear-and-tear, associated with operating the unit more flexibly.
    - DOE would like to support technology innovations that can advance to the prototype testing or demonstration stage, preferably including partnership with a hydropower owner or operator.
    - The funding call will also encourage the participation of underserved communities and underrepresented groups on project teams.

- November 2021: $100 million for Energy Frontier Research Centers
  - DOE plans to fund 30 to 40 new or renewed centers ranging from $2 million to $4 million per year over four years.
  - Topic areas are likely to include transformative manufacturing, clean energy technologies (direct air capture, hydrogen, solar, and energy storage), microelectronics, chemical upcycling of polymers, and cryogenic electron microscopy.

- November 2021: $15 million for Atmospheric System Research and $8 million for Environmental System Science
  - The focus is on climate programs supported by the DOE Office of Science Biological and Environmental Research program.

- Fall/Winter 2021: ARPA-E Energy Technology Programs
  - Highest priority programs in the $30 million to $40 million range include:
    - materials for carbon-neutral or carbon-negative buildings,
    - technologies to dramatically reduce high-level nuclear waste,
    - advanced battery electrodes and conductors for high capacity and rapid charge,
    - grid resilience, reliability, and flexibility, and
    - advanced fusion approaches for energy applications.

- Spring 2021: Clean Energy Manufacturing Institute (CEMI) for Industrial Decarbonization
In its FY 2022 President’s budget request, DOE proposed launching at least one new CEMI focused on industrial decarbonization. These are typically $140 million Institutes ($14 million a year in DOE funding and $14 million a year in cost share over 5 years). Congress appropriated $14 million in FY 2021 to launch a new CEMI Institute and the FY 2022 budget request includes $14 million for a second year of funding. Congress has not yet completed FY 2022 appropriations. This would be DOE’s seventh CEMI.

In preparation for this funding opportunity announcement and to seek feedback from stakeholders, DOE released a Request for Information with responses due on September 7 on two specific areas of interest:

- Electrification of industrial processes, including technologies for electrification of manufacturing process, materials for more effective and efficient electrification, scale-up and design for integration into manufacturing processes, and life cycle assessment tools and methodologies, and
- Decarbonization of metals manufacturing, including technical solutions in metallic manufacturing, improved alloy material performance, and accelerating the adoption of existing technologies.

The CEMI would be funded through DOE’s Energy Efficiency and Renewable Energy Advanced Manufacturing Office.

Engagement Opportunity: NSF CISE Issues RFI on Semiconductor Research and Education

The National Science Foundation (NSF) Directorate for Computer and Information Science and Engineering (CISE) has issued a Request for Information (RFI) Dear Colleague Letter (DCL) to seek input on CISE-related research and education in semiconductor and micro- and nano-electronics. The RFI states that while CISE-supported research may not directly involve research on semiconductors, much of the CISE portfolio depends on advances in semiconductor technologies. This RFI will inform CISE planning for future potential solicitations in this field.

The RFI specifically states that, “the entire computing stack, from circuit design to architectures and on to software and applications such as sensor networks including the Internet of Things (IoT), embedded computing, next-generation wireless systems, large-scale data analytics, artificial intelligence (AI), edge and cloud computing, and high-performance computing, heavily depends on advances in this space.” In December 2020 CISE funded a workshop focusing on the lowest levels of the computing stack, which looked at semiconductor and microelectronics research along with the needs for access to semiconductor foundries. Building on the report of that workshop and the diverse interests of the CISE directorate and community, the RFI seeks to:

- “Gauge the extent to which the community’s research and educational agenda would be enabled by the availability of new or different resources, or the re-introduction of resources that were available in the past. By this, NSF/CISE asks that respondents not restrict their answers to issues related to funding, but rather also consider issues related to infrastructure, facilities, access to tools/intellectual property/data, legal issues, etc., that support their research and educational agenda in the broader area of semiconductors; and
- understand what specific activities the research community would pursue and how that activity would impact societal and national interests, if the impediments mentioned in the first category above are removed. NSF/CISE asks respondents to be specific in making projections about new technologies.
potentially enabled by advances in semiconductor and microelectronics technologies within the 5-, 10-, or 15-year horizons, or longer. Also, if a respondent's research directly involves use of hardware fabrication, NSF is interested in learning specifics, as outlined in the questions below.”

NSF invites both individuals and groups of individuals to provide input. NSF welcomes responses to a range of specific questions as well as additional input. Responses must be received on or before 5:00 PM Eastern time on September 30, 2021.

Sources and Additional Information:
- The official submission form is available at https://www.surveymonkey.com/r/CISERFlOnSemiconductorResearchandEducation.
- The December 2020 workshop report is available at https://nsfedaworkshop.nd.edu/assets/429148/nsf20_foundry_meeting_report.pdf.

Policy Update: ED Solicits Nominations for Affordability and Student Loans Negotiated Rulemaking Committee

On August 10, the U.S. Department of Education (ED) announced its intention to establish a negotiated rulemaking committee to prepare proposed regulations for student aid programs under Title IV of the Higher Education Act (HEA). ED is requesting nominations for individual negotiators to serve on the Affordability and Student Loans Committee who represent stakeholder constituencies. ED also announced the creation of a Prison Education Program Subcommittee and requested nominations for individuals with relevant expertise to participate on the subcommittee.

ED’s request for negotiator nominations follows its May 21 announcement of its intention to begin rulemaking, its request for written comments on topics for consideration by the negotiated rulemaking committee, and three public hearings where comments were also solicited. (The Department notes that topics not included from the May 21 announcement may be considered by a separate rulemaking committee formed at a later date). ED intends to select negotiators for the committee who represent the interests significantly affected by the topics proposed for negotiations and reflect the diversity of higher education institutions.

The Affordability and Student Loans Committee will address the following topics:
- Borrower defense to repayment;
- Closed school discharges;
- Discharges for borrowers with total and permanent disabilities;
- Discharges for false certification of student eligibility;
- Loan repayment plans;
- Interest capitalization on Federal student loans;
- Mandatory pre-dispute arbitration and prohibition of class action lawsuits provisions in institutions' enrollment agreements and associated counseling about such arrangements.
- Pell Grant eligibility for prison education programs; and
- The Public Service Loan Forgiveness (PSLF) program.
Prison Education Program Subcommittee

The Prison Education Program Subcommittee will consider proposed regulations to implement Pell Grant eligibility for incarcerated individuals. The subcommittee will make recommendations to the Affordability and Student Loans Committee. Subcommittees are not authorized to make decisions for the Affordability and Student Loans Committee.

ED plans to seat as negotiators individuals for organizations or groups representing various constituencies including students, student loan borrowers, financial aid administrators at postsecondary institutions, State regulators of institutions of higher education and/or loan servicers, Federal Family Education Loan (FFEL) lenders, higher education institutions, and other constituencies. ED is interested in nominations for the Prison Education Program Subcommittee from consumer advocacy organizations, financial aid administrators, formerly incarcerated students, and postsecondary institutions that are prison education program providers, among others.

ED is also seeking two advisors, one to represent qualifying employers for the PSLF program and an advisor with expertise in economic and/or higher education policy analysis and higher education data.

Nominations for negotiators to serve on the committee and subcommittees are due on or before August 31, 2021. The Affordability and Student Loans Committee will meet for three sessions:

- Session 1: October 4-8, 2021
- Session 2: November 1-5, 2021
- Session 3: December 6-10, 2021

The Prison Education Program Subcommittee will meet for two sessions in October and November with the dates and times for these two meetings to be posted as soon as possible at https://www2.ed.gov/policy/highered/reg/hearulemaking/2021/index.html

Sources and Additional information:
- The full solicitation, with requested nomination details and meeting session information, can be found at https://www.federalregister.gov/documents/2021/08/10/2021-16953/negotiated-rulemaking-committee-negotiator-nominations-and-schedule-of-committee-meetings.

Agency Update: DOE Workshops and Engagement Opportunities

The Department of Energy (DOE) is seeking feedback from stakeholders to help shape fiscal year (FY) 2022 research priorities and funding opportunities in microelectronics, education and workforce development for advanced manufacturing, decarbonization of iron and steel production, and the Hydrogen Earthshot.

Engagement Opportunities
- Semiconductor R&D Workshop for Analog and Neuromorphic Computing: August 11-13, 2021
  o DOE is seeking advice from researchers on opportunities and barriers to develop and manufacture analog hardware for communications, analog hardware for sensing applications, and neuromorphic computing.
- The current agenda is available [here](#).

- **Education and Workforce Development Workshop for Advanced Manufacturing:** August 18, 2021
  - DOE is seeking input on education and workforce development gaps and needs in the manufacturing sector for clean energy and energy efficiency, including addressing pipeline issues, new education and workforce development programs with significant impact, and advancing diversity, equity, and inclusion.

- **Hydrogen Shot Summit:** August 31-September 1, 2021
  - DOE is seeking additional feedback from the research community on future research, development, and demonstration projects needed to achieve the new Hydrogen Shot “1 1 1” goal of $1 per 1 kilogram of clean hydrogen in one decade.
  - DOE plans to provide initial results from the recent [Request for Information](#) and focus on clean hydrogen production pathways, including electrolysis and thermal conversion with carbon capture and storage, as well as deployment and financing opportunities.
  - In FY 2022, DOE plans to nearly double funding for hydrogen research, development, and demonstration activities from $285 million to $401 million; in particular to support innovations and develop widely available, net-zero emission, cost-competitive technologies for the production, storage, and delivery of hydrogen, and for its end use as a chemical feedstock or fuel.
  - The Senate-passed, bipartisan Infrastructure Investment and Jobs Act also includes $10 billion for new research, development, and deployment activities for clean hydrogen production, transport, storage, and utilization, including $8 billion for four regional hydrogen hubs.

- **ARPA-E Zero-Emission Iron and Steelmaking Workshop:** August 31-September 1, 2021
  - The purpose of the workshop is to solicit stakeholder feedback and ideas for a new program focused on technologies that can eliminate greenhouse gas emissions from the production of iron and steel.
  - To request an invitation, send an email describing your interests and your academic CV to Toni Marechaux at [toni.marechaux@hq.doe.gov](mailto:toni.marechaux@hq.doe.gov) the week of August 9.