



November 13, 2024

The Honorable Patty Murray
Chairwoman
Subcommittee on Energy and Water
Development
Committee on Appropriations
United States Senate
331 Hart Senate Office Building
Washington, DC 20510

The Honorable John Kennedy
Ranking Member
Subcommittee on Energy and Water
Development
Committee on Appropriations
United States Senate
416 Russell Senate Office Building
Washington, DC 20510

The Honorable Chuck Fleischmann
Subcommittee on Energy and Water
Development
Committee on Appropriations
2362-B Rayburn House Office Building
Washington, D.C. 20515

The Honorable Marcy Kaptur
Subcommittee on Energy and Water
Development
Committee on Appropriations
1016 Longworth House Office Building
Washington, D.C. 20515

Dear Chairman Murray, Chairman Fleischmann, Ranking Member Kennedy, and Ranking Member Kaptur,

On behalf of the Society for Industrial and Applied Mathematics (SIAM), **we urge you to provide robust funding for the Department of Energy (DOE) Advanced Scientific Computing Research program, including for Mathematical, Computational, and Computer Sciences Research**, in the final Fiscal Year (FY) 2025 Energy and Water Appropriations bill. SIAM appreciates the strong support Congress has shown ASCR over the last few years, however, we must sustain funding levels or we risk derailing our nation's advancement. Bold new investments in fundamental research are needed to drive forward innovation in new technology areas such as high-performance computing, artificial intelligence, and quantum information science, maintain U.S. competitiveness, and create American jobs of the future.

SIAM is a 14,000-member organization representing applied mathematicians and computational scientists and engineers in all sectors. As everyday practitioners, we see first-hand how applied mathematics and computational science are essential parts of DOE's scientific enterprise. The near term is also unusually ripe with opportunities, including through the deployment of the Exascale Computing Systems and advancements in new transformative computing technologies, such as artificial intelligence and quantum information science. ASCR is uniquely positioned to support the broad array of research and initiatives needed to enable advancements across the Office of Science programs and all of DOE.

Sustained funding is critical to ensuring ASCR can reach its full potential and impact. SIAM appreciated the support shown for ASCR in the House and Senate marks and urges Congress to provide \$1.152 billion to ASCR in FY 2025, equal to the Senate Mark and the requested level. Specifically, **we urge you to provide not less than the FY 2023 omnibus level of \$339 million for the ASCR Mathematical, Computational, and Computer Sciences Research** program. Core research activities within ASCR enable the development of critical tools for computational science, artificial intelligence, modeling, and



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data analysis that enhance advanced computing capabilities and seed new areas of research with potential for revolutionary advancements. In addition, the *Inflation Reduction Act* provided over \$160 million to ASCR's infrastructure at National Labs, but no additional funding for core research activities. The proposed cuts to ASCR's research account would gravely impact our global leadership across science and engineering.

Researchers trained in computational science and working in universities, national laboratories, and industry are essential to propel advances in many of DOE's critical research areas. We ask you fund the **Computational Science Graduate Fellowship at the FY 2024 level of \$20 million**, to ensure an adequate supply of scientists and engineers with strong computational research experience and close ties to DOE to meet future national workforce needs.

Activities within the Advanced Scientific Computing Research program play a key role in supporting research that enables the mathematical and computational tools noted above. **We ask that you fund DOE's Office of Science with least at \$8.6 billion**, equal to the Senate mark.

The nation faces critical challenges in energy, including in energy efficiency, renewable energy, improved use of fossil fuels and nuclear energy, future energy sources, and reduced environmental impacts of energy production and use. As DOE and the research community design a long-term strategy to tackle these issues, the tools of mathematics and computational science (theory, modeling, and simulation) have emerged as a central element in designing new materials, understanding complex interdependent systems like the power grid, predicting the impact of new systems and technologies, and better managing existing resources.

To ensure these systems are used to the maximum benefit, it is vital that DOE has a clear strategy on future roles ASCR will play, how to maximize its impact, and how to use ASCR's capabilities to support cross-cutting DOE initiatives such as the Energy Earthshots. While the Exascale computers are currently the most powerful in the world—a profound accomplishment many years in the making—it is ASCR's mission to continue to drive U.S. technological leadership and the future of supercomputing. As such, ASCR must always be looking towards what comes next. To accomplish this effectively, SIAM strongly supports the language in the Senate report directing the agency to build a new multiyear program to develop post-exascale advanced computing technologies vital for continued U.S. world leadership in scientific discovery, national security, and economic well-being.

SIAM deeply appreciates your continued leadership on and recognition of the critical role of the DOE SC and its support for mathematics, science, and engineering in enabling a strong U.S. economy, workforce, and society. Again, we urge you to support the Senate Committee-approved funding levels for the DOE SC and ASCR as you work to finalize FY 2025 appropriations bills.

Thank you for your consideration of this request.



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Sincerely,

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Vice President for Science Policy, Society for Industrial and Applied Mathematics

Dr. Suzanne Weekes
Executive Director, Society for Industrial and Applied Mathematics