



U.S. HOUSE OF REPRESENTATIVES COMMITTEE ON  
**SCIENCE, SPACE, & TECHNOLOGY**

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## Opening Statement

**Chairman Jamaal Bowman (D-NY)**  
**of the Subcommittee on Energy**

Subcommittee on Energy Hearing:  
*Accelerating Discovery: The Future of Scientific Computing at the Department of Energy*

May 19, 2021

Good morning, and thank you to all of our witnesses who are joining us virtually today to discuss the importance of scientific computing at the Department of Energy.

This hearing is one of a series on research and development activities sponsored by the DOE's Office of Science. Today, we will be examining the current status and needs of DOE's scientific computing programs as well as the research, development, and workforce training required to ensure that DOE, and the nation, maintains its leadership in this crucial area.

Stewardship of DOE's scientific computing ecosystem is led by the Office of Science's Advanced Scientific Computing Research program, or ASCR. ASCR is also DOE's main sponsor of research in foundational areas such as applied mathematics and computer science. This year, ASCR was funded at just over a billion dollars, about one-seventh of the total Office of Science budget.

DOE possesses some of the most powerful supercomputers in existence. It will deploy the nation's first exascale system this year, signaling an exciting new era in the field of scientific computing. Housed at several national laboratories, DOE's supercomputers help researchers analyze huge data sets and test complex computational models, greatly accelerating the pace of discovery in the design of life-saving medical treatments, advanced manufacturing, and the prediction of climate systems, among many other fields of research. DOE's supercomputing ecosystem serves as a critical resource for academic and industry users from the U.S. and around the world. I am looking forward to discussing with our witnesses the real-world applications of these incredible systems, and how Congress can ensure that they are continuously maintained and improved.

It is also critically important for DOE to support research that will lay the groundwork for future computing capabilities. We are fast approaching the point at which the computing architectures we have relied upon for decades will reach their physical and economic limitations. Therefore, ASCR must continue to invest in the applied mathematics, computer science, and the game-changing technology development activities that will enable powerful new paradigms like

quantum computing. As we craft a forward-looking Office of Science authorization bill, I will be looking to our witnesses for insights into how we in Congress can ensure that these activities are robustly supported.

As we will explore today, scientific computing holds tremendous promise for accelerating scientific discovery. But we need to use these capabilities responsibly, ethically, and to advance the public good. For example, as computing and artificial intelligence become more powerful, we must ensure that algorithms are designed to protect people's privacy and eradicate bias. We must also stop these tools from fortifying the structures of systemic racism, as we have seen happen with things like predictive policing and facial recognition technology. This will only become more important as DOE's supercomputing capabilities are used to process, analyze, and store sensitive information, such as biomedical datasets.

Let's also discuss how to retain a strong role for the public sector here, to fully tap into computing's potential to help solve humanity's most pressing problems – from curing diseases to addressing the climate emergency. And let's involve the public, especially marginalized communities, in shaping the development and aims of new technologies like these – so that all can share in the benefits equally. As you will hear from one of our witnesses today, we need to pursue an agenda of scientific computing *for the people*.

Finally, as I have said before, research and infrastructure funding represent just one piece of the puzzle. We need a skilled and diverse workforce to maintain the vitality of DOE's scientific computing ecosystem long into the future. I am particularly interested in leveraging programs such as the Computational Science Graduate Fellowship to forge closer connections between the Department and Minority-Serving Institutions. We can all agree on the need for greater diversity, equity, and inclusion across our research enterprise.

I want to again thank our excellent panel of witnesses assembled today, and I look forward to hearing your testimony. With that, I yield back.