Statement of Hon. Chris Fall
Director of the Office of Science
U.S. Department of Energy
Before the
House Committee on Appropriations
Subcommittee on Energy & Water Development

Thank you, Chairwoman Kaptur, Ranking Member Simpson, and distinguished members of the Committee.

I am privileged to come before you today to discuss the President's FY 2021 Budget Request for the Office of Science in the Department of Energy.

The FY 2021 Request of $5.84 billion seeks to ensure continued U.S. leadership in basic physical sciences and continued support for the underpinnings of our Nation's technological and economic future.

We are requesting support for a number of high-priority research investments in new and ongoing Administration initiatives, as well as continued support for basic research, for construction and operation of our major scientific user facilities, and for my own priority to renew and modernize the critical infrastructure of the National Laboratories.

Seven research initiatives are new in this request:

An *Integrated Computational and Data Infrastructure for Scientific Discovery* will create an ecosystem across the National Laboratory complex where data can flow seamlessly among facilities and computing resources. This will dramatically shorten the time it takes to do ambitious experiments, analyze the results, make computational predictions, and flow those results back to new experiments.

The multi-program *Next-Generation Biology Initiative* seeks to move from the genomics and biochemistry of biological systems toward the development of bio-inspired, biohybrid, and biomimetic systems. This will bolster biotechnology as an Industry of the Future.

We are requesting support for a *new Rare Earth/Separation Science* initiative to accelerate fundamental work on separation science toward radically improved extraction of rare earths and continue efforts to achieve supply chain independence for these critical materials.

We are requesting support next year for a new program to *Revolutionize Polymer Upcycling* by developing the basic scientific foundation for converting discarded plastics into fuels and other high-value products.

Building on the pilot "Cancer Moonshot" work, we are requesting resources for an accelerated *Data and Computational Collaboration with NIH* to expand the capabilities of DOE's tools and address NIH's rapidly growing data and computational challenges.

One of the DOE Office of Science's major contributions to science, medicine, and industry over the decades has been particle accelerator science and technology.

The goal of the *Strategic Accelerator Technology Initiative* is to accelerate both innovation and technology transfer, and we are closely partnering with the National Nuclear Security Administration programs as well.

And finally, we are also proposing to begin the work of connecting our National Laboratories with an entangled quantum network, and with that backbone, lay the foundation of a commercial national quantum network.

In addition, the Request continues to support ongoing initiatives, including *Artificial Intelligence/Machine Learning, Quantum Information Sciences, the Exascale Computing Initiative, Microelectronics Innovation, Biosecurity, the DOE Isotope Initiative, and U.S. Fusion Program Acceleration.*

As we look across these new and existing Administration initiatives, I would like to call your attention to the effort we have made to better coordinate with other programs in the larger Department of Energy.

The Secretary stood up the Research Technology Investment Committee, or RTIC, to coordinate technology work across the whole department. The Office of Science is now participating in grand challenge efforts such as grid scale storage and battery recycling that are the direct result of those efforts to work as one team on key priorities.

In closing I just want to say how proud I am to represent the Office of Science before you today. The career team at Headquarters, the phenomenal scientific and engineering talent at our laboratories, and the incredible, world-unique machines we have built for discovery represent the most capable science and technology enterprise in the world.

This budget proposal will allow the Department of Energy to continue to leverage our technology super powers – science at scale, the convergence of the disciplines, and those remarkable user facilities we support – to solve the great scientific questions of our time, to effectively address the great human challenges of our time, and to provide for economic opportunity and better lives for our citizens.

It's a great time to be a scientist at the Department of Energy.