

MIKE LEE, Utah, Chairman
JOHN BARRASSO, Wyoming
JAMES E. RISCH, Idaho
STEVE DAINES, Montana
TOM COTTON, Arkansas
DAVID MCCORMICK, Pennsylvania
JAMES C. JUSTICE, West Virginia
BILL CASSIDY, Louisiana
CINDY HYDE-SMITH, Mississippi
LISA MURKOWSKI, Alaska
JOHN HOEVEN, North Dakota

United States Senate

COMMITTEE ON ENERGY AND NATURAL RESOURCES

WASHINGTON, DC 20510-6150

WWW.ENERGY.SENATE.GOV

MARTIN HEINRICH, New Mexico
RON WYDEN, Oregon
MARIA CANTWELL, Washington
MAZIE HIRONO, Hawaii
ANGUS S. KING, JR., Maine
CATHERINE CORTEZ MASTO, Nevada
JOHN W. HICKENLOOPER, Colorado
ALEX PADILLA, California
RUBEN GALLEGO, Arizona

WENDY BAIG, MAJORITY STAFF DIRECTOR
PATRICK J. MCCORMICK III, MAJORITY CHIEF COUNSEL

March 25, 2025

JASMINE HUNT, MINORITY STAFF DIRECTOR
SAM E. FOWLER, MINORITY CHIEF COUNSEL

Dr. Paul Kearns
Director
Argonne National Laboratory
9700 S. Cass Avenue
Argonne, IL 60439

Dear Dr. Kearns,

I write to express serious concerns regarding a recent report detailing how researchers at Argonne National Laboratory (ANL) have engaged in research collaborations leveraging PRC-based supercomputing resources.¹ These activities are particularly concerning in light of the 2015 U.S. sanctions on China's National Supercomputing Centers (NSCCs) and their inclusion on the Department of Commerce's Entity List due to their affiliations with Chinese military and strategic weapons programs.²

The report's analysis of DOE-funded research from 2016 to 2024 highlights multiple instances in which ANL researchers conducted studies utilizing PRC supercomputing resources, including those at the NSCCs in Guangzhou and Tianjin. These collaborations extend into sensitive research areas with national security implications. Below is a notable example from the report that raises concerns:

- **"Kohn Anomaly and Elastic Softening in Body-Centered Cubic Molybdenum at High Pressure" (2022)** – In this study, Argonne researchers partnered with the Center for High Pressure Science and Technology Advanced Research (HPSTAR) and the Institute of Atomic and Molecular Physics at Sichuan University, both on the U.S. Entity List. The study, implementing high-pressure simulations, used the National Supercomputer Center in Guangzhou, which is also on the Entity List. By working with these Entity Listed organizations and using a sanctioned HPC resource, the project raises concerns about whether crucial materials research for aerospace and defense could inadvertently support restricted PRC entities.³

This study, as well as other ANL-affiliated studies listed in the report, indicates a pattern of collaboration that raises serious national security concerns, particularly with regard to China's military-civil fusion policy, which funnels civilian research to the Chinese military to support and enhance its capabilities. In her written testimony to the Senate Committee on Energy and Natural Resources on February 20th, Anna Puglisi, a prominent research security analyst, noted

¹ Eads, LJ. *The Supercomputer Entanglement: Ongoing Use of PRC-Sanctioned Supercomputers by the Department of Defense and U.S. National Laboratories*. March 2025.

² Bureau of Industry and Security, U.S. Department of Commerce. "Addition of Certain Persons to the Entity List; and Removal of Person from the Entity List Based on a Removal Request." *Federal Register*, vol. 80, no. 32, 18 Feb. 2015, pp. 8502-8509.

³ Eads, *The Supercomputer Entanglement*, 9.

China's military-civil fusion policy has "deep implications for the DOE complex."⁴ She stated, "China takes a holistic approach to [science and technology] development, blurring what is civilian, what is military, what is private and what is public... To the Chinese leadership, every civilian use is also a potential military use."⁵ Therefore, the involvement of ANL researchers in utilizing PRC-based supercomputing resources for studies with clear defense applications necessitates increased scrutiny.

Additionally, the use of PRC supercomputers introduces cybersecurity risks, including potential interception or exfiltration of sensitive U.S. research data by Chinese state-backed actors. The report specifically highlights concerns over researchers' use of virtual private networks (VPNs) and Secure Shell (SSH) access to connect to PRC supercomputers. Such connections may expose sensitive U.S. research data to surveillance or cyber espionage, potentially allowing unauthorized access or malware insertion into ANL's and broader U.S. research networks.⁶

To better understand ANL's oversight and compliance regarding this issue, I request that you provide answers to the following questions no later than April 8, 2025:

1. Does ANL currently require researchers to disclose their use of foreign supercomputing resources, particularly those tied to PRC-based institutions on the U.S. Entity List?
2. Has ANL conducted any internal reviews to assess whether federally funded research has violated U.S. export control laws or sanctions? If so, what were the findings?
3. What steps has ANL taken to prevent its researchers from engaging in collaborations with PRC-based supercomputing centers, or to prevent inadvertently contributing to China's military advancements?
4. Will ANL commit to implementing mandatory disclosure requirements for all research utilizing foreign supercomputing resources?

Given the serious national security implications of these activities, I urge ANL to take immediate steps to implement enforcement mechanisms, conduct internal audits, and establish clear reporting requirements for any use of foreign computational resources in taxpayer-funded research. I appreciate your prompt attention to this matter and look forward to your response.

Sincerely,



Mike Lee
Chairman

⁴ Puglisi, Anna B. *Testimony Before the Senate Committee on Energy and Natural Resources on "Examining Research Security Risks Posed by Foreign Nationals from Countries of Risk Working at the DOE's National Laboratories and Necessary Mitigation Steps."* U.S. Senate, 20 Feb. 2025, www.energy.senate.gov/services/files/4FB0285A-55E1-4C2B-88E2-CC475C69FAD5.

⁵ Id.

⁶ Eads, *The Supercomputer Entanglement*, 10.