OPENING STATEMENT

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of the Subcommittee on Research and Technology

House Committee on Science, Space, and Technology
Subcommittee on Energy
Subcommittee on Research and Technology
"*Materials Science: Building the Future*"
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Thank you Chairman Weber and Chairwoman Comstock for holding this hearing on federal investments in materials science research and the economic importance of these programs.

Materials science and engineering R&D is carried out across several federal agencies. This research, as we will hear more about this morning, has applications across many sectors, including energy, defense, transportation, and even human welfare – for example, better helmets to prevent traumatic brain injury.

Unfortunately, as the Office of Science and Technology Policy detailed in a 2011 white paper, the time it takes to move a newly discovered advanced material from the lab to the marketplace remains much too long. That white paper was the genesis of the multi-agency Materials Genome Initiative, or MGI. The MGI is a public-private R&D partnership that seeks to accelerate the lab to market timeline through advances in computational techniques, more effective use of standards, and enhanced data management.

The Research and Technology Subcommittee, on which I serve as Ranking Member, focuses on NSF and NIST, so I want to spend a moment talking about the important materials research programs at those agencies. NSF participates in the MGI primarily through the Designing Materials to Revolutionize and Engineer our Future program. This program is building the fundamental knowledge base needed to increase the precision of new materials development, enabling a shift from trial and error to designing and producing materials with specific desired properties. NSF also contributes to MGI through the Cyber-Enabled Materials, Manufacturing, and Smart Systems Initiative. As part of this initiative, NSF launched the Materials Innovation Platforms program to develop transformative techniques and instrumentation that will improve understanding and discovery of new, complex material systems.

NIST scientists conduct research in all aspects of materials science, with the goal of developing better and new measurement and characterization tools and standards for advanced materials. The agency's major efforts on material science research are supported by the Material Measurement Laboratory, the national reference laboratory for measurements in the chemical, biological, and material sciences. In addition to its internal research program, NIST also established the Advanced Materials Center of Excellence at Northwestern University, Argonne National Laboratory, and the University of Chicago, to facilitate collaboration with leading research institutes and industry. The Center supports the goals of the Materials Genome Initiative by developing computational tools and databases to support materials discovery and production. Finally, NIST manages the interagency Manufacturing USA initiative, which

includes several institutes focused on advanced materials. I look forward to learning more about all of this work from Dr. Locascio.

I want to echo the comments of my fellow Ranking Member, Mr. Veasey, by expressing my concern about the Trump Administration's proposed budget cuts to materials R&D across the science agencies. Not only would these cuts cause us to lose out on the economic opportunities our materials research programs create, they would also do great harm to our nation's ability to stay at the cutting edge of materials science and the related health, energy storage, technology, and national security benefits that will be discussed today. We have an excellent panel before us that can help us understand not only materials science itself, but also why our investments in this field are so important for the nation. The proposed 11% cut at NSF, the 13% cut to the labs at NIST, and the even more draconian cuts at DOE must not be enacted. Today's hearing will give us a few more reasons why we must reject the President's budget request if our nation is to stay scientifically and economically competitive.

I look forward to the testimony and discussion this morning, and I thank the panelists for being here to share their expertise with us. I yield back.