

Materials Data Analytics: A Path-Finding Workshop

Ohio State University, Columbus

October 8-9, 2015

Hosted by ASM International's Computational Materials Data Network and The Ohio State University
with support from the National Institute for Standards and Technology



Welcome!



Welcome and introductions

Genesis of the workshop

Workshop objectives

About ASM International

About the Computational Materials Data Network



Introductions and thank you



THE OHIO STATE UNIVERSITY

COLLEGE OF ENGINEERING

NIST

NEXIGHT GROUP

Workshop genesis



Materials Genome Initiative Strategic Plan

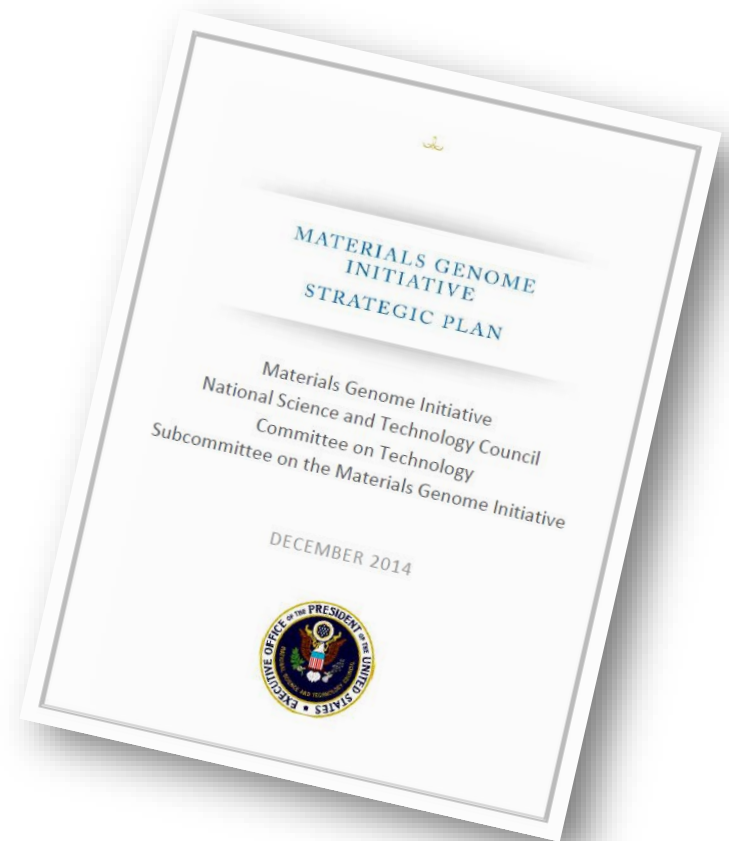
Objective 2.4:

Develop Data Analytics to Enhance the Value of Experimental and Computational Data

“...The availability of high-quality experimental and computational data ... presents an opportunity for data mining and analysis to expand and accelerate discovery of new materials and predictions of materials with new functionalities.”

Milestone 2.4.1:

Convene a **pathfinding workshop** focusing on the status of computational tools for data analytics for applications emerging from materials sciences and engineering.



www.nist.gov/mgi/upload/MGI-StrategicPlan-2014.pdf

Workshop objectives

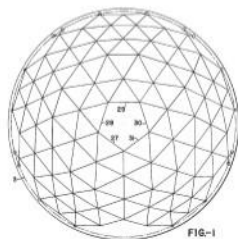
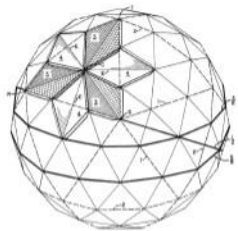
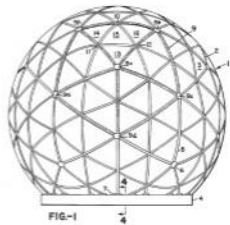
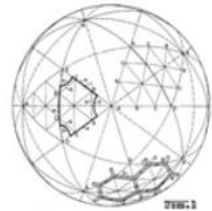


- **Assess the state-of-the-art in materials data analytics**, identifying the current state as well as gaps in the knowledge and tools.
 - Building on Thursday presentations, background document summaries, experience and insights of participants
- **Identify opportunities and high priority directions** for research and development as well as application of materials data analytics tools.
- After the workshop, ASM will **share the outcomes** to stimulate targeted future work.
 - Participants are encouraged to spread the word and build from the outcomes as well!

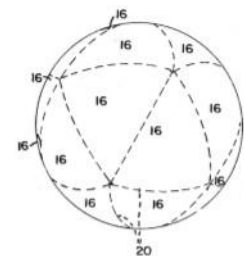
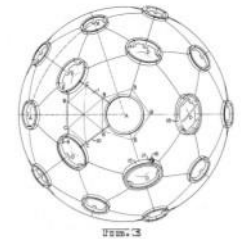
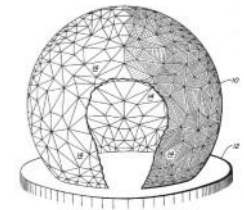
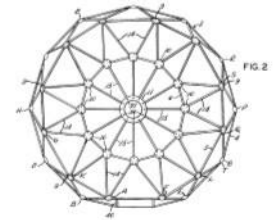




About ASM International



ASM International is the **world's largest association of metals-focused materials engineers and scientists**. We are dedicated to informing, educating, and connecting the materials community to **solve problems and stimulate innovation** around the world.





ASM today



Today, ASM International is a thriving global society with over 30,000 members worldwide, and is known around the world for the **depth and breadth of materials knowledge** it disseminates through books, journals, databases, education courses, and a myriad of online products.



What we do



MEMBERSHIP

30,000+ materials engineers, educators, and other materials professionals across the globe

EVENTS

5-10 global conferences and expos a year on topics like heat treating, thermal spray, aerospace materials and more.

REFERENCE PUBLICATIONS

Hundreds of hard copy and eBook titles from trusted subject matter experts, including the well-known ASM Handbook series.

ONLINE DATABASES & JOURNALS

Trusted, peer-reviewed information within subscription-based databases and journals

NEWS & MAGAZINES

Print magazines, digital editions and e-Newsletters and covering industry news, best practices, cutting edge research and more.

EDUCATION

Continuing education courses including classroom and lab courses at the state-of-the-art ASM facility, online courses, DVD courses and onsite training.

About the CMD Network



- Launched by ASM to serve as a central resource for **materials data** to support integrated computational materials engineering (ICME).
 - Help ASM develop **new communities, capabilities, products, and services** to serve the needs of the materials community in the 21st Century.
- Collaborative projects include
 - NIST-ASM **Structural Materials Data Demonstration Project**
 - Partner in the Center for Hierarchical Materials Design (**CHiMaD**)
- New initiatives:
 - **Materials Process Modeling Data Consortium**
 - **Open Additive Manufacturing Materials Database**



Thank you!