A Multi-Agency, Multi-Year Program Plan in Advanced Energy Materials Discovery, Development, and Process Design

Utilizing High-Throughput Experimental Methods, Artificial Intelligence, Autonomous Systems, and a Collaboratory Network

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST) CAMPUS
100 BUREAU DRIVE
GAITHERSBURG, MD 20899

PORTRAIT ROOM
ADMINISTRATION BUILDING 101

AGENDA

Thursday, July 12	
7:30 – 8:30 am	**Registration and Continental Breakfast**
8:30 – 8:45 am	**Opening Remarks** Rob Ivester, AMO Director & Eric Lin, Director, Material Measurement Laboratory
8:45 -9:15 am	**Summary of Findings: 2017 DOE Workshop on Artificial Intelligence Applied to Materials Discovery and Design** Brian Valentine, AMO Technology Manager
9:15 – 9:45 am	**Summary of Findings: 2018 NIST Workshop on High-Throughput Experimental Materials Collaboratory (HTE-MC)** Marty Green, NIST
9:45 – 10:00 am	**BREAK**
10:00 – 10:30 am	**AMO Overview: Innovations in Manufacturing and Energy** Rob Ivester, AMO Director
10:30 – 10:45 am	**AMO MYPP: Moving Applications of AI and ML from Materials Design and Discovery through Process Design and Development** Brian Valentine, AMO Technology Manager
10:45 – 11:15 am	**Summary of Findings: 2018 Mission Innovation Workshop on Accelerating Advanced Energy Materials Discovery by Integrating High-Throughput Methods with Artificial Intelligence** Professor Joshua Schrier, Associate Professor of Chemistry, Haverford College
11:15 – 11:50 am	**Invited Presentation: Materials Discovery at Solvay : Applying AI Tools to 150 Years of Historical Data** Dr. Jean-Yves Delannoy**,** Manager of Statistical Modeling and Artificial Intelligence Team, Solvay Chemicals, Inc.
11:50 – noon	**Breakout Summary: Assignments and Objectives of Each Session**
12:00 – 1:00 pm	**LUNCH** (provided)
1:00 – 3:30 pm	**Facilitated Breakout Sessions:** 1. Priorities in Energy Materials R&D: Barriers, Timeline, and Metrics 2. Database infrastructure needs in AI and Energy Materials R&D: Moving Materials Discovery through Materials Processes 3. Expansion of the Collaboratory Network for Energy Materials Discovery and Process Design 4. Integration of AI, ML, and Experimentation for Energy Materials Design and Processing
3:30 – 3:45 pm	**BREAK** (and networking)
3:45 – 4:30 pm	**Summary of Breakout Sessions** Representatives from Each Group
4:30 – 5:00 pm	**Summary of Next Steps** Brian Valentine, AMO Martin Green, NIST
5:00 pm	**ADJOURN**