

MPS Division of Materials Research (DMR)

Briefing for MPS Advisory Committee

Linda S. Sapochak
Division Director, DMR
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Community Input in DMR

- DMR outreach at professional society meetings (APS, MRS, ACS, AVS, NoBCChE)
- Committee of Visitor's Meeting
- MPS-AC Sub-Committee Reports
- Funded Studies (NAS, TMS, Workshops, etc.)
- Workshops (e.g. Young Investigator, Polymer Decadal Study, Future of EPM, Soft CMP, Future of Topological Insulators in CMP)
- Federal Interagency Material Research (FIMaR) meeting
- Site visits and ad-hoc visits to PIs

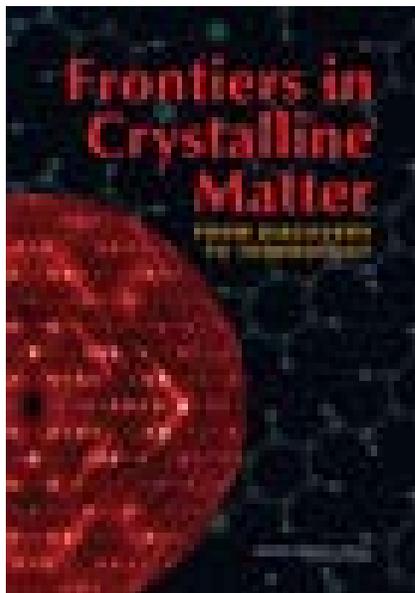


Information regarding:

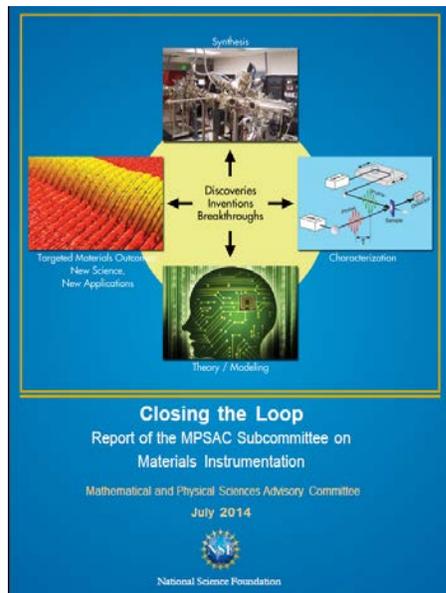
- Strategic planning
- PI's concerns
- Diversity
- Partnership



2009



2014



DMR Example

National Academy study and 2 reports from subcommittees of the MPS-AC resulted in the development of DMR's newest programs:

- **Designing Materials to Revolutionize and Engineer our Future (DMREF)** created as DCL in **2012**, Solicitation since 2014, now running biennially (MPS, ENG, CISE). Covers all material research topics.
- **Materials Innovation Platforms (MIP)** created as solicitation in **2015**. Two platforms funded in 2016 enhancing nation's capabilities in crystal and thin film growth. FY2019 solicitation on convergence of Materials and Biological Sciences.

WHITE PAPER ON POTENTIAL MPS/NSF INITIATIVE: 2010

"MATTER BY DESIGN" Supporting Integrated Experiment, Computation, and Theory to Transform Science

MPSAC Members: Juan de Pablo, Sharon Glotzer, Theresa Maldonado, Elsa Reichmanis
NSF Members: Krastan Blagoyev, Estela Blaisten, Daryl Hess, Andrew Lovinger, Jeffrey Pier, Linda Sapochak, Michael Steuerwalt



DMR Upcoming Activities

FY 2019

- Run DMREF (nPsf19-516) & MIP (nsf19-526) competitions
- Start Materials Research Science & Engineering Centers (MRSEC) competition (nsf19-517)
- Manage the Q-AMASE-i (Enabling Quantum Leap: Convergent Accelerated Discovery Foundries for Quantum Materials Science, Engineering, and Information (nsf18-578) competition
- [Receive NSF/DOE-supported NAS Materials Decadal Survey](#)
- [Receive TMS “A Study on Creating the MGI Workforce”](#)
- [Start Square Table series, first on “Living Interfaces” – convergence of soft condensed matter physics, synthetic biology, and biomaterials with NIH, FDA, DARPA, AFOSR, AFRL \(December 2018\). Issue DCL for EAGERs](#)
- [Host the Federal Interagency Materials Research \(FIMaR\) meeting \(February 2019\) focus on Quantum Leap, Materials Decadal Survey](#)
- [Increase engagement in NSF Big Ideas: Rules of Life, Work at the Human-Tech Frontier](#)
- Hold a DMR retreat on “Strategies for Diversity and Inclusiveness”, January 2019
- [End NSF stewardship of Cornell High Energy Synchrotron Source \(CHESS\) and transition to partnership model to support a sub-facility \(with MCB/BIO and CMMI/ENG\)](#)
- [Partnership renewal for Center for High Resolution Neutron Scattering \(CHRNS\) with NIST](#)
- [Partnership development with AF in advanced material sciences \(synthetic biology for materials, MGI and AI, complex structural materials, quantum materials\) in collaboration with NSF/ENG](#)
- [Preparation for Committee of Visitors \(September 2019\)](#)

