



U.S. DEPARTMENT OF
ENERGY

Office of
Science

Planning for Committee of Visitors Review of the BES Materials Sciences and Engineering Division

Briefing to BESAC

April 25, 2023

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History of BES COVs

- ▶ BES COVs began in 2002
- ▶ This will be the seventh COV for MSE; all previous COV reports and BES responses can be found here:
<https://science.osti.gov/DDSP/Committees-of-Visitors/BES-COV>
- ▶ The last MSE COV was in 2018 (Chair: Esther Takeuchi)
- ▶ Historically COVs have been held on a 3-year interval but in 2021 the Office of Science updated COV guidance to allow for intervals of up to 5 years (partly in response to COV recommendations, including MSE 2018 COV)

Within authority, BES-MSE has responded to 2018 COV recommendations

Recommendation	Response
Flexibility to hold COVs less frequently than every 3 years	Since 2021, SC policy is that COV interval may be up to 5 years
Consider ways to reduce the number of Early Career proposals	Implemented a pre-proposal review process (adapted from EFRCs); many programs now alternate topics from year to year
Consider longer award terms	BES uses 4-5 year award terms for larger team activities (e.g., EFRCs, Hubs, CMS, SciDAC, NQISRC)
Expand communication pathways	Recently implemented public webinars for FOAs. SC-wide outreach to individuals/institutions historically underrepresented in the portfolios. Professional society (e.g. MRS) funding agency webinars are reaching a larger audience.
Increased travel funds for program managers	COV recommendation helped advocate for increased travel budgets starting in FY2018; post-COVID travel has begun
Fill vacancies and add staff to MSE	Successfully advocated to SC for new positions, and nearly all positions currently filled (see next slide)

Administrative Staff
Teresa Crockett



Materials Science and Engineering Division
Andy Schwartz, Director

New MSE PM



Shawn Chen
AAAS S&TP Fellow

Materials Discovery, Design, and Synthesis Team
Team Lead – Mike Markowitz

Condensed Matter and Materials Physics
Team Lead – Mick Pechan

Scattering and Instrumentation Sciences
Team Lead – Helen Kerch

Materials Chemistry
PMs – Craig Henderson and Chris Chervin

Experimental Condensed Matter Physics
PM – Claudia Cantoni

X-Ray Scattering
PM – Lane Wilson

Biomolecular Materials
PM – Aura Gimm

Theoretical Condensed Matter Physics
PMs – Claudia Mewes and Matthias Graf

Neutron Scattering
PM – Mike Fitzsimmons

Synthesis and Processing Science
PM – James Dorman

Physical Behavior of Materials
PM – Refik Kortan

Electron and Scanning Probe Microscopies
PM – Jane Zhu

Batteries and Energy Storage Hub & Integrated Energy Research
PMs – Craig Henderson and John Vetrano

Mechanical Behavior and Radiation Effects
PM – John Vetrano

Experimental Program to Stimulate Competitive Research (DOE EPSCoR)
PM – Tim Fitzsimmons

Quantum Information Science
PM – Athena Sefat

New since 2018 COV

Updated April 2023

Committee of Visitors Charge (Standard across SC)

1. Assess the efficacy and quality of the processes used during the fiscal years under review to:
 - a) solicit, review, recommend, and document application and proposal actions; and
 - b) monitor active awards, projects, and programs.

 2. Within the boundaries defined by DOE mission and available funding, comment on how the award process has affected:
 - a) the breadth and depth of portfolio elements; and
 - b) the overall scientific and technical quality of the portfolio elements.
- In addition to this standard charge, the COV is asked to comment on the diversity, equity, and inclusivity of participation in MSE programs.

 - This assessment is applied across the portfolio, including university and Lab proposals/awards.
 - BES has held separate COVs for EFRCs and Hubs, which cross divisions.

COV Scope/Timeframe

- ▶ Applications for FOAs and Lab Calls for FY2018–FY2022, plus award oversight
 - ❖ Annual “Open Call”
 - ❖ Annual Early Career Research Program (ECRP)
 - ❖ Computational Materials Sciences (CMS)
 - ❖ Scientific Discovery through Advanced Computing (SciDAC)
 - ❖ Established Program to Stimulate Competitive Research (EPSCoR)
 - ❖ DOE National Lab new proposals and triennial review of ongoing projects
- ▶ Since 2018, BES has issued a number of topical FOAs/Lab Calls, including:
 - ❖ QIS, Ultrafast, Data Science, Critical Minerals and Materials, Direct Air Capture, Chemical Upcycling of Polymers, Clean Energy and Low-Carbon Manufacturing
- ▶ Not included in COV
 - ❖ EFRCs, Batteries and Energy Storage Hub, National Quantum Information Science Centers

2023 BES-MSE Committee of Visitors

- ▶ Chair: Prof. Frances Hellman, UC-Berkeley/LBNL
- ▶ Fall 2023 (brief BESAC at the December meeting)
- ▶ Considering a virtual format, after successful virtual COVs for CSGB and EFRC/Hubs in 2020
- ▶ Working on identifying panel leads/panelists
 - ❖ Scattering and Instrumentation Sciences
 - ❖ Materials Discovery, Design, and Synthesis
 - ❖ Condensed Matter and Materials Physics
 - ❖ EPSCoR



Questions/Discussion

