

2023 BESAC Charges Updates



U.S. DEPARTMENT OF
ENERGY

Office of
Science

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BESAC has 4 Current Charges from the Office of Science

- 2 Committees of Visitors
 - Workforce Development for Teachers and Scientists
 - Materials Science and Engineering programs
- 2 Charges related to the BESAC International Benchmarking Report
 - Research strategies
 - Assessment of NanoScience Research Centers (NSRCs)

2023 BESAC Charges from the Office of Science for Committees of Visitors (COVs)

Since 2002, Committees of Visitors (COVs) appointed by the SC Federal Advisory Committees have assessed (1) the efficacy and quality of the processes used to solicit, review, recommend, monitor, and document funding actions; and (2) the quality of the resulting program portfolios.

Addition to charges: Comment on the diversity, equity, and inclusivity of program participation

2 Charges for COVs for 2023

- Office of Workforce Development for Teachers and Scientists (WDTS) for fiscal years 2017-2022 (delayed due to COVID and other impacts)
- Division of Materials Sciences and Engineering for fiscal years 2018-2022

WDTS COV Subcommittee

Hybrid COV will be held in DC area on September 19 – 20, 2023

Name	Institution	Role
Bare, Simon	SLAC	Chair
Blackburn, Noel	BNL	
Broderick, Joan	Montana State University	
Dobbins, Tabbetha	Rowan College (NJ)	Co-Chair
Guggilla, Padmaja (Paddy)	Alabama A&M	
Smith, Emily	Ames	
Stack, Andrew	Oak Ridge National Laboratory	



MSE COV includes the DOE EPSCoR program: Requested by end of 2023

Scope: Materials Discovery, Design and Synthesis (MDDS); Condensed Matter and Materials Physics (CMMP); Scattering and Instrumentation Sciences (SIS); Established Program to Stimulate Competitive Research (DOE EPSCoR)

- **COV Chair: Frances Hellman** (UC-Berkeley/LBNL)
 - *Panel Leads:* Theda Daniels-Race (EPSCoR); Rachel Segalman (MDDS); Z-X Shen (SIS); John Mitchell (CMMP)
 - ~16 panelists are being recruited
- Findings of 2018 MSE COV:
 - processes MSE were fair, efficient, and professionally implemented.
 - MSE research portfolio was outstanding on a national and international scale.
 - recommendations made relating to staff travel, staffing levels, award durations, proposal pressure, and research metrics, among others.



Two charges related to the 2021 BESAC International Benchmarking Report from Office of Science

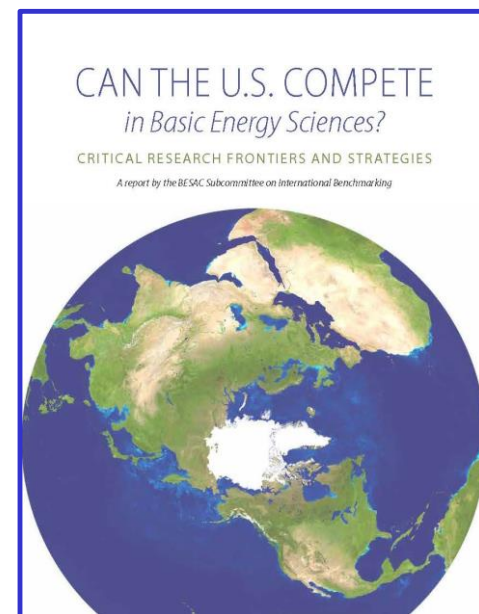
1. “...to propose **strategies for research investments** in BES-supported domains in the medium to long term”
1. “to assess the **impact of the Nanoscale Science Research Centers (NSRCs)** to date and **provide strategies for selection of high-impact, future directions**”



BESAC Charge: follow-up on the 2021 BESAC International Benchmarking Report

- **Report responded to BESAC Charge:** to identify critical research areas in basic energy sciences; to examine U.S. competitiveness in these areas, in major research facilities and tools, and in funding mechanisms; and to suggest strategies that could enhance the U.S. position in comparison to its global competitors
- **Finding:** in critical areas, China is surging, Europe leads in quantum information science, and the U.S. is flattening or falling behind
- **Strategies for Success:** Increased investment in research, facilities, instrumentation; greater support for early- and mid-career scientists; improve opportunities for facility staff scientists; better integrate energy sciences research from basic to applied to industrial

Report: “Can the U.S. Compete in Basic Energy Sciences? Critical Research Frontiers and Strategies”: https://science.osti.gov/-/media/bes/besac/pdf/Reports/AH_DOE2021-Benchmarking_202108.pdf



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Charge to Develop Strategies for Research Investments

- Advice requested on BES investment strategies for effective use of available resources.
 - Builds on Benchmarking Report “strategies for success” plus recent national focus on the strategic implications on government investment in science, including the CHIPS and Science Act (August 2022)
 - Rising costs for research, facility operations, and facility construction require ongoing prioritization of research topics.
- Request for proposed area-agnostic strategies that BES can apply to specific research topics as BES and the research community move forward. BESAC could consider:



Research Strategies for Prioritization Subcommittee

Name	Institution	Role
Berry, Joseph	NREL	
Chen, Lin	ANL/Northwestern	
Cooper, Valentino	Oak Ridge National Laboratory	
Daniels-Race, Theda	LSU	
DeBeer, Serena	Max Planck Institute	
Epps, Thomas	Delaware	
Garcia, Jamie	IBM	
Guzman, Javier	ExxonMobil	
Helms, Brett	LBNL	
Huq, Ashfia	SNL	
Isaacs, Eric	Carnegie Institute	
Kastner, Marc	MIT Retired	Vice-Chair
Mallapragada, Surya	Ames Laboratory, Iowa State	
Meng, Shirley	ANL/U Of Chicago	
Musumeci, Pietro	University of California, Los Angeles	
Segalman, Rachel	UC-Santa Barbara	
Takeuchi, Esther	BNL/Stony Brook University	Chair
Tirrell, Matt	ANL/U Chicago	

Subcommittee has held two meetings - June 15 and July 17

Virtual meetings will continue to be held monthly going forward



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Charge to assess impact and future directions for the BES Nanoscale Science Research Centers (NSRCs):

Report is requested by end of 2023

- NSRCs were established as user facilities between 2003-2008.
- The charge to BESAC includes a request for strategies for selection of high-impact, future directions for these facilities
- How should the NSRCs evolve to better serve the nation and user research?

Hybrid Subcommittee meeting will be held in DC area on August 21-22, 2023

NSRC Subcommittee

Name	Institution	Role
Atwater, Harry	Caltech	
Chen, Donna	University of South Carolina	
Cui, Yi	SLAC	
Datye, Abhaya	Univ. of New Mexico	
Dosch, Helmut	DESY	
Gao, Yan	GE (Retired)	
Gibson, Murray	Florida A&M/Florida State University	Chair
Grey, Clare	Cambridge	
Haile, Sossina	Northwestern	
Kozinsky, Boris	Harvard	
Mueller, Karl	PNNL	Vice-Chair
Ourmazd, Abbas	University of Wisconsin, Milwaukee	
Redwing, Joan	Penn State	
Ross, Frances	MIT	
Stach, Eric	U Penn	
Tway, Cathy	Johnson Matthey	



NSRC Subcommittee Continued

- **NSRC Subcommittee held one virtual meeting in June**
- **Hybrid Subcommittee meeting will be held in DC area on August 21-22, 2023**
 - Meeting will include subcommittee members, NSRC Directors and staff, and BES staff
- **NSRCs must address the following topics:**
 - What has been the impact of the NSRCs?
 - How are the collective NSRCs synergistic?
 - How are the NSRCs synergistic with other user facilities at the laboratories?
 - What are the best practices to ensure a diverse user community?
 - How should the NSRCs evolve?



Discussion and Questions



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