



2021 Biological Systems Science Division Committee of Visitors Review

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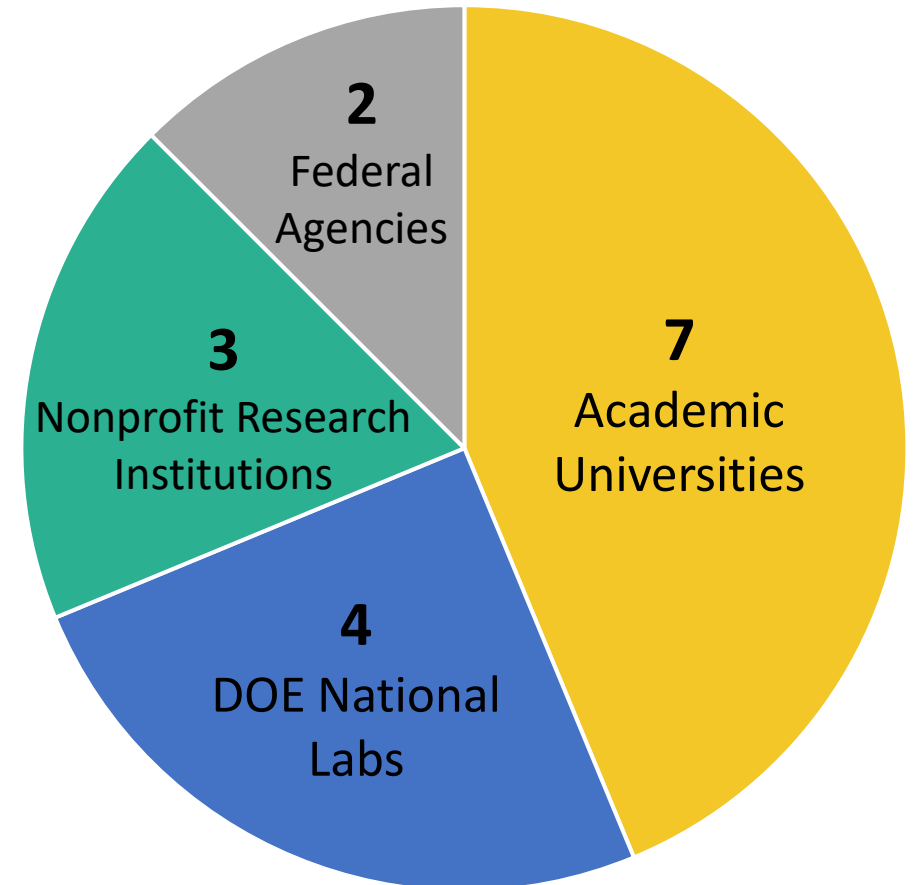
Director, Biological Systems Science Division,
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Environmental Research

October 13, 2022

COV Member Composition

- **16 COV Members**
 - Selected by committee chair
 - 11 BER-funded
 - 3 previously served on a BSSD COV
- **Gender Diversity**
 - 8 men, 8 women
- **Location Diversity**

COV Member Institutions

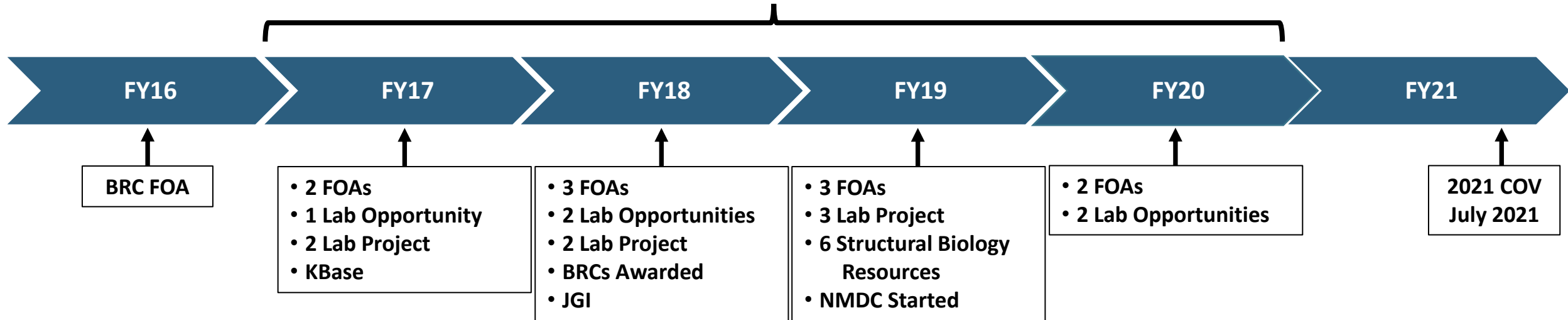


COV Proceedings

- **BERAC Charged with COV in October 2019**
 - COV originally scheduled for summer 2020 but delayed due to Covid
 - Reviewed Fiscal Years 2017-2020 – 4 years
- **COV held July 27-29, 2021 via Zoom**
 - PAMS and Zoom orientations held July 12th
- **Materials provided in PAMS**
 - Background information to help understand the scope of the programs to be covered
 - Descriptions of core research programs, review processes, funding opportunities, workshop activities, previous COV report, etc.
 - Details on BER, BSSD programs, and BSSD staff
 - During COV
 - Access to all Division actions during Fiscal Years 2017-2020 – applications, awards, reviews, and on-going program management
 - Conflict of interest apply

BSSD Portfolio Elements Reviewed

2021 COV FY 2017-2020



- **11 Academic Funding Opportunity Announcements – all program areas**
- **DOE National Laboratory programs – short- and longer-term programs**
 - 5 DOE National Laboratory Opportunities (new)
 - 7 National Laboratory Science Focus Areas (SFAs) – longer-term programs reviewed
 - 20 Laboratory Projects – short-term programs
- **Enabling Capabilities**
 - Included management of the Joint Genome Institute (JGI), **Structural Biology Resources**, National Microbiome Data Collaborative (NMDC), DOE Systems Biology Knowledgebase (KBase)

Recommendations and Response

COV Recommendation

BER Response

<p>DOE should strive to provide annual budget allocations in a timely manner and increase program management and administrative staff to match recent changes in portfolio size, scope, and complexity.</p>	<p>BER will continue to work within SC to provide budget allocations to funded projects in as timely a manner as possible in accordance with DOE financial guidance and seek to augment professional staff as needed to adapt to changes in the portfolio. BER is already engaged in activities to replace recently retired staff and is seeking additional expertise for temporary details within the Office.</p>
<p>Preferably at the agency-wide level, DOE needs to address diversity, equity, and inclusion through demographic data collection and the implementation of policies and practices that support a diverse community of scientific innovators.</p>	<p>DOE Office of Science has developed a statement of commitment for diversity inclusion: https://science.osti.gov/SW-DEI/ SC is currently working on an implementation strategy for a SC-wide DEI policy with trackable metrics.</p> <p>More recently SC has rolled out a new review criteria to be added to the four current review criteria. The PIER review criteria is available for review at: GRANTS Promoting Inclusive and E... U.S. DOE Office of Science(SC) (osti.gov)</p>

Recommendations and Response

COV Recommendation

BER Response

At the Division level and higher, DOE should clarify the role of education and outreach in its mission while promoting greater inclusion of junior and new investigators by helping them navigate DOE funding mechanisms.

We agree that reaching out and engaging the broader research community, particularly junior and early career researchers, is in BER's long-term interests. While there is excellent outreach progress within individual projects such as the BRCs, KBase and NMDC, BER will look for additional opportunities to engage early career researchers at national scientific meetings and at BER PI Meetings. **BSSD will develop standardized presentations for use at PI and scientific meetings geared towards introducing early career researchers to our programs.**

BER-EESSD recently issued new funding opportunities that target new researchers, including RENEW and RDPP. BER-BSSD will post a similar opportunity under the FAIR effort highlighted in the President's FY23 Budget Request. BER will track the success and impact of these new efforts.

Develop standardized metrics for evaluating portfolio elements to guide strategic decisions and provide more information about research directions, such as when to sunset large projects because funding priorities have changed.

SC's standardized review criteria solicits detailed comments from reviewers on scientific progress within portfolio elements at regular intervals. These reviews are impactful and regularly result in changes in the portfolio including the sunsetting of large projects. The Strategic Plans for each Division also guide priorities and program changes. These plans draw input from multiple sources, including the BER Advisory Committee, multi-agency efforts (e.g., USGCRP), and DOE mission.

Recommendations and Response

COV Recommendation

BER Response

<p>Develop proactive structures to increase the level of transparency in decision-making and community engagement when responding to needs or opportunities that arise suddenly, such as congressional mandates.</p>	<p>BER agrees and will seek out means of community engagement when on a compressed timeline.</p>
<p>Clarify merit review criteria across programs and justify eligibility of universities versus national labs for different funding mechanisms in the solicitation documents.</p>	<p>BER will work to clarify review criteria across programs as well as eligibility of different institutions through more standardized presentations to the research community, particularly, at PI and scientific meetings. SC's four standardized merit review criteria are consistent across the portfolio, and there are additional criteria included that differ among User Facilities, Lab programs, and University-led projects. BER funds Labs and Universities differently. Whereas university research tends to be more oriented towards small teams or single PI projects, the DOE Labs manage large science teams. The combination of single PI, small team, and large team projects working in complementary areas has been a large success. BSSD will develop standardized communication materials to clarify the different components of the portfolio and the merit review criteria for each component.</p>

Recommendations and Response

COV Recommendation

BER Response

Maximize the value and comparability of reviewer ratings by developing more detailed scoring rubrics and providing consistent guidance to reviewers on evaluating merit review criteria.	BER agrees and will provide more consistent guidance to reviewers in evaluating and scoring proposals to help improve comparability of reviewer ratings across programs.
Create mechanisms and require sustainability plans to scale up and disseminate promising new technologies developed with program funding.	BER agrees and will work with the SBIR office and seek assistance from DOE's larger Office of Technology Transfer (OTT) to expand opportunities to showcase new technologies to the commercial sector.
Increase the strategic oversight of JGI's programmatic scope and direction.	BER agrees and will work with JGI to ensure that the scope and direction of its capabilities remain aligned with the direction of the BER portfolio needs.

Acronyms

BER	Biological and Environmental Research
BSSD	Biological System Sciences Division
DEI	Diversity Equity and Inclusion
DOE	Department of Energy
EESSD	Earth and Environmental Systems Sciences Division
FAIR	Funding for Accelerated, Inclusive Research
JGI	Joint Genome Institute
PIER	Promoting Inclusive and Equitable Research
RDPP	Research Development and Partnership Pilot
RENEW	Reaching a New Energy Sciences Workforce
SBIR	Small Business Innovation Research
SC	Office of Science
USGCRP	United States Global Change Research Program

Thank you

<https://science.osti.gov/ber>

<https://www.energy.gov/science/ber/biological-and-environmental-research>