Department of Energy
Office of Science
Washington, DC 20585

November 3, 2017

Dr. Gary Stacey
Endowed Professor of Plant Science
Divisions of Plant Sciences and Biochemistry
271E Christopher S. Bond Life Sciences Center
University of Missouri
Columbia, MO 65211

Dear Dr. Stacey:

The Office of Biological and Environmental Research (BER) science programs continue to be driven by the Department of Energy's (DOE) basic science, energy, and environmental mission needs. BER increasingly uses a complex systems science approach to advance these science missions. This involves studying complex biological and environmental processes that range from molecular to global scales over time horizons of nanoseconds to centuries and beyond. Our goal is to obtain a holistic and predictive understanding of key biological and environmental systems to address DOE's scientific challenges of the future. Maintaining the capabilities to address future scientific challenges includes the periodic evaluation and alignment of User Facilities to changing scientific research programs.

In 2016, the Biological and Environmental Research Advisory Committee (BERAC) was charged to review the 2010 report (DOE/SC-0135), "Grand Challenges for Biological and Environmental Research: A Long-Term Vision", review research that occurred since that report, and develop a new long-term strategic vision. The new report (DOE/SC-0190), completed in 2017, has identified a number of grand challenges that are important to the DOE mission and that utilize BER expertise. A more focused effort is needed to understand and identify the roles of User Facilities to meet the new or revised grand research challenges. For purposes of this exercise, User Facilities should include both national User Facilities and community research infrastructure that enables and allows for community research participation.

I request that BERAC use its combined expertise across the BER portfolio to evaluate the following topics regarding the current and future utilization of User Facilities for BER research:

1. Optimal alignment of User Facilities to support the current BER research portfolio
2. Optimal alignment of User Facilities to support future research needs identified in the 2017 Grand Challenges report (DOE/SC-0190)

3. Development of additional User Facility capabilities
4. Opportunities to collaborate between User Facilities (internal to DOE and also external interagency partners)

I request that BERAC evaluate the aforementioned topics and summarize the findings in a report. I would like to receive the final report by the fall 2018 BERAC meeting. Many thanks for your contributions to this important effort.

Sincerely,

J. Stephen Binkley
Acting Director
Office of Science

cc: Sharlene Weatherwax
Tristram West