U.S. DEPARTMENT OF ENERGY | Office of Science

Biological and Environmental Research

BER Advisory Committee (BERAC)
Fall Meeting
November 2-3, 2017

Sharlene Weatherwax
Associate Director

DEPARTMENT OF ENERGY

Boards & Councils

- Secretary of Energy Advisory Board
- National Laboratory Policy Council
- Energy Council
- Credit Review Board
- Cyber Council
- Nuclear Security Council
- Jobs Council
- ESAAB

Office of the Secretary

Rick Perry
Secretary

Dan Brouillette
Deputy Secretary

Brian McCormack
Chief of Staff

Associate Deputy Secretary

- Federal Energy Regulatory Commission
- Inspector General
- Ombudsman

Office of the Under Secretary for Nuclear Security and National Nuclear Security Administration

Frank G. Klotz
Under Secretary for Nuclear Security
Administrator, NNSA

William White, Acting
Principal Deputy Administrator
NNSA

- Deputy Administrator for Defense Nuclear Nonproliferation
- Deputy Administrator for Naval Reactors
- Associate Administrator for Defense Nuclear Security
- Associate Administrator for External Affairs
- Associate Administrator for Management & Budget
- Office of General Counsel
- Deputy Administrator for Defense Programs
- Deputy Under Secretary for Counter-terrorism & Counter-proliferation
- Associate Administrator for Emergency Operations
- Associate Administrator for Safety, Infrastructure & Operations
- Associate Administrator for Acquisition & Project Management
- Associate Administrator for Information Management & Chief Information Officer

Office of the Under Secretary for Science & Energy

Patricia Hoffman, Acting
Under Secretary for
Science and Energy

- Office of Science
- Assistant Secretary for Energy Efficiency and Renewable Energy
- Assistant Secretary for Fossil Energy
- Assistant Secretary for Nuclear Energy
- Assistant Secretary for Electricity Delivery and Energy Reliability
- Indian Energy Policy and Programs
- Office of Technology Transitions[1]

Office of the Under Secretary for Management & Performance

Matthew Moury, Acting
Under Secretary for
Management and Performance

- National Laboratory Operations Board
- Associate Under Secretary for Environment, Health, Safety & Security
- Assistant Secretary for Environmental Management
- Economic Impact & Diversity
- Management
- Chief Human Capital Officer
- Project Management Oversight & Assessments
- Legacy Management
- Hearings & Appeals

- Assistant Secretary for International Affairs
- Assistant Secretary for Congressional & Intergovernmental Affairs
- General Counsel
- Chief Financial Officer
- Chief Information Officer
- Intelligence & Counterintelligence
- Enterprise Assessments
- Public Affairs
- Small and Disadvantaged Business Utilization

- U.S. Energy Information Administration
- Advanced Research Projects Agency - Energy
- Energy Policy & Systems Analysis
- Loan Programs Office
- Bonneville Power Administration
- Southwestern Power Administration
- Southeastern Power Administration
- Western Area Power Administration

Sept 2017

[1] The director of the Office of Technology Transitions also serves as DOE's Technology Transfer Coordinator who reports to the Secretary of Energy

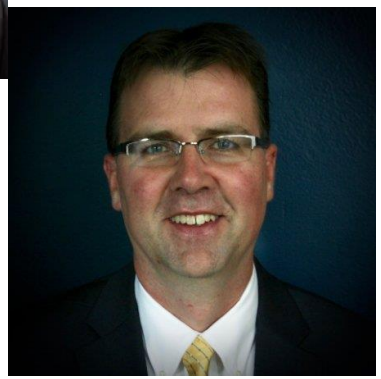
BER Staff Changes

Adam Rosenblatt

AAAS Science and Technology Policy Fellow
(Completed Fellowship July 30, 2017)

Todd Ringler

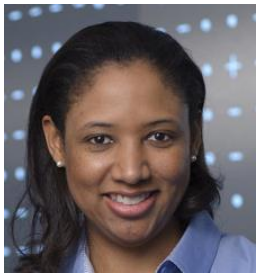
On detail from LANL (Started May 2017)



Peter Wyckoff

AAAS Science and Technology Policy Fellow (Started Sept. 2017)

BERAC Members Recognized



Kristala Prather, MIT

- Society for Industrial Microbiology and Biotechnology – Charles Thom Award Winner 2017
- MIT MLK Jr. Leadership Award 2017

Jim Randerson, University of California, Irvine

- National Academy of Science – New Member
- Piers J. Sellers Global Environmental Change Mid-Career Award (AGU)

James Ehleringer, University of Utah

Excellence in Earth and Space Science Education Award (AGU)

Ruby Leung, PNNL

- Battelle Fellow
- National Academies Board on Atmospheric Sciences and Climate – New Member

BER Researchers Recognized

Mary Firestone, UC Berkeley
National Academy of Science – New Member

Jill Banfield, UC Berkeley
Victor Moritz Goldschmidt Award
(Geochemical Society)

Baohua Gu, ORNL
ORNL Corporate Fellow

Brian Davison, ORNL
Society for Industrial Microbiology
and Biotechnology (SIMB) Fellow

Susan Hubbard, LBNL
Rich Norby, ORNL
Margaret Torn, LBNL

AGU Fellows

Pierre Gentine, Columbia University

- Global Environmental Change Early Career Award (AGU)
- The Clarence Leroy Meisinger Award (AMS)

FY2018 Budget

Continuing Resolution through December 8, 2017

	FY 2017 ($M)	FY2018 House Mark	FY2018 Senate Mark
Biological Systems Science	$306.7	$299.3	$321.7
Research	$227.2		
Facilities	$79.5		
Climate and Environmental Science	$305.3	$282.7	$311.3
Research	$189.6		
Facilities	$115.7		
TOTAL	$612.0	$582	$633

One Hundred Fifteenth Congress of the United States of America

AT THE FIRST SESSION

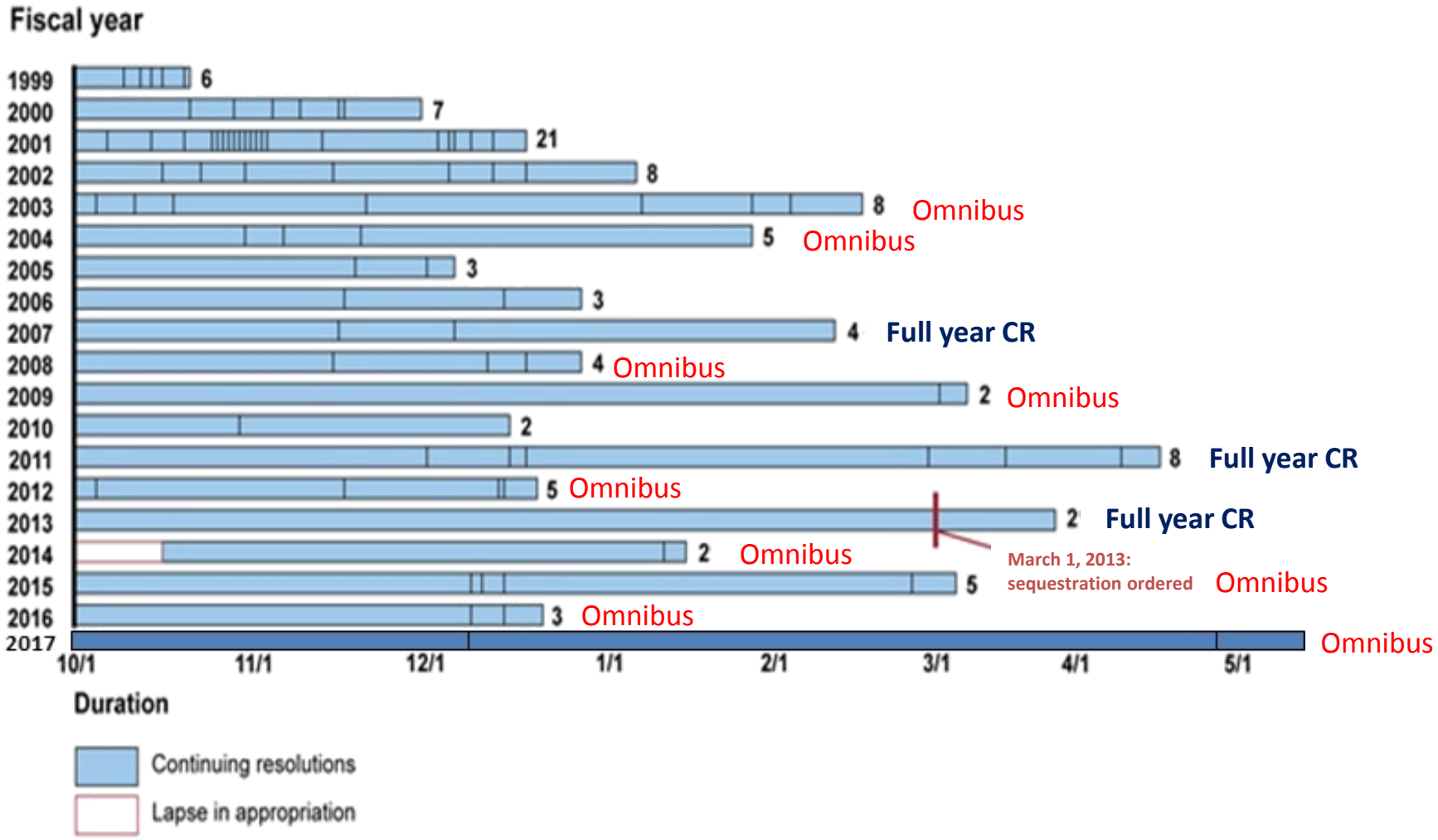
Begun and held at the City of Washington on Tuesday, the third day of January, two thousand and seventeen

An Act

Making continuing appropriations for the fiscal year ending September 30, 2018, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Duration and Number of Continuing Resolutions and Other Budget Disruptions by Fiscal Year



Source: GAO analysis of Congressional Research Service data | Modified from GAO-13-464T

2017 SC Early Career Research Program

- 8th year of the program!

- Supports the development of individual research programs of outstanding scientists early in their careers at universities and DOE national laboratories

- Two BER topics:
  (a) Systems Biology Enabled Research on the Role of Microbial Communities in Carbon Cycle Processes

  (b) Modeling the Drivers and Impacts of Extreme Events

2017 BER Early Career Award Recipients







Name	Institution	Topic Area	Title
Nicholas Bouskill	LBNL	Systems biology	Microbial environmental feedbacks and the evolution of soil organic matter
Jiwen Fan	PNNL	Extreme events	Understanding severe thunderstorms in the central United States
Charles Koven	LBNL	Extreme events	Vegetation dynamical responses to feedbacks on multivariate climate extremes in the Western US
Neslihan Tas Baas	LBNL	Systems biology	Awakening the sleeping giant: multi-omics enabled quantification of the microbial controls on carbon cycling in permafrost ecosystems
Naresh Devineni	City College of New York	Extreme events	Multi-scale modeling of extreme events and impact information
Kelly Wrighton	Ohio State	Systems biology	Genomes to ecosystem function: targeting critical knowledge gaps in methanogenesis and translation to updated global biogeochemical models
David Weston	ORNL	Systems biology	Determining the genetic and environmental factors underlying mutualism within a plant-microbiome system driving nutrient acquisition and exchange

2017 DOE Office of Science Graduate Student Research Program (SCGSR) Award Recipients








Name	Graduate Institution	Host Lab	Research Area	Graduate Advisor
Hyea Hwang	Georgia Institute of Technology	ORNL	Computational Biology and Bioinformatics	James Gumbart
Kenneth Chad Sockwell	Florida State University	LANL	Earth System Modeling	Max Gunzburger
Christian Dewey	Stanford University	LBNL	Environmental Systems Science	Scott Fendorf
Noah Jemison	University of Illinois at Urbana-Champaign	LBNL	Environmental Systems Science	Thomas Johnson
Dinesh Adhikari	University of Nevada-Reno	PNNL	Environmental Systems Science	Yu Yang
Jennifer Nill	University of California-Davis	LBNL	Novel in situ imaging and measurement technologies	Tina Jeoh
Meghan Blumstein	Harvard University	ORNL	Plant Science for Sustainable Bioenergy	Andrew Richardson
Nicholas Cullen Dove	University of California - Merced	LBNL	Soil Microbiology	Stephen Hart

2017 DOE SCGSR Program

The **Office of Science Graduate Student Research (SCGSR) Program** is managed by the Office of Workforce Development for Teachers and Scientists, and was developed to prepare graduate students for science, technology, engineering, or mathematics (STEM) careers important to the DOE Office of Science mission.

SCGSR Topics for Biological and Environmental Research (BER) in the second (current) solicitation of 2017 include:

(a) Computational Biology and Bioinformatics
(b) Novel in Situ Imaging and Measurement Technologies for Biological Systems Science
(c) Plant Science for Sustainable Bioenergy
(d) Soil Microbiology
(e) Environmental Systems Science
(f) Atmospheric System Research
(g) Earth System Modeling

Applications are due November 16, 2017

Interagency Coordination

NSTC—Committee on Science

- Life Sciences Subcommittee
  - Interagency Working Group on Plant Genomics
  - Interagency Working Group on Microbiomes

NSTC—Committee on Environment, Natural Resources, and Sustainability

- Global Change Research Program
- Ecological Systems
- Water Availability and Quality
- US Group on Earth Observations
- Interagency Arctic Research Policy Committee

Specific Agency coordination

- MOU: Neon and Ameriflux coordination (NSF, DOE)
- National Earth System Prediction Capability (NOAA, NSF, DoD, NASA, DOE)
- Strategic Environmental Research and Development Program (DoD, EPA, DOE)
- Joint FOA: Plant Feedstock Genomics (DOE, USDA-NIFA)
- Joint FOA: Interagency Modeling and Analysis Group (DOE, NIH)
- Joint FOA: NASA ROSES (NASA, DOE, USDA)
- MOU: Observations for predictive modeling (DOE, NASA)
- MOU: Regional Earth system modeling (DOE, USDA)

Additional Legislated Groups

- Federal Biomass R&D Board