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

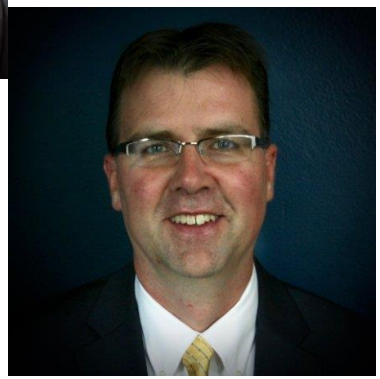
# BER Staff Changes

## Adam Rosenblatt

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

## Todd Ringler

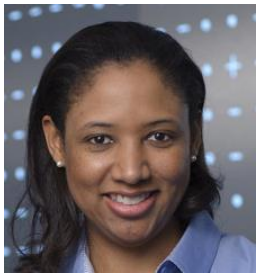
On detail from LANL (Started May 2017)



## 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

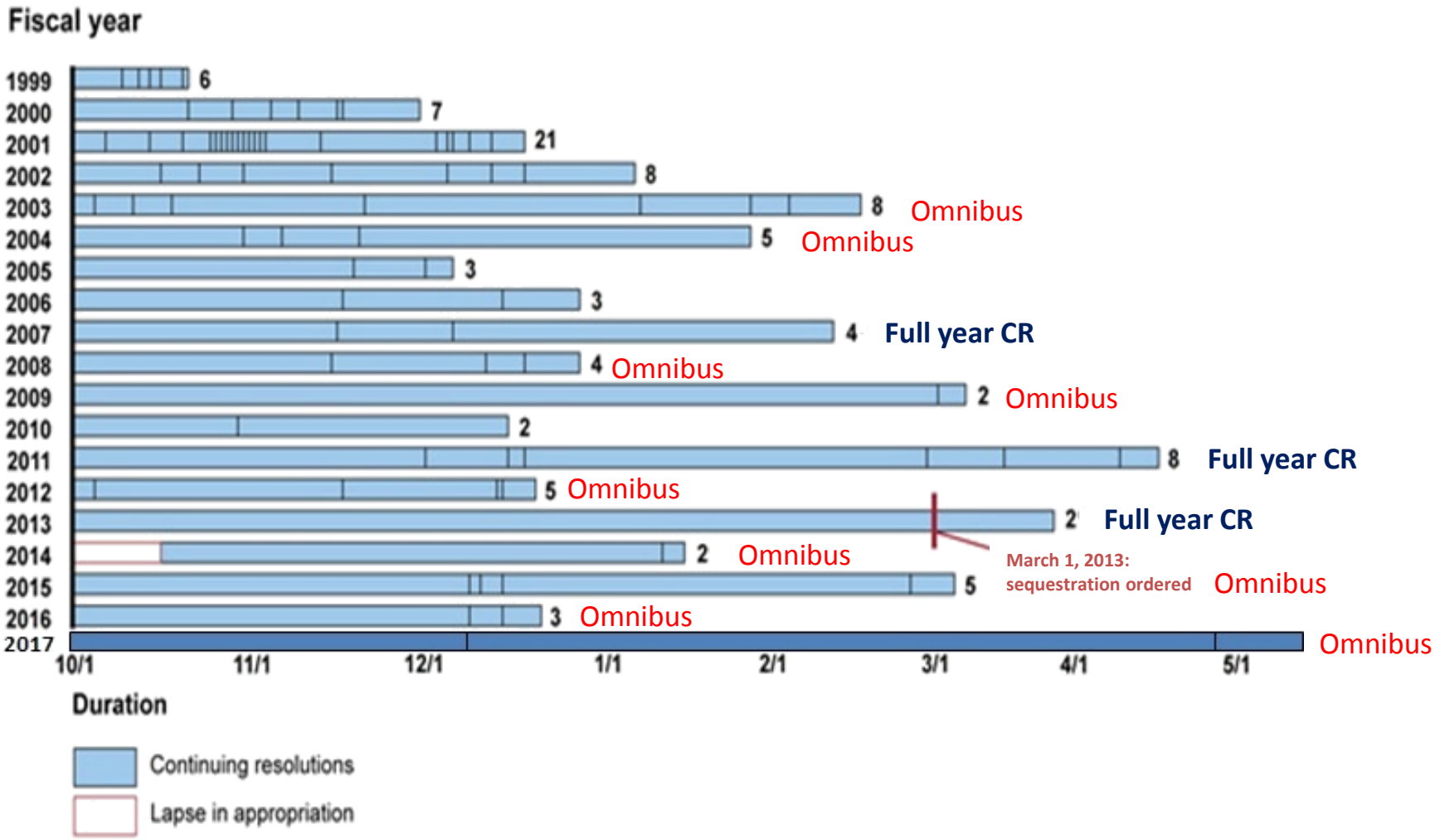
***Begun and held at the City of Washington on Tuesday, the third day of January, two thousand and seventeen***

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 <u>second (current) solicitation of 2017</u> 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