

# **BERAC**

## **March 3, 2014**

**Sharlene Weatherwax, Associate Director of Science  
Biological and Environmental Research**



**U.S. DEPARTMENT OF  
ENERGY**

**Office  
of Science**

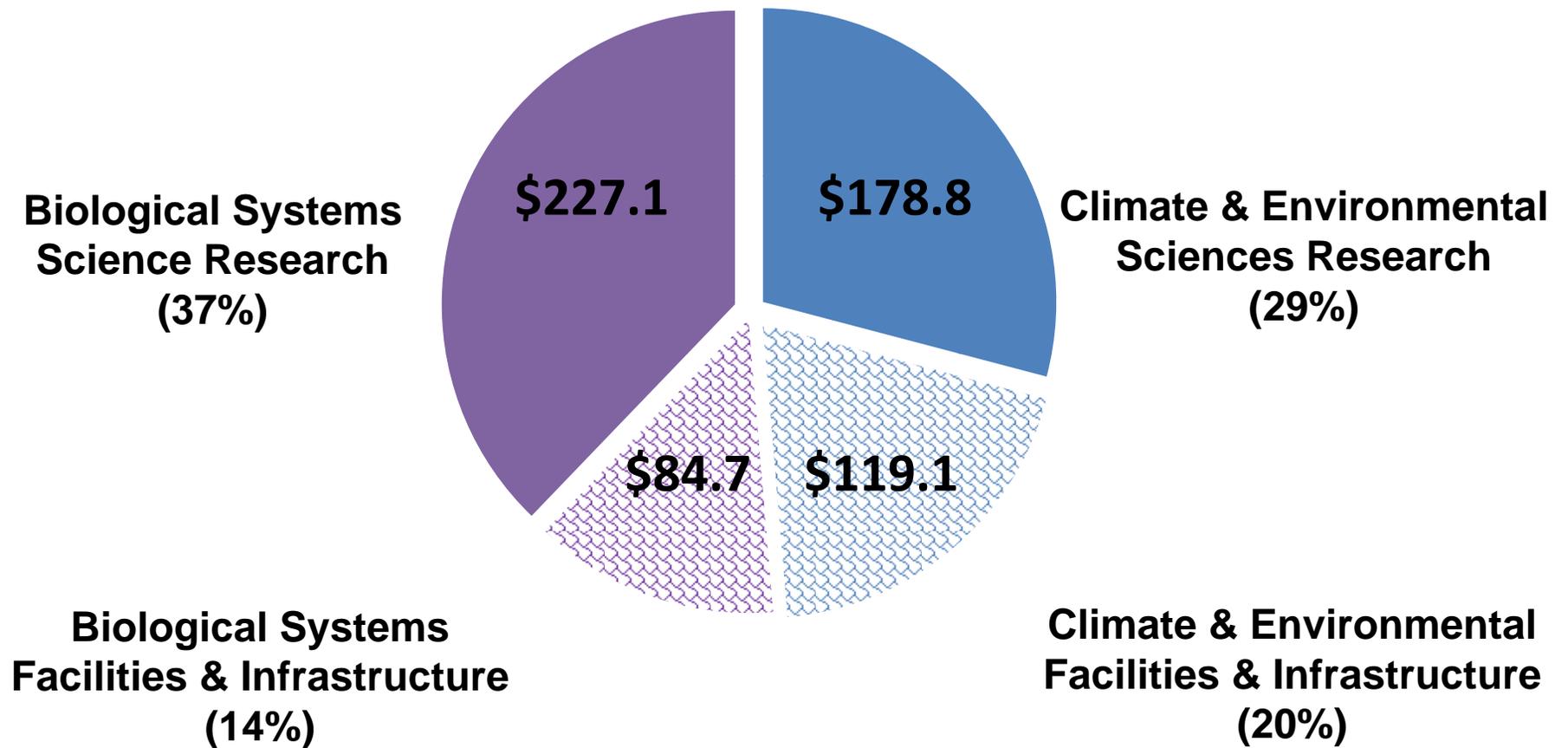
**Office of Biological  
and Environmental Research**

# BER FY 2014 Budget

(\$ in millions)

	FY 2012	FY 2013	FY 2014
	Enacted	Enacted	Enacted
<b>Biological Systems Science</b>	<b>312.4</b>	<b>283.9</b>	<b>311.8</b>
Research	219.1	205.0	227.1
Facilities	83.4	78.9	84.7
<b>Climate and Environmental Sciences</b>	<b>297.5</b>	<b>276.8</b>	<b>297.9</b>
Research	167.5	161.8	178.8
Facilities	122.4	115.0	119.1
<b>BER Total</b>	<b>609.9</b>	<b>560.7</b>	<b>609.7</b>

# BER FY 2014 Budget distribution (\$ in millions)



# Personnel – Goodbye & Thank you!



Karen Carlson-Brown  
Program Support Specialist, CESD



Dean Cole  
Program Manager, BSSD

## Departing BERAC Members – Thank you!



Jay Mace, Member since 2009



Joyce Penner, Member since 2006



Hank Shugart, Member since 2009

## Jennifer Reed to receive Presidential honor

December 23, 2013 - President Obama today named 102 researchers as recipients of the Presidential Early Career Awards for Scientists and Engineers (PECASE), the highest honor bestowed by the United States Government on science and engineering professionals in the early stages of their independent research careers.



### **Jennifer Reed, University of Wisconsin at Madison**

Engineering cyanobacteria to improve butanol production

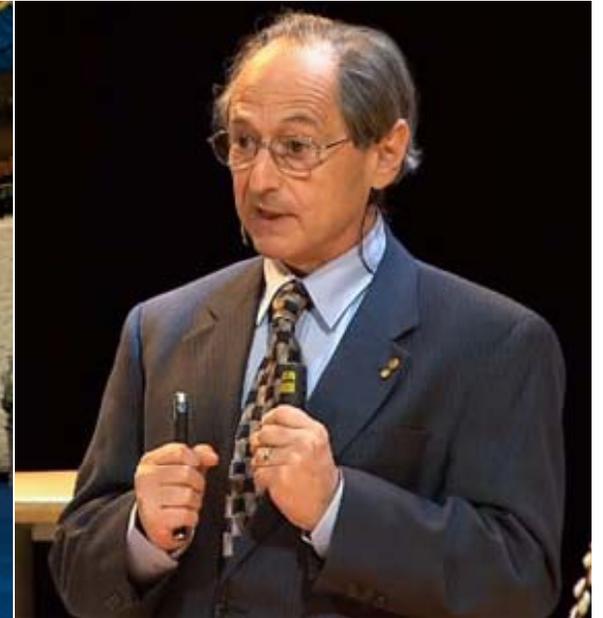
## 2013 Nobel Prize in Chemistry

Awarded to Martin Karplus, Michael Levitt and Arieh Warshel  
“for the development of multiscale models for complex chemical systems”

Michael Levitt was supported by BER’s Computational Structural Biology program from 1995 to 2003 through grants titled “Towards large-scale automatic modeling of protein structure from sequence” and “Bioinformatics and protein engineering in structural genomics and bioremediation”

*Left: Michael Levitt receiving his Nobel Prize from His Majesty King Carl XVI Gustaf of Sweden on December 10, 2013*

*Right: Michael Levitt delivering his Nobel Lecture “Birth & Future of Multi-Scale Modeling of Biological Macromolecules”*



*Among the papers published out of the BER-supported research:*

M. Levitt and M. Gerstein, “A unified statistical framework for sequence comparison and structure comparison”,  
*Proc. Natl. Acad. Sci. USA*, 95, 5913-5920 (1998)

S.E. Brenner, P. Koehl and M. Levitt, “The ASTRAL compendium for protein structure and sequence analysis”,  
*Nucleic Acids Res.*, 28, 254-256 (2000)

P. Koehl and M. Levitt, “Protein topology and stability define the space of allowed sequences”,  
*Proc. Natl. Acad. Sci. USA*, 99, 1280-1285 (2002)

# Congratulations! Recent BERAC Member Award Winners



Jim Hack, ORNL “R&D Leadership: Director Level Award”  
Keeping ORNL at the forefront of breakthrough  
computational science (Nov 2013)



David Randall , 2014 American Meterological Society  
Jule G. Charney Award  
For transformative research into atmospheric  
convection and cloud processes and their improved  
representation in global weather and climate models.



Judy Wall, 2013 Curators' Professor, U of Missouri's  
highest and most prestigious rank acknowledging  
outstanding scholars with established reputations  
from the U of Missouri system

# **Congratulations! BER Staff Recognition!**

**Gary Geernaert**

Elected a Fellow of the American Meteorological Society

**Sally McFarlane**

Elected AAAS Atmospheric and Hydrospheric Sciences  
Section Steering Group Secretary

# Green Ocean Amazon (GOAmazon) Kickoff Amazonia, Brazil February 18-20, 2014



## OPENING CEREMONY Green Ocean Amazon (GOAmazon) Amazonia, Brazil February 18-20, 2014

To understand the intricacies of the natural state of the Amazon rainforest, the GOAmazon field campaign is a two-year international scientific collaboration among U.S., Brazilian, and German research organizations. The scientific experiment will use measurements from U.S. Department of Energy's (DOE) ARM Mobile Facility, Brazilian radars and ground measurements; DOE, Brazilian, and German terrestrial ecosystem systems; and instruments from more than 100 research collaborators at numerous sites in the Amazon Basin. In addition to ground measurements, aerial instrumentation aboard the DOE Gulfstream-1 and German Halo will provide complementary aerial measurements. The campaign runs from January 2014 through December 2015.

To celebrate and recognize the sponsors and participants of GOAmazon, this three-day event includes:

- Tuesday – VIP reception
- Wednesday – Iranduba (T2) and Manacapuru (T3) site tours
- Thursday – ZF2 and airport (Gulfstream-1) site tours.

**TUESDAY, February 18: Auditório da Ciência, Instituto Nacional de Pesquisas da Amazônia Manaus campus**

**7:00 p.m. Welcome**

Dr. Roberto Luis Val, Director, Instituto Nacional de Pesquisas da Amazônia

**7:10 p.m. Opening Remarks**

Dr. Maria Olívia Albuquerque Ribeiro Simão, President, Fundação de Amparo à Pesquisa do Estado do Amazonas  
 Dr. Shailene Weethenwar, Associate Director, Office of Biological & Environmental Research, U.S. Department of Energy  
 Dr. Celso Lafer, President, Fundação de Amparo à Pesquisa do Estado de São Paulo

**7:30 p.m. Scientific Panel Discussion**

Prof. Steve Maden, Harvard University – Principal Investigator, GOAmazon  
 Dr. Karl Lorigo, Instituto Nacional de Pesquisas Espaciais  
 Dr. Jeffrey Chambers, Lawrence Berkeley National Laboratory – Co-principal Investigator, GOAmazon  
 Prof. Rodrigo Feres Souza, Amazon State University  
 Jürgen Kesselmeier, Max. Planck Institute of Chemistry

**8:15 p.m. Media Availability and Reception**

Panel interviews followed by light refreshments and one-on-one interviews

**WEDNESDAY, February 19**

**Iranduba (T2) and Manacapuru (T3) Site Tours**

**T2: Site Tour**  
 Prof. Paulo Artaxo, University of São Paulo  
 Dr. Jian Wang, Brookhaven National Laboratory

**T3: ARM Mobile Facility Site Tour**  
 Mr. Kim Nischke, Los Alamos National Laboratory  
 Dr. Antonio Marchi, Instituto Nacional de Pesquisas da Amazônia

**THURSDAY, February 20**

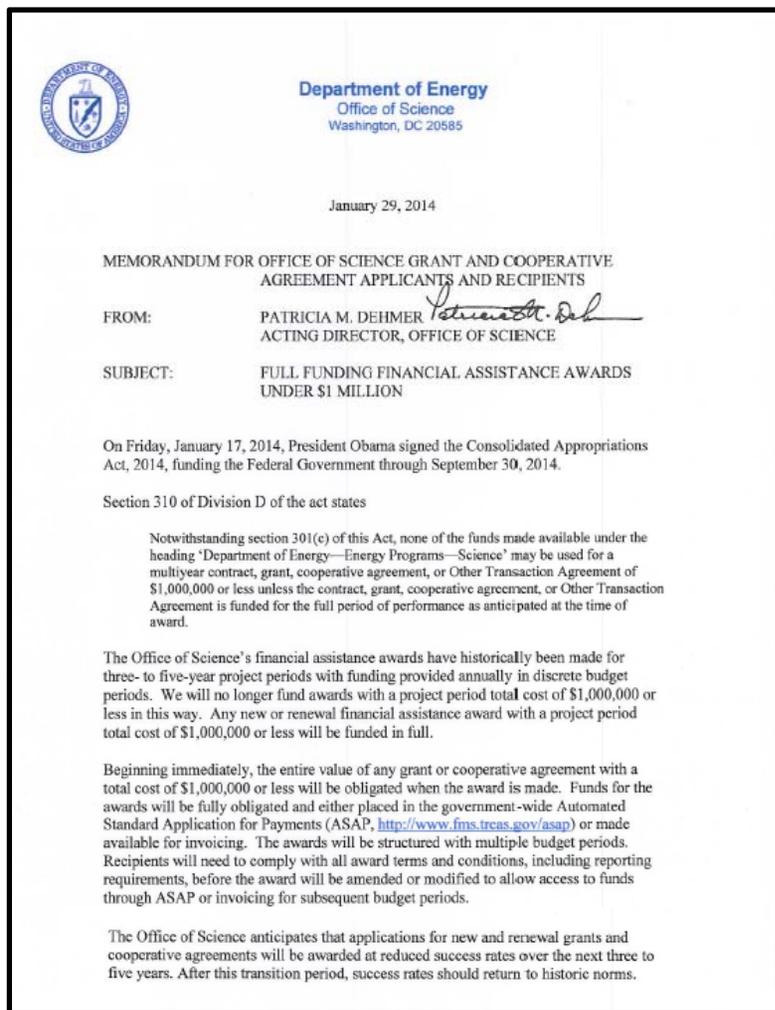
**ZF2 and Eduardo Gomes International Airport Site Tours**  
 Dr. Jeff Chambers, Lawrence Berkeley National Laboratory  
 Dr. Niro Higuchi, Instituto Nacional de Pesquisas da Amazônia

**Airport, Gulfstream-1 Aircraft Tour**

Dr. Best Schmid, Pacific Northwest National Laboratory  
 Dr. Karl Lorigo, Instituto Nacional de Pesquisas Espaciais



# SC Memo on Full Funding Financial Assistance Awards



## Section 310 of Division D of the act states

Notwithstanding section 301(c) of this Act, none of the funds made available under the heading 'Department of Energy—Energy Programs— Science' may be used for a multiyear contract, grant, cooperative agreement, or Other Transaction Agreement of \$1,000,000 or less unless the contract, grant, cooperative agreement, or Other Transaction Agreement is funded for the full period of performance as anticipated at the time of award.

Any new or renewal financial assistance award with a project period total cost of \$1,000,000 or less will be funded in full.

**Beginning immediately, the entire value of any grant or cooperative agreement with a total cost of \$1,000,000 or less will be obligated when the award is made.**

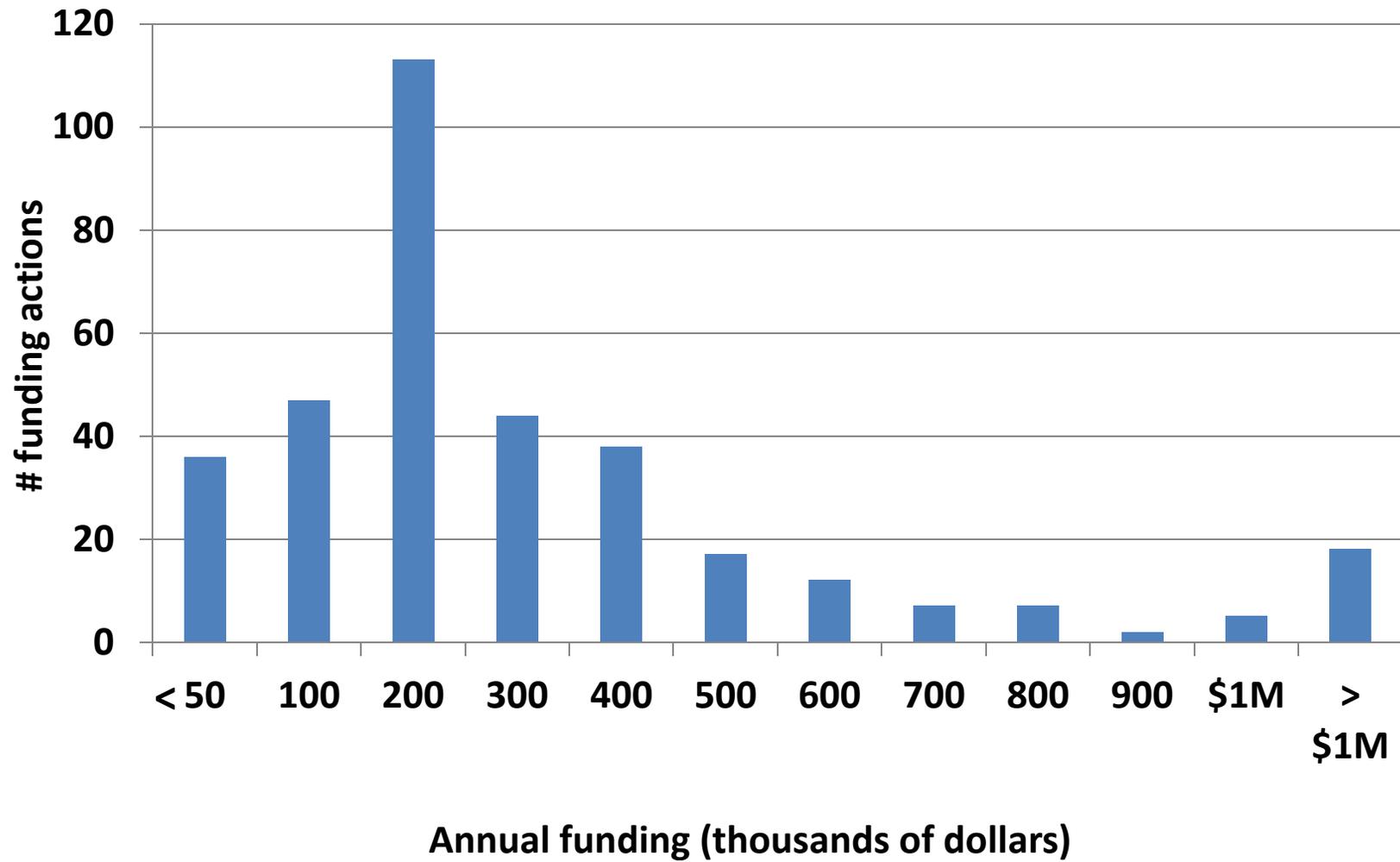
**The Office of Science anticipates that applications for new and renewal grants and cooperative agreements will be awarded at reduced success rates over the next three to five years.** After this transition period, success rates should return to historic norms.

<http://science.energy.gov/grants/policy-and-guidance/full-funding/>

## Implementing Full Funding Financial Assistance Awards

- Beginning immediately, DOE/SC will implement full funding of multi-year grants and/or cooperative agreements with total cost of \$1M or less. “Full funding” means funds for the *entire award* for the project period is obligated at the time the award is made, instead of funding year-by-year.
- Process for full funding applies to new, renewal, or supplemental grant awards. Grants and cooperative agreements with a total cost of more than \$1M, integrated over the project period, are exempt from the full funding requirement.
- There will be no change to how an applicant applies for a grant or cooperative agreement, nor will there be changes to the merit review process.
- BER Program Managers will continue to have oversight of the research program by requiring PIs to submit an annual progress report that must be approved prior to any funds being accessed by the PI the following year.

## BER grant distribution in FY 2012



## New BERAC Charge

Identify disciplines in which significantly greater emphasis in workforce training at the graduate student or postdoc levels is necessary to address gaps in current and future Office of Science (BER) mission needs. As part of your expert assessment, please consider:

- Disciplines not well represented in academic curricula;
- Disciplines in high demand, nationally and/or internationally, resulting in difficulties in recruitment and retention at U.S. universities and at the DOE national laboratories;
- Disciplines identified in the previous two bullets for which the DOE national laboratories may play a role in providing needed workforce development; and
- Specific recommendations for programs at the graduate student or postdoc levels that can address discipline-specific workforce development needs.