

Science for our Nation's Energy Future

Energy Frontier Research Centers
Summit & Forum

May 25–27, 2011
Washington, D.C.

Renaissance Penn
Quarter Hotel

Agenda

Wednesday, May 25, 2011
8:30 AM – 7:00 PM

7:30 AM Registration

- 8:30 AM Welcome and Introduction of Keynote Address
Steve Koonin, *DOE Under Secretary for Science*
- 8:35 AM Keynote Address
Steven Chu, *DOE Secretary of Energy*
- 9:00 AM Congressional Keynote Speakers
Senator Jeff Bingaman (D-NM), Congresswoman Judy Biggert (R-IL) (invited),
Congressman Daniel Lipinski (D-IL), Congresswoman Zoe Lofgren (D-CA)

10:00 AM Break

10:30 AM – 12:15 PM Leading Perspectives in Energy Research

- 10:30 AM Introduction of Session
Bill Brinkman, *DOE Director of the Office of Science*
- 10:45 AM John Hennessy, *President of Stanford University*
- 11:15 AM Mark Little, *Senior Vice President and Director of GE Global Research*
- 11:45 AM Eric Isaacs, *Director of Argonne National Laboratory*

12:15–1:30 PM Lunch Provided

- 12:30–1:00 PM Disruptive Innovations in Computing
Tilak Agerwala, *Vice President, Systems at IBM T. J. Watson Research Center*

- 1:30 PM Fuels from Sunlight Energy Innovation Hub
Nate Lewis, *Director of JCAP*

2:00 PM EFRCs: A Response to Five Challenges for Science and the Imagination

- Moderator: Paul Alivisatos, *Director of Lawrence Berkeley National Laboratory*
- George Crabtree, *Distinguished Fellow at Argonne National Laboratory*
- Mildred Dresselhaus, *Institute Professor at the Massachusetts Institute of Technology*
- Mark Ratner, *Professor at Northwestern University*

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2:45 PM Science for Energy Technology: The Industry Perspective

Moderator: Jeffrey Wadsworth, *President and CEO of Battelle Memorial Institute*

David E. Carlson, *Chief Scientist of BP Solar*

Yet-Ming Chiang, *Professor at the Massachusetts Institute of Technology and founder of A123 Systems*

Catherine T. Hunt, *R&D Director of Innovation Sourcing and Sustainable Technologies at The Dow Chemical Company*

3:30 PM Break

4:00 PM EFRCs: A View from Senior EFRC Representatives

Moderator: Persis Drell, *Director at SLAC National Accelerator Laboratory*

Neal Armstrong, *Director of the Center for Interface Science: Solar Electric Materials led by the University of Arizona*

Emily Carter, *Co-Director of the Combustion Energy Frontier Research Center led by Princeton University and Team Leader of the Heterogeneous Functional Materials Center led by the University of South Carolina*

Don DePaolo, *Director of the Center for Nanoscale Control of Geologic CO₂ led by Lawrence Berkeley National Laboratory*

Brent Gunnoe, *Director of the Center for Catalytic Hydrocarbon Functionalization led by the University of Virginia*

5:00 PM Award Ceremony: Life at the Frontiers of Energy Research Video Competition

Ivan Amato, *Senior communications officer in the Pew Health Group of the Pew Charitable Trusts*

Paula Apsell, *Senior Executive Producer, NOVA and Director of the WGBH Science Unit*

William Phillips, *Physicist, Joint Quantum Institute at the National Institute of Standards and Technology and the University of Maryland, and recipient of the 1997 Nobel Prize in Physics*

5:30 PM–7:00 PM Poster Session and Reception

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Thursday, May 26, 2011
8:00 AM – 7:30 PM

8:00–10:00 AM Global Perspectives on Frontiers in Energy Research

- 8:00 AM Facing Our Energy Challenges in a New Era of Science
Patricia Dehmer, Deputy Director for Science Programs at DOE
- 8:30 AM Kazunari Domen, *Professor at the University of Tokyo, Japan*
- 9:00 AM Robin Grimes, *Professor at Imperial College, United Kingdom*
- 9:30 AM Jean-Marie Tarascon, *Professor at the University de Picardie Jules Verne, France*

10:00 AM Break

- 10:15 AM Parallel Scientific Sessions I
- A. Organic photovoltaics, *Grand Ballroom*
 - C. Solar fuels and biomass, *Mount Vernon Square*
 - D. Energy storage and transmission, *Congressional Hall A & B*
 - E. Energy conservation, *Renaissance Ballroom East*
 - G. Materials in extreme environments, *Renaissance Ballroom West A*
 - H. Effective and sustainable materials design: integration of computation, theory and experiment, *Renaissance Ballroom West B*

12:15–1:45 PM Lunch on Your Own

- 12:35–1:35 PM Optional Bring Your Own Lunch Sessions (3)
- Career Opportunities in Energy Sciences and Technology, Renaissance Ballroom East**
Michelle Buchanan, Associate Laboratory Director in Physical Sciences at Oak Ridge National Laboratory
Marc Kastner, Dean of the School of Science at the Massachusetts Institute of Technology
Joseph F. Mercurio, Manager New Business Development, Global Research and Development at General Motors
- Translating Basic Research to Energy Technology, Congressional Hall A & B**
Karina Edmonds, Technology Transfer Coordinator at DOE
Celia Merzbacher, Vice President of Innovative Partnerships at the Semiconductor Research Corporation
- Science Policy, the Budget Battles of the 112th Congress, and the EFRCs, Mount Vernon Square**
Benjamin L. Brown, Senior Science and Technology Advisor in the Office of Science

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1:45 PM Parallel Scientific Sessions II

- A. Organic photovoltaics, *Grand Ballroom South*
- B. Inorganic photovoltaics, *Grand Ballroom Central*
- C. Solar fuels and biomass, *Grand Ballroom North*
- D. Energy storage and transmission, *Congressional Hall A & B*
- E. Energy conservation, *Renaissance Ballroom East*
- G. Materials in extreme environments, *Renaissance Ballroom West A*
- H. Effective and sustainable materials design: integration of computation, theory and experiment, *Renaissance Ballroom West B*

3:45 PM Break

4:00 PM Parallel Scientific Sessions III

- A. Organic photovoltaics, *Grand Ballroom South*
- B. Inorganic photovoltaics, *Grand Ballroom Central*
- C. Solar fuels and biomass, *Grand Ballroom North*
- D. Energy storage and transmission, *Congressional Hall A & B*
- E. Energy conservation, *Renaissance Ballroom East*
- F. Carbon capture and sequestration, *Renaissance Ballroom West A*
- I. New tools and methods for materials synthesis and characterization, *Renaissance Ballroom West B*

6:00 PM EFRC and DOE Research and Networking Poster Reception

7:30 PM Adjourn



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Friday, May 27, 2011
8:00 AM – 12:30 PM

- 8:00 AM Parallel Scientific Sessions IV
- A. Organic photovoltaics, *Grand Ballroom South*
 - B. Inorganic photovoltaics, *Grand Ballroom Central*
 - C. Solar fuels and biomass, *Grand Ballroom North*
 - F. Carbon capture and sequestration, *Renaissance Ballroom West A*
 - I. New tools and methods for materials synthesis and characterization, *Renaissance Ballroom West B*
- 8:00 AM Scientific Sessions Close-Out Panel
- H. Effective and sustainable materials design: integration of computation, theory and experiment, *Renaissance Ballroom East*
- 9:00 AM Scientific Sessions Close-Out Panels
- G. Materials in extreme environments, *Renaissance Ballroom East*
 - I. New tools and methods for materials synthesis and characterization, *Renaissance Ballroom West B*
- 10:00 AM Poster Session #2
- 11:30 AM Scientific Sessions Close-out Panels
- A. Organic photovoltaics, *Grand Ballroom South*
 - B. Inorganic photovoltaics, *Grand Ballroom Central*
 - C. Solar fuels and biomass, *Grand Ballroom North*
 - D. Energy storage and transmission, *Congressional Hall A & B*
 - E. Energy conservation, *Renaissance Ballroom East*
 - F. Carbon capture and sequestration, *Renaissance Ballroom West A*

12:30 PM Adjourn

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Graphic Agenda

Thursday, May 26, 2011
10:15 AM – 7:30 PM

		South	Central	Mt. Vernon Sq.	Hall A & B	West A	West B	East
Session I.1	10:15–10:35	Paul Barbara Memorial						
Session I.2	10:35–10:55							
Session I.3	10:55–11:15							
Session I.4	11:15–11:35							
Session I.5	11:35–11:55							
Session I.6	11:55–12:15							

12:35–1:35 Lunch (Optional Lunch Sessions from 12:35–1:35)

		South	Central	North	Hall A & B	West A	West B	East
Session II.1	1:45–2:05							
Session II.2	2:05–2:25							
Session II.3	2:25–2:45							
Session II.4	2:45–3:05							
Session II.5	3:05–3:25							
Session II.6	3:25–3:45							

3:45–4:00 Break

		South	Central	North	Hall A & B	West A	West B	East
Session III.1	4:00–4:20							
Session III.2	4:20–4:40							
Session III.3	4:40–5:00							
Session III.4	5:00–5:20							
Session III.5	5:20–5:40							
Session III.6	5:40–6:00							

6:00–7:30 EFRC and DOE Research and Networking Poster Reception I

Key: A. Organic photovoltaics
B. Inorganic photovoltaics
C. Solar fuels and biomass
D. Energy storage and transmission
E. Energy conservation and efficiency

F. Carbon capture and sequestration
G. Materials in extreme environments
H. Effective and sustainable materials design: integration of computation, theory and experiment
I. New tools and methods for materials synthesis and characterization



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Friday, May 27, 2011
8:00 AM – 12:30 PM

		South	Central	North	Hall A & B	West A	West B	East
Session IV.1	8:00–8:20							
Session IV.2	8:20–8:40							
Session IV.3	8:40–9:00							
Session IV.4	9:00–9:20							
Session IV.5	9:20–9:40							
Session IV.6	9:40–10:00							

10:00–11:30 EFRC Poster Session II

Session V.1	11:30–12:30						
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Key:

- A. Organic photovoltaics
- B. Inorganic photovoltaics
- C. Solar fuels and biomass
- D. Energy storage and transmission
- E. Energy conservation and efficiency

- F. Carbon capture and sequestration
- G. Materials in extreme environments
- H. Effective and sustainable materials design: integration of computation, theory and experiment
- I. New tools and methods for materials synthesis and characterization

Slashed sessions are close-out panels