



## WORKSHOP AGENDA

MATERIALS FOR ENERGY APPLICATIONS  
LAWRENCE BERKELEY NATIONAL LABORATORY  
THE CLAREMONT HOTEL  
JANUARY 30 - FEBRUARY 1, 2012

---

### Monday, January 30

- 2:00 - 4:00pm      Optional LBNL Tours  
5:00 - 7:00        Welcome Reception and Registration

### Tuesday, January 31

- 7:30am            Breakfast  
8:30                Welcome (Empire Room) / Horst Simon, *Deputy Laboratory Director, LBNL*  
8:35                Introduction of Keynote / David Parekh, *Vice President, Research Director, UTRC*  
8:40 - 9:05        Keynote Part I / Paul Alivisatos, *Laboratory Director, LBNL*  
9:05 - 9:25        Keynote Part II / Omar Yaghi, *Director, Molecular Foundry, LBNL*  
9:30 - 10:30      Panel 1 Discussion: "How to Engage with the National Labs"  
Panel Organizers: Michelle Buchanan, *Associate Laboratory Director – Physical Sciences, Oak Ridge National Laboratory* and Edwin (Ned) Niccolls, *Senior Consulting Materials Engineer and Chevron Fellow, Chevron Energy Technology Company*  
Chair: Simon Bare, *Research Fellow, UOP LLC, Honeywell*  
Gary Butler, *Team Leader – Advanced Materials R&D, Chevron Corporation*  
Joseph Desmond, *Senior Vice President, Government Affairs & Communications, BrightSource Energy*  
Alex Harris, *Chair, Chemistry Department, Brookhaven National Laboratory*  
Michael Paulus, *Director, Technology Transfer, Oak Ridge National Laboratory*

### BREAK

- 10:50 - 11:50    Panel 2 Discussion: "Technology Gaps Ripe for Industry Collaboration"  
Panel Organizers: Francis Houle, *Director of Strategic Initiatives, Chemical Sciences Division, Lawrence Berkeley National Laboratory*, and Julia Phillips, *Deputy Chief Technology Officer and Director, Research Strategy & Partnerships, Sandia National Laboratories*  
Chair: Eric Amis, *Director, Physical Sciences, United Technologies Research Center*  
Duane Dimos, *Director, Materials Science and Engineering Center, Sandia*  
Sergio Loureiro, *Director, Mechanical Systems, Pratt & Whitney*  
Delia Milliron, *Deputy Director, Molecular Foundry, LBNL*  
Stefan Wurm, *Director of Lithography, SEMATECH*  
12:00 - 1:15      Lunch

1:30 - 2:30

Panel 3 Discussion: "How to Improve Public-Private Partnerships"

Panel Organizers: Theresa Kotanchek, *Vice President, Sustainable Technologies and Innovation Sourcing, Dow Chemical* and Doug Ray, *Associate Laboratory Director, Fundamental & Computational Sciences, Pacific Northwest National Laboratory*

Chair: Joseph Kocal, *Corporate Fellow, Honeywell Specialty Material, UOP*

Leo Christodoulou, *Program Manager, Advanced Manufacturing, Energy Efficiency and Renewable Energy (EERE), Department of Energy*

Michael Kluse, *Laboratory Director, Pacific Northwest National Laboratory*

Theresa Kotanchek, *Vice President, Sustainable Technologies and Innovation Sourcing, Dow Chemical*

**BREAK**

2:45 - 4:15

Multiple Breakout Sessions / Panel Organizers and Members

Breakout 1: How to Engage with the National Labs – Empire Room (plenary location)

Breakout 2: Technology Gaps Ripe for Industry Collaboration – Sonoma Room, Mezzanine Level

Breakout 3: How to Improve Public-Private partnerships – Napa Rooms 1 & 2, Mezzanine Level

4:30 - 6:30

Poster Session with Reception / See next page for details

7:00 - 8:30

Banquet with Guest Speaker: "What's Next in Energy"

Steven Koonin, *Science and Technology Policy Institute, Institute for Defense Analyses*

**Wednesday, February 1**

7:30am

Breakfast

8:30

Introduction of Keynote (Empire Room) / Paul Alivisatos, *Laboratory Director, LBNL*

8:35 - 9:25

Keynote / Steven Chu, *Secretary of Energy*

9:35

Introduction of Keynote / David Parekh, *Vice President, Research Director, UTRC*

9:40 - 10:30

Keynote: Materials for Energy Efficiency, Energy Efficient Materials

Michael McQuade, *Senior Vice President, Science & Technologies, United Technologies*

**BREAK**

11:00 - 12:15

Concluding Panel: Briefing, Questions, Recommendations

Steven Chu, Michael McQuade, Eric Amis, Simon Bare, Joseph Kocal; Moderator: Douglas Ray

12:15 - 1:30

Lunch

12:40

Venture Capital Perspective / Vinod Khosla, *Founder, Khosla Ventures*

1:30

Close Out / David Parekh, Horst Simon

2:00-400

Optional LBNL Tours



## POSTER OVERVIEW

### Topical Areas and Poster Titles

### Poster Presenters

#### Chemical: catalysis, materials synthesis

1. National Laboratory Chemical Synthesis Capabilities
2. National Laboratories Materials Synthesis Capabilities
3. National Laboratory Catalysis R&D Capabilities
4. National Laboratory Catalysis Solutions

Phillip Britt, *ORNL*  
Simona Murph, *SRNL*  
Alex Harris, *BNL*  
Charles Peden, *PNNL*

#### Energy: grid, carbon capture/sequestration, combustion

5. Geologic Carbon Dioxide Sequestration
6. Carbon Dioxide Capture Research and Development
7. Clean and Efficient Combustion for Energy Security
8. Industry Gateway to BES User Facilities
9. Grid Materials and Superconductivity

Curt Oldenburg, *LBNL*  
Charles Freeman, *PNNL*  
Andrew McIlroy, *SNL*  
Piero Pianetta, *SLAC*  
Qiang Li, *BNL*

#### Renewables, emerging energy: photovoltaics, solar fuels, electrical energy storage systems

10. Solar PV/MPV
11. Wind and Water Power: Test Facilities and Industry Partnerships
12. Biomass
13. Materials for Electrical Energy Storage
14. Artificial Photosynthesis Research in the DOE National Laboratories
15. High-Performance Computing Capabilities Within DOE
16. User Facilities for Materials Characterization

Elise Fox, *SRNL*  
Ralph Nichols, *SRNL*  
John Holladay, *PNNL*  
Jerry Hunt, *ANL*  
Joel Ager, *LBNL*  
Vince Lordi, *LLNL*  
Jim Schuck, *LBNL*

#### Energy Efficiency: buildings, windows, light-weight materials

17. Energy Efficient Building Envelope
18. Passive and Active Building Energy Systems
19. Indoor Air Quality- Monitoring and Remediation
20. Lightweight Materials
21. Next Generation Lighting

Steve Selkowitz, *LBNL*  
Ron Judkoff, *NREL*  
Bill Fisk, *LBNL*  
Dan Thoma, *LANL*  
Jerry Simmons, *SNL*



## Topical Areas and Poster Titles

## Poster Presenters

---

### **Manufacturing: Scalable Simulation Science**

- 22. Partnering in Materials Science and Leadership Computing
- 23. Partnering in Renewable Energy
- 24. Software Opportunities: Industry, ISVs and SciDAC
- 25. Computing and Manufacturing

Suzy Tichenor & Jack Wells, *ORNL*  
Avi Purkayastha, *NREL*  
David Skinner, *LBNL*  
David Martin, *ANL*

---

### **Electronics: high voltage, low power**

- 26. Facilities
- 27. Smart Systems
- 28. Power Systems
- 29. New Initiatives and Alternative Technology  
Commercialization Programs
- 30. How to Benefit from the DOE User Facilities
- 31. Sponsored Research: Gaining Benefits  
from DOE Lab Facilities and Experts
- 32. Collaborative Research (CRADA) - Leveraging Your Research Dollars
- 33. Licensing – Accessing Breakthrough Technologies

Jeff Bokor, *LBNL*  
Wahid Hermina, *SNL*  
Wahid Hermina, *SNL*  
Gwyn Williams, *JLab*  
  
Ida Shum, *LLNL*  
Hannah Farquar, *LLNL*  
  
Cheryl Fragiadakis, *LBNL*  
Bill Farris, *NREL*