

# UC Berkeley High Energy Density Workshop

## From Planets to Stars: Creating and Controlling Matter at High Energy Density Solids at 100-fold Compression to Nuclear Fusion

*Space Sciences Laboratory*

May 12-13, 2010

<http://cips.berkeley.edu/events/>

### Wednesday, May 12

9:00 Raymond Jeanloz (UCB), Geoff Marcy (UCB), Roger Falcone (UCB) and Gilbert Collins (LLNL)  
**Welcome**

9:15 Mark Richards (UC Berkeley Dean, College of Letters and Science)  
**Introductory Remarks**

9:20 Hiroshi Azechi (Osaka University)  
**Perspectives on HED, fusion science and applications**

10:20 Jonathan Wurtele (UC Berkeley)  
**Exploring Materials at extreme conditions with LCLS and beyond**

11:20 Russell Hemley (Carnegie Institution of Washington)  
**Materials chemistry under extreme conditions**

12:20 Lunch

### Recent discoveries and perspectives in HED science

1:30 Richard More (LBNL)  
**HEDP and WDM: the mysteries of hot and dense matter**

1:50 Jon Eggert (LLNL)  
**Solids at TPa conditions**

2:10 Damien Hicks (LLNL)  
**Materials at atomic pressures**

2:30 Gilliss Dyer (University of Texas, Austin)  
**Unique HED science with short pulse lasers**

2:50 Peter Celliers  
**Physics of hydrogen and helium at extreme densities**

3:10 Stanimir Bonev (LLNL)  
**Chemistry at extremes for alkali metals**

3:30 Siegfried Glenzer (LLNL)  
**X-ray Thomson scattering as a new window to HED science**

4:00 Lorin Benedict (LLNL)  
**Predicting Properties of Matter at High-P and T: Fun and Frustration**

4:30 Ed Moses (LLNL)  
**NIF, the pathway to fusion energy and the HED science**

5:30 Reception at UC Berkeley Faculty Club

6:15 Dinner: Charles Townes (UC Berkeley)  
**Reminiscences**

**RSVP required to [bhovers@astro.berkeley.edu](mailto:bhovers@astro.berkeley.edu)**

### Thursday, May 13

9:00 Chris Keane (LLNL)  
**Funding opportunities in HED**

9:30 Raymond Jeanloz (UCB)  
**Opportunities for research and collaboration**

10:30 Tour of NIF (for those signed up)