



4th Annual Meeting • 12-13 September 2012 • GL • Washington, DC

Tuesday, Sept 11th

6:00-	Reception
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Wednesday, Sept 12th

7:45 -	Refreshments
Annual Meeting in Greenwalt Lecture Hall	
8:30 - 9:15	<i>EFree Scientific Overview and Perspectives</i> (H.-K. Mao, Carnegie Institution)
Thrust Area 1 Focus Session: Chemical Energy	
9:15-10:00	<i>Thrust Area 1 Overview</i> (J. Badding, Penn State University)
10:00 -10:20	<i>Pressing Ogg's Di-Electron Into Energy-Sector Service</i> (N. Ashcroft, Cornell University) (N. Ashcroft, Cornell University)
10:20 - 10:40	<i>Using Pressure to Measure the Thermodynamics and Kinetics</i> (B. Fultz, Caltech)
10:40-10:50	Break (10 min.)
10:50 - 11:10	<i>High Pressure Chemistry for Renewable Fuel Synthesis</i> (T. Strobel, Carnegie Institution)
11:10 - 11:30	<i>High Pressure Synthesis of New Materials via Formation of New Bonding Patterns</i> (A. Goncharov, Carnegie Institution)
11:30 - 12:15	Thrust Area 1 Discussion Session
12:15 -1:30	Lunch Break
Thrust 3 Focus Session: Structural Limits of Performance	
1:30 -2:15	<i>Thrust Area 3 Overview</i> (M. Guthrie, Carnegie Institution)
2:15 -2:35	<i>Bond Weakening in Diamond at High P and T</i> (R. Boehler, Carnegie Institution)
2:35 -2:55	<i>Energy-Related Nanomaterials at High Pressure</i> (L. Wang, Carnegie Institution)
2:55 - 3:15	<i>Structural and Chemical Properties of Materials as Revealed by Multi-Anvil Experiments</i> (V. Stagno, Carnegie Institution)
3:15 -3:30	Break (15 min.)
3:30 - 3:50	<i>Investigations of Materials for Energy Applications in Aqueous Fluids to Supercritical Conditions</i> (R. Mayanovic, Missouri State University)
3:50 - 4:10	<i>New Developments in the High Pressure Chemistry of Periodic Mesostructures</i> (K. Landskron, Lehigh University)
4:10 - 4:30	<i>Structural Clusters in Liquid Gallium at High Pressure</i> (J. Chen, Florida International University)
4:30 - 5:30	Thrust Area 3 Discussion Session
5:30	Poster Session in Abelson Hall
7:00	Dinner



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Poster
<i>Nuclear Resonant Scattering Studies of the Activation Volume for Polaron Hopping</i> (Sally Tracy, Caltech (tracy@caltech.edu))
<i>Thermodynamics of High Pressure Methane Physisorption</i> (Nick Stadie and Max Murialdo, Caltech (nstadie@caltech.edu, mmuriald@caltech.edu))
<i>Towards Development of Mesoporous Crystalline Aluminosilicas for Petroleum Cracking</i> (Manik Mandal, Lehigh University (mam911@lehigh.edu))
<i>Lithium Amide LiNH₂ Under Pressure</i> (Prasad Dasari, Cornell University (pld48@cornell.edu))
<i>Beta-Tin Structure of Calcium Under High Pressure and Low Temperature</i> (B. Li, HPSynC (bli@ciw.edu))
<i>Pressure-Induced Rehybridization of Carbon</i> Tom Fitzgibbons, Pennsylvania State University (thomas.fitzgibbons@gmail.com))
<i>Magnetic and Structural Transition of the 122 Iron Pnictide Superconductor Under High Pressure and Low Temperature</i> (Junjie Wu, University of Texas-Austin (wjjayst2008@163.com))
<i>Mechanism of Metallization of Solid Hydrogen Nanogenerator Based on Two-Dimensional sp²-Bonded Crystals</i> (Ivan Naumov, Carnegie Institution (inaumov@ciw.edu))
<i>Neutron Diffraction Experiments on Amorphous Solid Solutions of Water and Clathrate Forming Guest</i> (Shinichi Machida, Carnegie Institution (smachida@ciw.edu))
<i>Enhanced Electronic and Ionic Conductivity of K₃Fe(CN)₆ at High Pressure</i> (Kuo Li, Carnegie Institution (kli@ciw.edu))
<i>Lattice Dynamics and Superconductivity in Sr and Ce Under Pressure</i> (Duckyoung Kim, Carnegie Institution (dkim@ciw.edu))
<i>Melting of Carbon Under Pressure</i> (Liuxiang Yang and Amol Karandakar, Carnegie Institution (lyang@ciw.edu, akaran@ciw.edu))
<i>Electronic Structure Studies of Superconducting Iron Selenide at High Pressure</i> (Subhasish Mandal, Carnegie Institution (smandal@ciw.edu))
<i>A First In-Situ High-Energy Synchrotron X-Ray Diffraction Study of a Ta Silicate Glass in Hydrothermal Fluids</i> (Hao Yan, Missouri State University (yanhao75@gmail.com))
<i>Novel Pressure-Induced Magnetism in Transition Metal Oxides</i> (Shigeto Hirai, Stanford University (shigetoh@stanford.edu))



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Thursday, Sept 13th

7:45 -	Refreshments
Thrust Area 2 Focus Session: Electromagnetic Frontiers	
8:30 - 9:15	<i>Thrust Area 2 Overview</i> (V. Struzhkin, Carnegie Institution)
9:15 - 9:35	<i>New Iron-Based Superconductors for Efficient Energy Use: Understanding the Origin of Superconductivity in Extreme Environments</i> (A. Lin, University of Texas, Austin)
9:35 - 9:55	<i>Progress in High Pressure Research on Superconductivity in Unconventional Superconductors</i> (X-J. Chen, Carnegie Institution)
9:55 - 10:25	<i>Giant Electrocaloric Effect Around T_c</i> (R. Cohen, Carnegie Institution)
10:25-10:40	Break (15 min.)
10:40 - 11:00	<i>Effect of Pressure on Strongly Correlated Materials: Manganites and VO_2</i> (M. Baldini, Carnegie Institution)
11:00 - 11:20	<i>Pressure-Induced Insulating State in Metallic V_2O_3</i> (Y. Ding, Argonne National Laboratory)
11:20 - 11:40	<i>From Structures to Performance: A High Pressure Approach to Energy Problems</i> (S. Wang, Stanford University)
11:40 - 12:00	<i>Superionic Conductivity in Lithium-Rich Anti-Perovskites</i> (Y. Zhao, University of Nevada, Las Vegas)
12:00 -1:30	Lunch Break
1:30 - 2:15	Thrust Area 2 Discussion Session
Thrust Area 4 Focus Session: Technique Development	
2:15 -2:30	<i>Thrust Area 4 Overview</i> (R. Boehler, Carnegie Institution)
2:30 -3:15	<i>Progress in Neutron Diffraction Techniques</i> (M. Guthrie, C. Tulk, Oak Ridge National Laboratory)
3:15-3:30	Break (15 min.)
3:30 - 4:15	<i>Progress in Synchrotron Radiation Techniques</i> (W. Yang, G. Shen, Carnegie Institution)
4:15- 4:30	H.-K. Mao -- <i>Final Remarks</i>
4:30	Adjourn (General Assembly)