

Probing Materials under Extreme Conditions Using Synchrotron Radiation

October 30-31, 2017 at the Advanced Photon Source - Program

Sunday October 29 5pm-7pm	Registration and Reception 5pm-7pm	Argonne Guest House
Monday October 30	Day One	Building 446, Auditorium
8:30	Welcome	
	Session 1	Chair: Viktor Struzhkin
8:40	APS Upgrade Overview	Dean Haeffner
9:00	HPCAT Overview	Guoyin Shen
9:20	Using advanced diagnostics to uncover behavior at extreme conditions	Jason Jeffries
9:40	Update on static high-pressure experimental effort at LANL and the ongoing research work at HPCAT	Nenad Velisavljevic
10:00	Break	
	Session 2	Chair: Jason Jeffries
10:30	High pressure science at Sandia National Laboratories	Christopher Seagle
10:50	High pressure science and engineering center at UNLV	Andrew Cornelius
11:10	Hydrogen, hydrides and superhard materials	Maddury Somayazulu
11:30	Studies of superconductivity and novel materials at high pressure	Viktor Struzhkin
11:50	Lunch	
	Session 3	Chair: Nenad Velisavljevic
1:30pm	Measurement of structure of glass at >100 GPa using new double-stage large volume cell	Yoshio Kono
1:45pm	Single-crystal X-ray diffraction at HPCAT	Dmitry Popov
2:00pm	16-BM-D: Overview and New Development	Changyong Park
2:15pm	Current capabilities and development priorities of 16-ID-B General Purpose Table	Jesse Smith
2:30pm	New enabling capabilities for ultra high-PT research at 16-ID-B	Yue Meng
2:45pm	High pressure X-ray spectroscopy at HPCAT	Paul Chow, Yuming Xiao
3:00pm	Microstructure of metals in a laser heated diamond anvil cell	Ross Hrubiak
3:15pm	Break	

	Session 4	Chair: Christopher Seagle
3:45pm	Leveraging DCS and HPCAT capabilities for understanding a shock-driven phase transition	Patricia Kalita
4:00pm	Static compression activities of High Pressure Physics Group at LLNL	Hyunchae Cynn
4:15pm	Application of nanofabrication in extreme conditions science	Jeff Pigott
4:30pm	Using high pressures to create new solid-state bonds	James Walsh
4:45pm	In situ CO ₂ laser heating at the HPCAT diffraction beamline	Ashkan Salamat
5:00pm -- 6:00 pm	Poster session, 446-Auditorium	Chair: Guoyin Shen
6:20pm	Dinner	Argonne Guest House

Tuesday October 31	Day Two	Building 446, Auditorium
	Session 5	Chair: Kevin D'Amico
8:30	Detectors for the APS-U era	Antonino Miceli
8:50	Nuclear resonant and inelastic x-ray scattering studies under high pressure at the APS	Ercan Alp
9:10	Revealing 3D microstructures with high-energy X-rays	Jonathan Almer
9:30	Probing magnetism at high pressure with polarized X-rays: beyond ferromagnets	Daniel Haskel
9:50	Opportunities for high-pressure research at beamline 8-ID with X-ray Photon Correlation Spectroscopy (XPCS)	Eric Dufresne
10:10	Ultrafast x-ray imaging and complementary techniques at 32-ID beamline of the APS	Kamel Fezzaa
10:30	Break	
	Session 6	Chair: Andrew Cornelius
11:00	Equation of state of 2,4,6-triamino-1,3,5-trinitrobenzene (TATB) using a suite of x-ray diffraction techniques	Elissaios Stavrou
11:15	Illumination of compaction wave evolution in distended media via phase contrast imaging	Matthew Hudspeth
11:30	Multi-scale diffraction mapping of heterogeneous samples in the DAC	Barbara Lavina
11:45	Stability and photochemical reaction in H ₂ S and H ₂ +S at high pressures	Sakun Duwal
12:00pm	Intermediate valence behavior in YbNi(Ga,In) ₄	Zachary Brubaker
12:15pm	Box lunch	
1:30pm	APS/HPCAT tour	
3:00pm	Workshop adjourns	