

COMPRES

CONsortium for Materials Properties Research in Earth Sciences



Newsletter
October 2017

COMPRES Annual Meeting SAVE THE DATE! August 5-8, 2018



We are pleased to announce that the 2018 COMPRES Annual Meeting will be held on August 5-8, 2018 at the Hyatt Regency Tamaya Resort, New Mexico, USA. <http://compres.us/events/annual-meeting/2018/2018-compres-annual-meeting-general-information>

Sunday 8/5. Arrival day with 5 PM poster session + reception, followed by 7 PM dinner.

Monday 8/6. Full day of meeting

Tuesday 8/7. Full day of meeting

Wednesday 8/8. Morning meeting, noon departure.

More details on registration and program will be posted in early 2018. We anticipate offering one or more pre-meeting COMPRES supported workshops to be held on Sunday 8/5, with check-in on Saturday 8/4.

Meeting Questions? Contact Beth Ha: beth3ha@unm.edu. See you in New Mexico, August 2018!

Recent COMPRES Workshop

Workshop on Challenges in the Study of Materials at Extreme Conditions using DAC at NSLS-II

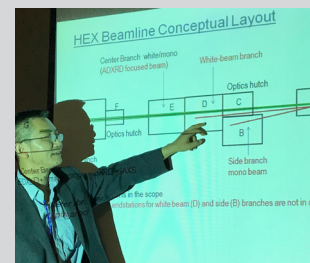
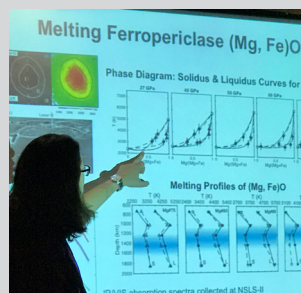
October 28-29, 2017, Long Island, NY, Jihua Chen (Chair)

Scope of Workshop

- Review and highlight features of existing beamlines and planned future beamlines at NSLS-II.
- Review the demand for a new DAC facility from the COMPRES community.
- Discuss the possible proposal to COMPRES for establishing a DAC facility at NSLS-II and its management structure.
- Solicit ideas for fundraising to maximize resources to support the operation of a possible DAC facility at NSLS-II.



BROOKHAVEN
NATIONAL LABORATORY



Workshop on Challenges in the Study of Materials at Extreme Conditions using DAC at NSLS-II



On October 28-29, 2017 approximately 35 participants attended the COMPRES supported workshop “Challenges in the Study of Materials at Extreme Conditions in the Diamond Anvil Cell (DAC) at the National Synchrotron Light Source II (NSLS-II)”. Highlights included 22 oral presentations and several group discussion sessions on DAC research and development, and the potential for establishing a DAC program at NSLS-II.



Beamline	% of beamline COMPRES DAC	Laser heating	Specialty Techniques
ALS22.2.2	100%	Yes	Radial diffraction, single-crystal
APS 5-ID	40%	Yes	NRXRS, SMS, HERIX
APS 16-ID-B	20%	Yes	Cryostats, time-resolved
APS 15-ID-D	15%	No	NRXRS, SMS, emission spectroscopy
APS 16-BM-B	15%	No	Laue diffraction, PE cell
APS 16-BM-D	20%	No	XANES
APS 13-BM-C	50%	No	Brillouin
APS 12-BM-C	75%	In commissioning	Single crystal
APS 12-ID-D	100%	Yes	Pulsed heating, emission spectroscopy
TOTAL	355%		

Workshop Program of Speakers

Carl Agee (President, COMPRES, U. New Mexico) Opening Address
Dave Mao (Geophysical Lab) The New Paradigm of SEDI
Kanani Lee (Yale U.) Mapping temperatures, compositions and mineralogy: Towards a deeper understanding of the deep Earth
Jie Li (U. Michigan) Melting behavior and reaction kinetics in diamond-anvil cells
Alex Goncharov (Geophysical Lab) Novel high pressure chemistry and planetary interiors
Sean Shieh (U. Western Ontario) Strength and texture study of Earth material
June Wicks (Johns Hopkins U.) In situ x-ray scattering techniques with laser-driven dynamic compression
Jing Yang (Geophysical Lab) Elasticities and Sound Velocities of Lower Mantle Minerals in Heated DAC
John Tse (U. Saskatchewan) High pressure hard x-ray diffraction and new opportunities at the Canadian Light Source
Jin Zhang (U. New Mexico) High-pressure single-crystal X-ray diffraction and thermal diffuse scattering
Xinguo Hong (HPSTAR) HP-PDF research of X17DAC at NSLS and opportunities for HP community at NSLS-II
Qun Shen (NSLS-II) Overview of NSLS-II and Opportunities for High-Pressure Research

Mark Rivers (U. Chicago) US Facilities for Diamond Anvil Cell Research
Eric Dooryhee (NSLS-II) XPD beamline: status and opportunities for high pressure science
Zhong Zhong (NSLS-II) From X17 to HEX – past glories lead to bright future for DAC
Wenge Yang (APS) High pressure synergy effort at APS
Yong Cai (NSLS-II) Ultrahigh resolution inelastic x-ray scattering and opportunities for high pressure research
Yong Chu (NSLS-II) Nanoscale Imaging Capabilities of the Hard X-ray Nanoprobe at the NSLS-II
Andrei Fluorasu (NSLS-II) Scientific Opportunities for Coherent Hard X-ray Scattering at the NSLS-II
Zhenxian Liu (George Washington U.) FIS/MET: a platform for optical spectroscopic studies under extreme environment at NSLS-II
Jiuhua Chen (Florida International U.) Discussion Leader, DAC potentials at XPD, HEX, IXS, HXN, CHX etc.
Donald Weidner (Stony Brook U.) Let's Vision towards the Future of Mineral Physics at the NSLS II
Kanani Lee (Yale U.) Discussion Leader, A proposal to fund DAC X-ray facility at NSLS-II



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