

2016 Stewardship Science Academic Programs (SSAP) Symposium
February 17-18, 2016

DAY 1 Wednesday, February 17					
Morning Sessions					
Begin	End	Duration	Speaker	Affiliation	Title
General Session (Salon E-H)					
Moderator: Mike Kreisler					
7:30 AM	8:30 AM	1:00	Registration / Continental Breakfast		
8:30 AM	8:40 AM	0:10	Michael Kreisler	National Nuclear Security Administration	Announcements
8:40 AM	9:00 AM	0:20	Keith LeChien	National Nuclear Security Administration	Welcome from NNSA
9:00 AM	9:30 AM	0:30	Jolie Cizewski	Rutgers University	Center of Excellence for Radioactive Ion Beam Studies for Stewardship Science
9:30 AM	10:00 AM	0:30	Todd Ditmire	University of Texas at Austin	University of Texas Center for High Energy Density Science
10:00 AM	10:15 AM	0:15	BREAK		
Parallel sessions begin					
HEDP / NLUF Session (Brookside A&B)					
Moderator: Alan Wootton					
10:15 AM	10:35 AM	0:20	R. Paul Drake	University of Michigan	Center for Laser Experimental Astrophysics Research
10:35 AM	10:55 AM	0:20	Farhat Beg	University of California, San Diego	Fast Electron Energy Coupling and Transport in Warm Dense Plasmas
10:55 AM	11:15 AM	0:20	Pia Valdivia	Johns Hopkins University	Development of Talbot-Lau Phase-Contrast X-ray Diagnostics for High Energy Density Laboratory Plasmas
LENS Session (Forest Glen)					
Moderator: Brady Gall					
10:15 AM	10:35 AM	0:20	Werner Tornow	Duke University	Neutron-Induced Fission Studies and Reactions on Special Nuclear Materials
10:35 AM	10:55 AM	0:20	Peter Humby	University of Richmond	Low Energy Nuclear Science at the University of Richmond
10:55 AM	11:15 AM	0:20	Romualdo deSouza	Indiana University	Development of a High-Resolution Position Sensitive MCP-PMT Detector
Materials Session (White Flint Amphitheater)					
Moderator: Eric Machorro					
10:15 AM	10:35 AM	0:20	David Ceperley	University of Illinois	Quantum Simulations for Dense Matter
10:35 AM	10:55 AM	0:20	Fuxiang Zhang	University of Michigan	Complex Oxides under Extreme Conditions: The Role of Defects
10:55 AM	11:15 AM	0:20	Pedro Peralta	Arizona State University	Formulation and Validation of Anisotropic Models for Growth and Coalescence of Spall Damage in Crystalline Materials
General Session (Salon E-H)					
Moderator: Staci Brown					
11:20 AM	11:50 AM	0:30	Russell Hemley	Carnegie Institution of Washington	Carnegie/DOE Alliance Center: A Center of Excellence for High Pressure Science and Technology
11:50 AM	12:20 PM	0:30	Yogi Gupta	Washington State University	The Institute for Shock Physics: Understanding Materials at Extreme Dynamic Compression
12:20 PM	1:20 PM	1:00	LUNCH		
1:00 PM	1:20 PM	0:20	Thierry Massard	Commissariat à l'énergie atomique et aux énergies alternatives (CEA)	Research Opportunities at CEA Defense Division in France
1:20 PM	1:30 PM	0:10	Richard Kraus	Lawrence Livermore National Laboratory	Post Doc Experience at a National Laboratory
1:30 PM	2:00 PM	0:30	Dawn Flicker	Sandia National Laboratories	Q&A with National Laboratory Staff
2:00 PM	2:30 PM	0:30	Visit lab tables		

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Afternoon Sessions						
Begin	End	Duration	Speaker	Affiliation	Title	
HEDP / NLUF Session (Brookside A&B)						
Moderator: Joe Kindel						
2:30 PM	2:50 PM	0:20	Rich Petrasso	Massachusetts Institute of Technology	Studying Hydrodynamics, Kinetic/multi-ion Effects, and Charged-Particle Stopping in HED Plasmas and ICF Implosions at Omega, Omega-EP and at the NIF	
2:50 PM	3:10 PM	0:20	Patrick Hartigan	William Marsh Rice University	Magnetized Accretion Shocks and Magnetospheres in the Laboratory	
3:10 PM	3:30 PM	0:20	Stein Jacobsen	Harvard University	From Z to Planets: Phase II	
3:30 PM	3:45 PM	0:15	BREAK			
3:45 PM	4:05 PM	0:20	Karl Krushelnick	University of Michigan	Relativistic Laser Plasma Interactions at the University of Michigan	
4:05 PM	4:25 PM	0:20	Nathaniel Fisch	Princeton University	Fundamental Issues in the Interaction of Intense Lasers with Plasma	
4:25 PM	4:45 PM	0:20	Farhat Beg	University of California, San Diego	Intense Proton Beam Generation and Transport in Solids and Warm Dense Matter	
4:45 PM	5:05 PM	0:20	William Fox	Princeton University	Dynamics of Magnetic Reconnection and Instabilities of Current Sheets in High-Energy-Density	
LENS Session (Forest Glen)						
Moderator: Sarah Wilk						
2:30 PM	2:50 PM	0:20	Witold Nazarewicz	Michigan State University	Microscopic Description of the Fission Process	
2:50 PM	3:10 PM	0:20	Alexander Voinov	Ohio University	Studies in Low Energy Nuclear Science	
3:10 PM	3:30 PM	0:20	Uwe Greife	Colorado School of Mines	High Precision Fission Studies with the NIFFTE Fission Time Projection Chamber	
3:30 PM	3:45 PM	0:15	BREAK			
3:45 PM	4:05 PM	0:20	Calvin Howell	Duke University	Photo-Fission Product Yields of Special Nuclear Materials	
4:05 PM	4:25 PM	0:20	Partha Chowdhury	University of Massachusetts	Nuclear Science with a C7LYC Array (SCANS)	
4:25 PM	4:45 PM	0:20	Yaron Danon	Rensselaer Polytechnic Institute	Experiments with Neutron Induced Reactions	
4:45 PM	5:05 PM	0:20	Michael Kovash	University of Kentucky	Measurements of Low Energy Neutrons from Neutron-Induced Fission	
Materials Session (White Flint Amphitheater)						
Moderator: Tiberius Moran-Lopez						
2:30 PM	2:50 PM	0:20	Matthew Bishop	University of Alabama at Birmingham	Studies on Rare Earth Metals and Alloys under Extreme Conditions in Support of the Stockpile Stewardship Program	
2:50 PM	3:10 PM	0:20	Vikas Prakash	Case Western Reserve University	Dynamic Strength of Metals under Extreme Conditions	
3:10 PM	3:30 PM	0:20	Richard Scalettar	University of California, Davis	Spectroscopic and Nuclear Magnetic Resonance Studies of Screening in Compressed Novel Magnets: Rare Earth and Fe-based Compounds	
3:30 PM	3:45 PM	0:15	BREAK			
3:45 PM	4:05 PM	0:20	Isaac Silvera	Harvard University	A First-Order Phase Transition to Metallic Hydrogen	
4:05 PM	4:25 PM	0:20	Baosheng Li	Stony Brook University	Thermodynamic and Mechanical Properties of SSP Materials from Simultaneous Ultrasonic and X-ray Studies at High Pressure and Temperature	
4:25 PM	4:45 PM	0:20	Keith Loebner	Stanford University	Ultra-High Speed Neutral Plasma Jets and their Interactions with Materials Generating Extreme Conditions	
4:45 PM	5:05 PM	0:20	Dhanesh Chandra	University of Nevada, Reno	Behavior of Ni-Nb-Zr Amorphous Alloy Gas Permeation Membrane Ribbons at Extreme Conditions	
General Session (Salon E-H)						
5:15 PM	5:45 PM	0:30	Keynote Speaker: John Edwards	Lawrence Livermore National Laboratory	Facing the Challenge of Laboratory Ignition	
5:45 PM	7:45 PM	2:00	Poster Session and Reception			

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DAY 2 Thursday, February 18, 2016						
Morning Sessions						
Begin	End	Duration	Speaker	Affiliation	Title	
General Session (Salon E-H)						
Moderator: Mike Kreisler						
7:30 AM	8:00 AM	0:30	Registration / Continental Breakfast			
8:00 AM	8:30 AM	0:30	Howard Hall	University of Tennessee	University of Tennessee Radiochemistry Center of Excellence	
8:30 AM	9:00 AM	0:30	Bruce Kusse	Cornell University	Center for Pulsed Power Driven High Energy Density Plasmas	
Parallel sessions begin						
HEDP / NLUF Session (Brookside A&B)						
Moderator: Alan Wootton						
9:05 AM	9:25 AM	0:20	June Wicks	Princeton University	Dynamic Compression of Earth and Planetary Materials using the Omega Laser	
9:25 AM	9:45 AM	0:20	Alla Safronova	University of Nevada, Reno	Z-pinch Research on Radiation, Atomic and Plasma Physics	
9:45 AM	10:05 AM	0:20	Alison Saunders	University of California, Berkeley	Design and Fielding of Advanced X-ray Spectrometers for X-ray Scattering Diagnostics	
10:05 AM	10:20 AM	0:15	BREAK			
10:20 AM	10:40 AM	0:20	John Greenly	Cornell University	Magnetized High Energy Density Plasma Flows Drive By Skin Effects	
10:40 AM	11:00 AM	0:20	Mingsheng Wei	General Atomics	Hot Electron Scaling in Long Pulse Laser Plasma Interaction Relevant to Shock Ignition	
SSAA/PSAAP II (Forest Glen)						
Moderator: Malcolm Andrews						
9:05 AM	9:25 AM	0:20	Paul Dimotakis	California Institute of Technology	A New Computational Fluid Dynamics Framework for Multi-Physics Simulations	
9:25 AM	9:45 AM	0:20	Jim Morel	Texas A&M University	Center for Exascale Radiation Transport	
9:45 AM	10:05 AM	0:20	Ali Mani	Stanford University	Predictive Simulations of Particle-laden Turbulence in a Radiation Environment	
10:05 AM	10:20 AM	0:15	BREAK			
10:20 AM	10:40 AM	0:20	Philip Smith	University of Utah	The Uncertainty Quantification - Predictive Multidisciplinary Simulation Center for High Efficiency Electric Power Generation with Carbon Capture	
10:40 AM	11:00 AM	0:20	Karel Matous	University of Notre Dame	Center for Shock Wave-Processing of Advanced Reactive Materials (C-SWARM)	
Materials Session (White Flint Amphitheater)						
Moderator: William Rhodes						
9:05 AM	9:25 AM	0:20	Jeffrey Jacobs	University of Arizona	An Experimental Study of the Turbulent Development of Rayleigh-Taylor and Richtmyer-Meshkov Instabilities	
9:25 AM	9:45 AM	0:20	Ricardo Bonazza	University of Wisconsin	Investigation of Shock-Induced Turbulent Mixing at a Gas Interface	
9:45 AM	10:05 AM	0:20	Devesh Ranjan	Georgia Tech	Dynamics of Rayleigh-Taylor Flows at Large Atwood Numbers	
10:05 AM	10:20 AM	0:15	BREAK			
10:20 AM	10:40 AM	0:20	M. Brian Maple	University of California, San Diego	Novel d- and f- Electron Materials Under Extreme Conditions of Pressure, Temperature and Magnetic Field	
10:40 AM	11:00 AM	0:20	Peter Vorobieff	University of New Mexico	Quantification of Normal and Oblique Shock-Driven Phase Interaction and Transition to Turbulence in Media with Multiscale Density Interfaces	
General Session (Salon E-H)						
Moderator: Mark Visosky						
11:05 AM	11:35 AM	0:30	Aaron Covington	University of Nevada, Reno	Investigations of High Energy Density Plasmas at the Nevada Terawatt Facility and Beyond	
11:35 AM	12:05 PM	0:30	Yusheng Zhao	University of Nevada, Las Vegas	High Pressure Science and Engineering Center (HiPSEC)	
12:05 PM	1:00 PM	0:55	LUNCH / Poster awards			
1:00 PM	1:25 PM	0:25	Guoyin Shen	Carnegie Institution of Washington	High Pressure Collaborative Access Team (HPCAT) Operations	

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HEDP / NLUF Session (Brookside A&B)					
Moderator: Joe Kindel					
1:30 PM	1:50 PM	0:20	Marius Millot	University of California, Berkeley	Exploring the Quantum Mechanics of Dense Matter
1:50 PM	2:10 PM	0:20	Warren Mori	University of California, Los Angeles	Application of Parallel Kinetic Simulations to Laser and Electron Transport Through High Energy
2:10 PM	2:30 PM	0:20	Michael Ross	University of Washington	High Energy Density Z-Pinch Plasmas using Flow Stabilization: ZaP HD
2:30 PM	2:50 PM	0:20	Anatoly Spitkovsky	Princeton University	Generation of Collisionless Shocks in Laser-Produced Plasmas
2:50 PM	3:10 PM	0:20	Douglass Schumacher	Ohio State University	High Energy Density Physics Program at the Scarlet Laser Facility
3:10 PM	3:30 PM	0:20	Bedros Afeyan	Polymath Research, Inc.	Statistical Nonlinear Optics of High Energy Density Plasmas: The Physics of Multiple Crossing Laser Beams
3:30 PM	3:50 PM	0:20	Roberto Mancini	University of Nevada, Reno	Mixing and Ti-tracer distribution in OMEGA direct-drive implosions
Materials Session (White Flint Amphitheater)					
Moderator: Eric Machorro					
1:30 PM	1:50 PM	0:20	Arindam Banerjee	Lehigh University	The Effects of Strength and De-Mixing in Buoyancy (Rayleigh-Taylor) Driven Turbulence
1:50 PM	2:10 PM	0:20	Marc Meyers	University of California, San Diego	Eiscous Plastic Flow, Dislocation Velocities, and Amorphization at Extreme Pressures and Strain-
2:10 PM	2:30 PM	0:20	Stanley Tozer	Florida State University	Electron Interactions in Actinides and Related Systems Under Extreme Conditions
2:30 PM	2:50 PM	0:20	Michael Pravica	University of Nevada, Las Vegas	A Novel Synthesis of Polymeric CO via Useful Hard X-ray Photochemistry
2:50 PM	3:10 PM	0:20	Zenquang Ma	University of Wisconsin, Madison	Membrane Enabled Hard X-ray Imager