

Plasma Electro-Energetic Physics Portfolio Review 2015

Dr. Jason Marshall | November 30-December 1, 2015 | Arlington, VA

Monday, 30 November, 2015

Time	Topic	Speaker
08:00-08:15	Opening Remarks	Dr. J. Marshall, AFOSR, Arlington, VA
Computational & Theoretical Plasma Physics		
08:15-08:40	A Hybrid Model for Multiscale Laser Plasma Simulations with Detailed Collisional Physics	Dr. David Bilyeu, AFRL/RQR, Edwards AFB, CA
08:40-09:05	Simulation for Electron Impact Excitation/Deexcitation and Ionization/Recombination	Dr. Russel Caflisch, UCLA, Los Angeles, CA
09:05-09:30	Hybrid VFP Modeling of Electron Transport and Radiation Generation	Dr. Alexander Thomas, UMich, Ann Arbor, MI
09:30-09:55	Studies of Plasma Sheath Physics using Continuum Kinetic Simulations of Plasmas	Dr. Bhuvana Srinivasan, Virginia Tech, Blacksburg, VA
09:55-10:20	COFFEE BREAK	
10:20-10:45	Variational Algorithms for High-Fidelity Plasma Simulations	Dr. Stephen Webb, RadiaSoft LLC, Boulder, CO
10:45-11:10	Design of graphene-based interfaces for applications in energy, electronics and photonics	Dr. Ricky (Lay Kee) Ang, NTU, Singapore
11:10-11:35	KEEN and KEEPN Wave Simulations Using the Vlasov-Poisson Model Equations	Dr. Bedros Afeyan, Polymath Research Inc., Pleasanton, CA
High Power Electromagnetic Sources		
11:35-12:00	Physics of GW-class High Power Microwave Amplifiers	Dr. Peter Mardahl, AFRL/RDH, Kirtland AFB, NM
12:00-13:15	LUNCH	
13:15-13:40	Overmoded Circuits for High Power Traveling Wave Tubes and Klystrons	Dr. Richard Temkin, MIT, Boston, MA
13:40-14:05	High Power Microwave/Terahertz Generation from Superconductor Antennas for Military Applications	Dr. Timothy Haugan, AFRL/RQQ, Wright Patterson AFB, OH
14:05-14:30	Cathode Materials Research for High Power Microwave Sources	Dr. Don Shiffler, AFRL/RDH, Kirtland AFB, NM

14:30-14:55	Phase-Controlled Magnetron Development	Dr. Jim Browning , BSU, Boise, ID
14:55-15:20	COFFEE BREAK	
15:20-15:45	Carbon Nanotube Fiber Field Emission Cathodes	Dr. Steven Fairchild , AFRL/RX, Wright Patterson AFB, OH
15:45-16:10	Cherenkov Interactions at High-Power in Microwave Metamaterials	Dr. Rebecca Seviour , University of Huddersfield, Huddersfield, UK
16:10-16:35	High Power Recirculating Planar Amplifiers	Dr. Ronald Gilgenbach , UMich, Ann Arbor, MI
Fundamental Processes and Interactions in Plasmas		
16:35-17:00	Understanding Intense Laser Interactions with Solid Density Plasma	Dr. Alexander Thomas , UMich, Ann Arbor, MI
MEETING ADJOURNED FOR THE DAY		

Tuesday, 01 December, 2015		
Time	Topic	Speaker
Fundamental Processes and Interactions in Plasmas (Continued)		
08:00-08:25	Characterizing Hypervelocity Impact Plasmas and Effects on Spacecraft with Particle-in-Cell (PIC)	Dr. Sigrid Close , Stanford University, Stanford, CA
08:25-08:50	Energy Flow in Dense Off-Equilibrium Plasma	Dr. Seth Putterman , UCLA, Los Angeles, CA
08:50-09:15	Spectroscopic Analysis of Energy Distribution in Low Temperature Plasmas for AF Applications	Dr. Steven Adams , AFRL/RQQ, Wright Patterson AFB, OH
09:15-09:40	Non-equilibrium kinetics in high pressure gas mixture plasmas (Dr, James Scofield)	Brian Sands , AFRL/RQQ, Wright Patterson AFB, OH
09:40-10:05	COFFEE BREAK	
10:05-10:30	Fundamental studies of atmospheric pressure, nanosecond pulsed microplasma jets	Dr. Chunqi Jiang , ODU, Norfolk, VA
10:30-10:55	Ponderomotively Driven Quasi-Free-Space Electron Series Resonance Plasmas	Dr. Brad Hoff , AFRL/RDH, Kirtland AFB, NM
10:55-11:20	Threat Detection Using a Modular Cosmic Ray Muon Tomography System	Dr. James Popp , CUNY-York, Jamaica, NY

Energy Transport in Solids		
11:20-11:45	Plasma and Laser Kinetics within a Discharge Assisted Noble Gas Laser	Dr. Greg Pitz , AFRL/RDL, Kirtland AFB, NM
11:45-13:15	LUNCH	
13:15-13:40	Electron Dynamics During High-Power, Short-Pulsed Laser Interactions with Solids and Interfaces	Dr. Patrick Hopkins , UVA, Charlottesville, VA
13:40-14:05	Dynamics of High-Intensity Laser-Driven Proton Beam Transport in Solid Density Materials	Dr. Christopher McGuffey , UCSD, San Diego, CA
14:05-14:30	Nonlinear Dielectrics for Compact Pulsed Power & High Power Microwave Protection	Dr. Susan Heidger , AFRL/RDH, Kirtland AFB, NM
14:30-14:55	RF Generation Based on Nonlinear Transmission Lines	Dr. Jose Rossi , INPE, Brazil
14:55-15:20	COFFEE BREAK	
15:20-15:45	Fundamentals of Thermal Conductance at Elevated Temperatures	Dr. Pamela Norris , UVA, Charlottesville, VA
15:45-16:10	Scattering and Relaxation Mechanisms of Electronic Materials	Dr. Patrick Hopkins , UVA, Charlottesville, VA
16:10-16:35	Innovative Study of Electrical Contact and Electron Transport	Dr. Y. Y. Lau , UMich, Ann Arbor, MI
MEETING CONCLUDED		