

# 2017 Plasma and Electroenergetic Physics Annual Review

Dr. Jason Marshall | June 13-15, 2017 | Arlington, VA

Tuesday, 13 June, 2017

Time	Topic	Speaker
08:30-08:45	Opening Remarks	Dr. J. Marshall, AFOSR, Arlington, VA
<b>Fundamental Processes and Interactions in Plasmas</b>		
08:45-09:15	Dynamic Plasma Coupling in Laboratory, Computer, Space	Dr. David Cooke, AFRL/RVB
09:15-09:45	Characterizing Hypervelocity Impact Plasmas and Effects on Spacecraft with PIC	Dr. Sigrid Close, Stanford
09:45-10:00	<b>BREAK</b>	
10:00-10:30	Pulse power implosion experiments and simulation study of the impact of Lower Hybrid Drift (LHD) plasma turbulence on the propagation properties of high frequency electromagnetic waves	Dr. Vladimir Sotnikov, AFRL/RYM
10:30-11:00	Energy Flow in Dense Off-Equilibrium Plasma	Dr. Seth Putterman, UCLA
11:00-11:30	Advanced spectroscopic studies of nanosecond pulsed microplasmas	Dr. Chunqi Jiang, ODU
11:30-13:00	<b>LUNCH</b>	
13:00-13:30	Threat Detection Using a Modular Cosmic Ray Muon Tomography System	Dr. James Popp, CUNY-York
13:30-14:00	Dynamics of High-Intensity Laser-Driven Proton Beam Transport in Solid Density Materials (Dr. Christopher McGuffey)	Dr. Joochwan Kim, UCSD
<b>Energy Transport in Solids</b>		
14:00-14:30	Nonlinear Dielectrics and Magnetics for Compact High Power Electromagnetics (Dr. Susan Heidger)	Dr. Brad Hoff, Dr. Renee Van Ginhoven, AFRL/RDH
14:30-14:45	<b>BREAK</b>	
14:45-15:15	Nanostructure Techniques to Obtain Enhanced Permittivity Dielectrics	Dr. J. Neil Merrett, AFRL/RQQ
15:15-15:50	Innovative Study of Electrical Contact and Electron Transport	Dr. Y. Y. Lau, UMich, Dr. Peng Zhang, MSU
15:50-16:20	Electron Dynamics During High-Power, Short-Pulsed Laser Interactions	Dr. Patrick Hopkins, UVA
<b>MEETING ADJOURNED FOR THE DAY</b>		

Wednesday, 14 June, 2017

Time	Topic	Speaker
<b>High Power Electromagnetic Sources</b>		
08:30-09:00	Cathode Emission Study for High Power Microwave Sources	Dr. Wilkin Tang, AFLR/RDH
09:00-09:30	Optical Cavity Enhanced Electron Emitters	Dr. Rehan Kapadia, USC
09:30-10:00	Investigation of Novel Nanomaterials	Dr. Steven Fairchild, AFRL/RXA
10:00-10:30	Emittance Studies of Novel Cathodes	Dr. John Booske, UWisc
10:30-10:45	<b>BREAK</b>	
10:45-11:15	Phase-Controlled Magnetron Development	Dr. Jim Browning, BSU
11:15-11:45	Pushing the Frontiers of the Relativistic Magnetron (Dr. Edl Schamiloglu)	Dr. Sarita Prasad, UNM
11:45-12:15	High Power Recirculating Planar Amplifiers	Dr. Ronald Gilgenbach, UMich
12:15-13:45	<b>LUNCH</b>	
13:45-14:15	Study of High Power Microwave Amplification Driven by Energetic Electron Beams	Dr. Brad Hoff, AFRL/RDH
14:15-14:45	Volume Mode Traveling Wave Tube Amplifier	Dr. Richard Temkin, MIT
14:45-15:15	Metamaterial Enhanced Resistive Wall Amplifiers	Dr. Nader Behdad, UWisc
15:15-15:45	Microwave/Terahertz Generation from Superconductor Antennas	Dr. Timothy Haugan, AFRL/RQQ
<b>MEETING ADJOURNED FOR THE DAY</b>		

Thursday, 15 June, 2017

Time	Topic	Speaker
<b>Computational &amp; Theoretical Plasma Physics</b>		
08:30-09:00	Variational Algorithms for High-Fidelity Plasma Simulations	<b>Dr. Stephen Webb</b> , RadiaSoft, LLC
09:00-09:30	A Hybrid Model for Multiscale Laser Plasma Simulations with Detailed Collision	<b>Dr. David Bilyeu</b> , AFRL/RQR
09:30-10:00	KEEN Waves and their Interactions with Generalizations to Multispecies Plasmas, Relativistic Dynamics, Collisionality and Multidimensionality	<b>Dr. Bedros Afeyan</b> , Polymath Research Inc.
10:00-10:30	<b>BREAK</b>	
10:30-11:00	Studies of Plasma Sheath Physics using Continuum Kinetic Simulations of Plasmas	<b>Dr. Bhuvana Srinivasan</b> , Virginia Tech
11:00-11:30	Physics-Based-Adaptive Plasma Model for High-Fidelity Numerical Simulations	<b>Dr. Uri Shumlak</b> , UW
11:30-11:45	Closing Remarks	
<b>MEETING CONCLUDED</b>		