

Ultrashort Pulse Laser-Matter Interactions Program Review 2015

Dr. Riq Parra | June 1-3, 2016 | Arlington, VA

Basic Research Innovation and Collaboration Center (BRICC)
4075 Wilson Blvd., Suite 350 | Liberty Room
Arlington, VA 22203

Agenda Day 1 – June 1, 2016

Time	Title of Project	Speaker
7:30-8:00	Registration	
8:00-8:30	Welcome Remarks	Riq Parra, AFOSR
8:30-9:00	Controlling Ultrafast Dynamics and Modelocking in Kerr Microcombs	Scott Diddams, NIST
9:00-9:30	Microresonator-Based Optical Frequency Combs: Initiation, Characterization, Control	Andrew Weiner, Purdue
9:30-10:00	BREAK	
10:00-10:30	Fundamental Studies of Microresonator-Based Parametric Frequency Combs	Alex Gaeta, Columbia
10:30-11:00	Sub-Cycle Optical Pulse Synthesis and Stabilization in Next-Generation Optical Frequency Combs	Shu-Wei Huang, UCLA
11:00-11:30	22 GHz, Low Pump Power Solitons in Silica On-Chip Resonators	Kerry Vahala, Caltech
11:30-1:00	LUNCH	
1:00-1:30	Exploring Temporal Soliton Physics in Micro-Resonator Frequency Combs	Tobias Kippenberg, EPFL
1:30-2:00	Kerr Frequency Combs: Applications of Coherent Communication, Signal Processing and Measurement	Alan Willner, USC
2:00-2:30	RF Emission from Femtosecond Filament Plasmas Interacting with External Electric Fields	Andreas Schmitt-Sody, AFRL/RD
2:30-3:00	BREAK	
3:00-3:30	Dual-comb Intra-cavity High Harmonic Generation for XUV Spectroscopy	Jason Jones, U of Arizona
3:30-4:00	Cavity-Enhanced High Harmonic Generation for Attosecond Dynamics at Surfaces	Thomas Allison, Stony Brook
4:00	MEETING ADJOURNED FOR THE DAY	

Agenda Day 2 – June 2, 2016

Time	Title of Project	Speaker
7:30-8:00	Registration	
8:00-8:30	Linking Attosecond Science in Solids and Gases	Paul Corkum, NRC
8:30-9:00	Pump-Probe Study of fs-Laser Hyperdoping and Texturing of Silicon for Advanced Non-equilibrium Materials	Eric Mazur, Harvard
9:00-9:30	Fundamental Dynamics and Mechanisms for Ultrafast Laser-Materials Interaction	Steve Yalisove, U Michigan
9:30-10:00	BREAK	
10:00-10:30	Fundamentals of Femtosecond Laser Induced Damage of Solids	Enam Chowdhury, OSU
10:30-1100	Unified First-principle Analysis of Utraintense Laser-matter Interactions	Pavel Polynkin, U of Arizona
11:00-1130	Understanding Laser-Cluster Interactions in the X-ray Regime	Eddie Ackad, SIUE
11:30-1:00	LUNCH	
1:00-1:30	Experimental Study of Electron Dynamics in Strongly Relativistic Laser Fields	Todd Ditmire, U Texas
1:30-2:00	Interactions of Electrons with Laser Light at Highly Relativistic Intensities	Don Umstadter, UNL
2:00-2:30	High-Flux Mono-Energetic Ion Sources Driven by Ultra-Intense Laser Pulses	Farhat Beg, UC San Diego
2:30-3:00	BREAK	
3:00-3:30	Exploration of Radiation Reaction, Light-sail Acceleration, and Approaches to the Schwinger Intensity Limit	Kramer Akli, OSU
3:30-4:00	Ultra-Relativistic Laser Interaction with Ordered Nanoarrays	Jorge Rocca, CSU
4:00-4:30	Next-Generation X-Ray Lightsource and First Applications	Matthias Fuchs, UNL
4:30	MEETING ADJOURNED FOR THE DAY	

Agenda Day 3 – June 3, 2016

Time	Title of Project	Speaker
7:30-8:00	Registration	
8:00-8:30	High-Energy, Multi-Octave-Spanning Mid-IR Sources via Adiabatic Difference Frequency Generation	Jeff Moses, Cornell
8:30-9:00	Ultrafast Laser–Based Spectroscopic Techniques for Investigating Reacting Flows	James Gord, AFRL/RQ
9:00-9:30	The Science of Extreme Light Generation of X-rays from Liquid Targets at Relativistic Conditions	Mel Roquemore, AFRL/RQ
9:30-10:00	BREAK	
10:00-10:30	Frequency Comb Spectroscopy – From IR to XUV	Jun Ye, CU
10:30-1100	Solid-state High-harmonic Generation as a Potential Attosecond Source for Materials Characterization	David Reis, Stanford
11:00-1130	Isolated Soft X-Ray Attosecond Pulse Generation Using Synthesized Strong-Field Mid-IR Pulses	Kyung-Han Hong, MIT
11:30-1:00	LUNCH	
1:00-1:30	Extreme Nonlinear Optics of High Intensity Laser Pulse Filamentation in Gases	Howard Milchberg, U Maryland
1:30-2:00	Picosecond CO ₂ Laser Filamentation in Air	Chan Joshi, UCLA
2:00-2:30	Intense Terahertz Field Generation and Its Interaction with Matter	Kiyong Kim, U Maryland
2:30-3:00	BREAK	
3:00-3:30	Studies of Complex Systems in Intense, Ultrafast Mid-Infrared Laser Fields	Cosmin Blaga, OSU
3:30-4:00	High-order Harmonic and Attosecond Spectroscopy in Materials	Mike Chini, UCF
4:00	MEETING ADJOURN	