



2018 Ultrashort Pulse Laser-Matter Interactions Program Review

Dr. Riq Parra | June 4-6, 2018 | Arlington, VA

Basic Research Innovation and Collaboration Center (BRICC)
4100 North Fairfax Drive, Suite 450 I Research Room
Arlington, VA 22203

Agenda Day 1 | June 4, 2018

Time	Topic	Speaker
8:00-8:30	Registration	
8:30-9:00	Welcome Remarks	Riq Parra, AFOSR
9:00-9:30	Controlling Ultrafast Dynamics and Modelocking in Kerr Microcombs	Scott Diddams, NIST
9:30-10:00	Multi-Soliton Microcomb Physics for Efficient Sensing and Precision Measurement	Kerry Vahala, Caltech
10:00-10:30	BREAK	
10:30-11:00	Exploring Temporal Soliton Physics in Micro-Resonator Frequency Combs	Tobias Kippenberg, EPFL
11:00-11:30	Modeling the Dynamics, Stability and Tunability of Optical Frequency Combs	Nathan Kutz, UW
11:30-12:00	Microresonator-Based Optical Frequency Combs: Initiation, Characterization, Control	Andrew Weiner, Purdue
12:00-1:30	LUNCH	
1:30-2:00	Fundamental Studies of Microresonator-Based Parametric Frequency Combs	Alex Gaeta, Columbia
2:00-2:30	Frequency Comb Spectroscopy – From IR to XUV	Jun Ye, CU
2:30-3:00	Cavity-Enhanced High Harmonic Generation for Attosecond Dynamics at Surfaces	Thomas Allison, Stony Brook
3:00-3:30	BREAK	
3:30-4:00	Ultrafast Laser-Based Spectroscopic Techniques for Investigating Reacting Flows	James Gord, AFRL/RQ
4:00-4:30	Recollision Physics at the Nanoscale	Carlos Trallero, U Conn
4:30-5:00	Isolated Soft X-Ray Attosecond Pulse Generation Using Synthesized Strong-Field Mid-IR Pulses	Kyung-Han Hong, MIT
5:00	MEETING ADJOURN	

Agenda Day 2 June 5, 2018		
Time	Topic	Speaker
8:00-8:30	Registration	
8:30-9:00	Kerr Frequency Combs: Applications of Coherent Communication, Signal Processing and Measurement	Alan Willner, USC
9:00-9:30	Dual-comb Intra-cavity High Harmonic Generation for XUV Spectroscopy	Jason Jones, U of Arizona
9:30-10:00	Linking Attosecond Science in Solids and Gases	Paul Corkum, NRC
10:00-10:30	BREAK	
10:30-11:00	Solid-state High-harmonic Generation as a Potential Attosecond Source for Materials Characterization	David Reis, Stanford
11:00-11:30	Advancing Attosecond Solid State Physics Towards Petahertz Electronics	Martin Schultze, MPQ
11:30-12:00	Illumination Emergent Quantum Materials by Attosecond Pulses	Madhab Neupane, UCF
12:00-1:30	LUNCH	
1:30-2:00	Attosecond Electron Dynamics in Metallic Nanoparticles, Metallic Surfaces, and Nanoparticles-Covered Metallic Surfaces	Guillaume Laurent, Auburn
2:00-2:30	RF Emission from Femtosecond Filament Plasmas Interacting with External Electric Fields	Andreas Schmitt-Sody, AFRL/RD
2:30-3:00	Intense Terahertz Field Generation and Its Interaction with Matter	Kiyong Kim, U Maryland
3:00-3:30	BREAK	
3:30-4:00	Spatio-temporal Visualization and Control of Nonlinear Propagation and Phase Matching for High-Order Harmonic Generation	Bonggu Shim, Binghamton U
4:00-4:30	Real-Time Four Dimensional Hyperspectral Imaging of Plasmas and Filamentation	Daniel Adams, CU
4:30-5:00	Fundamentals of Femtosecond Laser Induced Damage of Solids	Enam Chowdhury, OSU
5:00	MEETING ADJOURN	

Agenda Day 3 June 6, 2018		
Time	Topic	Speaker
8:00-8:30	Registration	
8:30-9:00	High-order Harmonic and Attosecond Spectroscopy in Materials	Mike Chini, UCF
9:00-9:30	Picosecond CO ₂ Laser Filamentation in Air	Sergei Tochitsky, UCLA
9:30-10:00	Extreme Nonlinear Optics of High Intensity Laser Pulse Filamentation in Gases	Howard Milchberg, U Maryland
10:00-10:30	BREAK	
10:30-11:00	The Science of Extreme Light Generation of X-rays from Liquid Targets at Relativistic Conditions	Mel Roquemore, AFRL/RQ
11:00-11:30	Finding Quantum Processes in Strongly Relativistic Fields	Manuel Hegelich, UT Austin
11:30-12:00	Directed High Energy Radiation and Particle Beams Generated Using Extreme Magnetic Fields	Alexey Arefiev, UC San Diego
12:00-1:30	LUNCH	
1:30-2:00	Next-Generation X-Ray Lightsource and First Applications	Matthias Fuchs, UNL
2:00-2:30	Understanding Laser-Cluster Interactions in the X-ray Regime	Eddie Ackad, SIUE
2:30-3:00	Interactions of Electrons with Laser Light at Highly Relativistic Intensities	Don Umstadter, UNL
3:00-3:30	BREAK	
3:30-4:00	High-Flux Mono-Energetic Ion Sources Driven by Ultra-Intense Laser Pulses	Farhat Beg, UC San Diego
4:00-4:30	Ultra-Relativistic Laser Interaction with Ordered Nanoarrays	Jorge Rocca, CSU
4:30	MEETING ADJOURN	