

# Ultrashort Pulse Laser-Matter Interactions Program Review 2016

Dr. Riq Parra | May 30 – June 1, 2017 | Arlington, VA

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

## Agenda Day 1 | May 30, 2017

Time	Title	Speaker
7:30-8:00	Registration	
8:00-8:30	Welcome Remarks	Riq Parra, AFOSR
8:30-9:00	Exploring Temporal Soliton Physics in Micro-Resonator Frequency Combs	Tobias Kippenberg, EPFL
9:00-9:30	Kerr Frequency Combs: Applications of Coherent Communication, Signal Processing and Measurement	Alan Willner, USC
9:30-10:00	<b>BREAK</b>	
10:00-10:30	Controlling Ultrafast Dynamics and Modelocking in Kerr Microcombs	Scott Diddams, NIST
10:30-11:00	Fundamental Studies of Microresonator-Based Parametric Frequency Combs	Alex Gaeta, Columbia
11:00-11:30	Sub-Cycle Optical Pulse Synthesis and Stabilization in Next-Generation Optical Frequency Combs	Shu-Wei Huang, UCLA
11:30-1:00	<b>LUNCH</b>	
1:00-1:30	Microresonator-Based Optical Frequency Combs: Initiation, Characterization, Control	Andrew Weiner, Purdue
1:30-2:00	Modeling the Dynamics, Stability and Tunability of Optical Frequency Combs	Nathan Kutz, UW
2:00-2:30	Ultrafast Laser-Based Spectroscopic Techniques for Investigating Reacting Flows	James Gord, AFRL/RQ
2:30-3:00	<b>BREAK</b>	
3:00-3:30	Solid-state High-harmonic Generation as a Potential Attosecond Source for Materials Characterization	David Reis, Stanford
3:30-4:00	Linking Attosecond Science in Solids and Gases	Paul Corkum, NRC
	<b>MEETING ADJOURN FOR THE DAY</b>	

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## Agenda Day 2 | May 21, 2017

Time	Title	Speaker
7:30-8:00	<b>Registration</b>	
8:00-8:30	Fundamentals of Femtosecond Laser Induced Damage of Solids	Enam Chowdhury, OSU
8:30-9:00	Fundamental Dynamics and Mechanisms for Ultrafast Laser-Materials Interaction	Steve Yalisove, U Michigan
9:00-9:30	Pump-Probe Study of fs-Laser Hyperdoping and Texturing of Silicon for Advanced Non-equilibrium Materials	Reza Sanatinia, Harvard
9:30-10:00	<b>BREAK</b>	
10:00-10:30	RF Emission from Femtosecond Filament Plasmas Interacting with External Electric Fields	Andreas Schmitt-Sody, AFRL/RD
10:30-11:00	Picosecond CO2 Laser Filamentation in Air	Chan Joshi, UCLA
11:00-11:30	Extreme Nonlinear Optics of High Intensity Laser Pulse Filamentation in Gases	Howard Milchberg, U Maryland
11:30-1:00	<b>LUNCH</b>	
1:00-1:30	Intense Terahertz Field Generation and Its Interaction with Matter	Kiyong Kim, U Maryland
1:30-2:00	Advancing Attosecond Solid State Physics Towards Petahertz Electronics	Nick Karpowicz, MPQ
2:00-2:30	High-order Harmonic and Attosecond Spectroscopy in Materials	Mike Chini, UCF
2:30-3:00	<b>BREAK</b>	
3:00-3:30	Cavity-Enhanced High Harmonic Generation for Attosecond Dynamics at Surfaces	Thomas Allison, Stony Brook
3:30-4:00	Studies of Complex Systems in Intense, Ultrafast Mid-Infrared Laser Fields	Cosmin Blaga, OSU
4:00-4:30	The Science of Extreme Light Generation of X-rays from Liquid Targets at Relativistic Conditions	Mel Roquemore, AFRL/RQ
<b>MEETING ADJOURN</b>		

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## Agenda Day 3 | June 1, 2017

Time	Title	Speaker
7:30-8:00	<b>Registration</b>	
8:00-8:30	Dual-comb Intra-cavity High Harmonic Generation for XUV Spectroscopy	Jason Jones, U of Arizona
8:30-9:00	Isolated Soft X-Ray Attosecond Pulse Generation Using Synthesized Strong-Field Mid-IR Pulses	Kyung-Han Hong, MIT
9:00-9:30	Understanding Laser-Cluster Interactions in the X-ray Regime	Eddie Ackad, SIUE
9:30-10:00	<b>BREAK</b>	
10:00-10:30	High-Flux Mono-Energetic Ion Sources Driven by Ultra-Intense Laser Pulses	Farhat Beg, UC San Diego
10:30-11:00	Next-Generation X-Ray Lightsource and First Applications	Matthias Fuchs, UNL
11:00-11:30	Ultra-Relativistic Laser Interaction with Ordered Nanoarrays	Jorge Rocca, CSU
11:30-1:00	<b>LUNCH</b>	
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	Exploration of Radiation Reaction, Light-sail Acceleration, and Approaches to the Schwinger Intensity Limit	Douglass Schumacher, OSU
	<b>MEETING ADJOURN</b>	