



# MURI 15 Kickoff - Strong Field Laser Matter Interactions at Mid-Infrared

Dr. Riq Parra | January 21-22, 2016 | Arlington, VA

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

Agenda Day 1 – January 21, 2015

Time	Title	Speaker
7:30-8:00	Registration	
Session I Chair: Misha Ivanov		
8:00	Introduction	Riq Parra, AFOSR
8:15	(OSU/Imperial MURI Overview) Scaling Strong Field Interactions into the Mid-Infrared	Lou DiMauro, The Ohio State University
8:45	Overview of Imperial College MURI Programme and Research on Atoms and Molecules in Intense MIR Fields	Jon Marangos, Imperial College (UK)
9:15	BREAK	
9:45	An Overview of Thrust Area 1: the Known Unknowns of Ionization at Long Wavelengths	Ken Schafer, Louisiana State University
10:05	First-Principles Many-Body Theory of Photoionization in Polyatomic Systems	Vitali Averbukh, Imperial College
10:25	Intense MID-IR Laser Solid interaction Near Material Damage Threshold	Enam Chowdhury, The Ohio State University
10:40	An Overview of the Filamentation Thrust of the AFOSR MURI on Strong-Field Interactions with MIR Lasers	Pavel Polynkin, University of Arizona
11:05	Filamentation Modeling	Arnaud Couaïron, Ecole Polytechnique (France)
11:30	LUNCH	
Session II Chair: Margaret Murnane		
1:00	(CU MURI Overview) Harnessing Strong-Field Mid-Infrared (IR) Lasers: Designer Beams of Relativistic Particles and X-Ray Light	Margaret Murnane, University of Colorado
1:10	Harnessing Mid-IR Lasers for High Harmonics: Quantum Control of Polarization, Spectral & Temporal Shapes	Margaret Murnane, University of Colorado
1:35	Advanced Theory of Mid-IR Driven High Harmonic Generation	Andreas Becker, University of Colorado

<b>2:00</b>	Noncollinear High Harmonic Generation	Chip Durfee, Colorado School of Mines
<b>2:25</b>	Laser Wakefield Acceleration	Karl Krushelnick, University of Michigan
<b>2:50</b>	<b>BREAK</b>	
<b>3:15</b>	Direct Laser Acceleration	Howard Milchberg, University of Maryland
<b>3:40</b>	Mid-IR Nonlinear Propagation (Experiment)	Alex Gaeta, Columbia University
<b>4:05</b>	Mid-IR Nonlinear Propagation (Theory)	Miro Kolesik, University of Arizona
<b>4:30</b>	<b>MEETING ADJOURNED FOR THE DAY</b>	

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Agenda Day 2 – January 22, 2015

Time	Title	Speaker
7:30-8:00	Registration	
Session III Chair: Jon Marangos		
8:00	Particle in Cell Simulations of Complex Laser Pulse Formats with Plasmas	Gennady Shvets, University of Texas-Austin
8:25	Laser Wakefield Acceleration with MIR Lasers	Michael Downer, University of Texas-Austin
8:50	Driving Laser Wakefield Accelerators with Intense MIR Pulses	Stuart Mangles, Imperial College
9:15	Ion Acceleration with MIR Lasers	Zulfikar Najmudin, Imperial College
9:40	BREAK	
10:15	High Harmonic Generation and Light Amplification in Strong MIR Fields	Mikhail Ivanov, Imperial College
10:40	Below and Above Threshold Harmonic Generation with Two-Cycle MIR Lasers	Zenghu Chang, University of Central Florida
11:05	Studying Solid Systems under Illumination with Precisely-Characterized and Intense Mid-to-Near Infrared Fields	Nick Karpowicz, Max Planck Institute for Quantum Optics (Germany)
11:30	LUNCH	
Session IV Chair: Lou DiMauro		
1:00	MURI Light Source Development at Imperial College	Roland Smith, Imperial College
1:25	MURI Light Source Development at OSU	Cosmin Blaga, The Ohio State University
1:50	MIR Development at the ALLS Facility	Francois Legare, INRS-EMT/ALLS (Canada)
2:15	BREAK	
Session V Chair: Karl Krushelnick		

<b>2:45</b>	High Power Mid-IR Lasers	Andrius Baltuska, TU Vienna (Austria)
<b>3:10</b>	Generating Attosecond Pulses Using Collinear and Crossed-Beam Geometries	Carlos Hernandez – Garcia, Universidad de Salamanca (Spain)
<b>3:35</b>	Mid-IR Light Science and Technology	Henry Kapteyn, University of Colorado
<b>4:00</b>	Strong THz Field Generation and Interaction with Matter Using Mid-IR Drivers	Kiyong Kim, University of Maryland
<b>4:15</b>	Spectral Interferometry Measurements of the Nonlinear Response and Ionization Rate with Mid-infrared Pulses	Jared Wahlstrand, University of Maryland
<b>4:30</b>	Closing Remarks	Riq Parra, AFOSR
<b>4:40</b>	<b>MEETING ADJOURNED</b>	