

# Annual Review of Theoretical Nonlinear Optics 2014

Dr. Arje Nachman | October 1-2, 2014 | Arlington, VA

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

## AGENDA - Day 1 – October 1, 2014

Time	Title of Project	Speaker
0730-0800	Registration	
0800-0805	Welcome/Introduction	<b>Arje Nachman</b> Air Force Office of Scientific Research
0805-0850	<a href="#">MURI Project Overview: Goals, Team, Challenges</a>	<b>Jerry Moloney</b> University of Arizona
0850-0920	<a href="#">Microscopic Modeling of Light-Matter Interaction in the Strong Field Regime</a>	<b>Stephan Koch</b> Philipps University, Marburg
0920-0950	<a href="#">Engineering Filament Dynamics via Accelerating Dressed Beams</a>	<b>Demetrios Christodoulides</b> CREOL-College of Optics and Photonics
0950-1020	<a href="#">First-Principles, Non-Perturbative Light-Matter Interaction Model for Optical Filamentation</a>	<b>Miroslav Kolesik</b> University of Arizona
1020-1050	<b>BREAK</b>	
1050-1120	<a href="#">Air-Lasing Concepts</a>	<b>Pavel Polykin</b> University of Arizona
1120-1150	<a href="#">Development and Applications of Filament-Induced Air Waveguides</a>	<b>Howard Milchberg</b> University of Maryland
1150-1220	<a href="#">Numerical Simulation of Strong-Field Processes and its Application to Laser Pulse Filamentation</a>	<b>Agnieszka Jaron-Becker</b> University of Colorado
1220-1330	<b>LUNCH</b>	
1330-1400	<a href="#">Higher Order Nonlinearities in Laser Filamentation</a>	<b>Robert Levis</b> Temple University
1400-1430	Influence of Nonlinear Laser Beam Propagation on High harmonic Generation from the UV to the keV	<b>Margaret Murnane</b> University of Colorado
1430-1500	<a href="#">Control and characterization of Long Range Focusing of Ultrashort Pulses for High Intensity Beam Delivery</a>	<b>Charles Durfee</b> Colorado School of Mines
1500-1530	<b>BREAK</b>	
1530-1600	<a href="#">Filamentation at High Pressures</a>	<b>Alex Gaeta</b> Cornell University
1600-1630	Ultra-short Pulse Laser Research at AFRL: Update on Propagation Modeling and Filament Experiments	<b>Andreas Schmitt-Sody</b> AFRL
1630-1700	<a href="#">Many-Body and Pulse-Chirp Effects on the Electron Energy Distribution During Filamentation in Solids</a>	<b>Jeremy Gulley</b> Kennesaw State University
1700	<b>MEETING ADJOURNED FOR THE DAY</b>	

**AGENDA - Day 2 – October 2, 2014**

<b>0730-0745</b>	<b>Registration</b>	
<b>0745-0750</b>	Introduction	<b>Dr. Arje Nachman</b> AFOSR
<b>0750-0830</b>	<a href="#">Part 1: Recent Experiments on and Ultrafast Nonequilibrium Carrier Dynamics in Semiconductor Laser Mode-Locking</a>	<b>Dr. Jerome Moloney</b> University of Arizona
	<a href="#">Part 2: : Ultrafast Kinetic Hole Burning and Filling - Second Born Approximation</a>	<b>Dr. Stephen Koch</b> Philipps University, Marburg
<b>0830-0900</b>	<a href="#">Self-tuning Lasers and Optical Systems</a>	<b>Dr. Nathan Kutz</b> University of Washington
<b>0900-0930</b>	Nonlinear and Quantum Phase Retrieval	<b>Dr. Jason Fleischer</b> Princeton
<b>0930-1000</b>	<a href="#">Photonic Honeycomb Lattices: Localized Linear and Nonlinear Edge States</a>	<b>Dr. Mark Ablowitz</b> University of Colorado
<b>1000-1030</b>	<b>BREAK</b>	
<b>1030-1100</b>	<a href="#">Vortices in Photonic Graphene</a>	<b>Dr. Zhigang Chen</b> San Francisco State University
<b>1100-1130</b>	<a href="#">Nonlinear Optics in PT and non-PT Waveguides</a>	<b>Dr. Jianke Yang</b> University of Vermont
<b>1130-1200</b>	RF Performance of Photo-detected Period-One Oscillations in Injection-locked Semiconductor Lasers	<b>Dr. Nicholas Usechak</b> AFRL
<b>1200-1300</b>	<b>LUNCH</b>	
<b>1300-1330</b>	<a href="#">High Speed GaAs and GaN Device Simulation</a>	<b>Dr. Mathew Grupen</b> AFRL
<b>1330-1400</b>	<a href="#">Theory for Anisotropic Charge-Density Oscillations in Spherical Two-Dimensional Electron Gases</a>	<b>Dr. Danhong Huang</b> AFRL
<b>1400-1430</b>	<a href="#">Nonlinear Dynamics and Instabilities of High Power Fiber Amplifiers and Passively and Actively Phased Fiber Laser Arrays</a>	<b>Dr. Erik Bochove</b> AFRL
<b>1430-1500</b>	<a href="#">Superpersistent Currents and Whispering Gallery Modes in Chaotic Dirac Rings</a>	<b>Dr. Ying-Cheng Lai</b> Arizona State University
<b>1530-1600</b>	<a href="#">Nonlinear Switching in Multimode Waveguides</a>	<b>Dr. Arash Mafi</b> University of Wisconsin/Milwaukee
<b>1600</b>	<b>MEETING ADJOURNED</b>	