



2014 CINT Users Meeting



&
6th International Workshop on Electromagnetic Metamaterials

September 22-23, 2014

La Fonda Hotel, Santa Fe, NM

Monday Morning, September 22

7:30 am	User Meeting Registration Desk opens Continental Breakfast Available	Mezzanine
9:00 am	Plenary Session <i>Moderator: Quanxi Jia</i> Welcome, Introductions and CINT Update Neal Shinn, CINT Director	Ballroom South
9:20 am	William Gerberich University of Minnesota <i>Instrumentation Approach to Scaling Mechanical Behavior</i>	
10:00 am	Break	
10:20 am	Federico Capasso , Harvard University <i>Flat Optics with Designer Metasurfaces</i>	
11:00 am	Michael Rubinstein , University of North Carolina <i>Airway Surface Brush Sweeps Lungs Clean: Polymer Physics Helps Us Breathe Easier</i>	
11:40 am	Plated Lunch Informal poster viewing	Ballroom North Mezzanine

Monday Afternoon, September 22

Symposia	6 th International Workshop on Electromagnetic Metamaterials Ballroom South	Nanostructures in Polymers Ballroom North	Nanomechanical Response of Composite, Complex, and Thin Structures Sitha Room
	<i>Moderators: Igal Brener & HouTong Chen</i>	<i>Moderators: Amalie Frischknecht & Dale Huber</i>	<i>Moderators: Nate Mara & Tom Harris</i>
1:00 pm	Session 1: Metasurfaces I Anthony Grbic , University of Michigan <i>Metasurfaces with Electric, Magnetic and Chiral Responses</i>	Brent Sumerlin , University of Florida <i>Stimuli-Responsive Block Copolymer Nanoparticles in Materials and Biology</i>	Khalid Hattar , Sandia National Laboratories <i>Recent Developments in In situ TEM to Probe Mechanical, Radiation, and Corrosive Response of Materials</i>
1:30 pm	Xiaobo Yin , University of Colorado <i>Optical Spin-Hall Effect at Metasurfaces</i>	Mark Olson , Texas A&M University <i>Molecular Templatation of Soft Matter in Water: From the Micellar Cradle to the Crystalline Grave</i>	Surya Kalidindi , Georgia Institute of Technology <i>New Data Analyses Protocols for Extracting Spherical Indentation Stress-Strain Curves</i>
2:00 pm	Dragomir Neshev , The Australian National University <i>All-dielectric Metasurfaces with Magnetic Response: Control of Scattering, Emission and Nonlinearities</i>	Peter Adams , CINT <i>Self-Assembled Diblock Copolymer/ Chromophore Nanocomposites for Light Harvesting</i>	Xiaodong Li , University of Virginia <i>Semiconductor Nanostructure Health Monitoring and Self-healing</i>
2:15 pm		Marek Urban , Clemson University <i>Stimuli-Responsive Colloidal Nanoparticles with Anisotropic Morphologies</i>	
2:30 pm	Jason Valentine , Vanderbilt University <i>Manipulating Light with All-Dielectric Metasurfaces</i>	Chester Simocko , CINT <i>Pursuing an Ordered Microphase Separation in Mixed Polymer Brushes</i>	Dave Bahr , Purdue University <i>Strength and Hardening in Tri-Layer Nano Laminate Films</i>
2:45 pm			
3:00 pm	Break	Break	Break

3:30 pm	Session II: Active & Nonlinear Metamaterials I Nikolay I. Zheludev , University of Southampton, UK & Nanyang Technological University, Singapore <i>Giant Nonlinearities in Reconfigurable Photonic Metamaterials</i>	Su-Mi Hur , Argonne National Laboratory <i>Coarse-Grained Simulations of Solvent-Assisted Self-Assembly of Block Copolymer Thin Films</i>	Ale Strachan , Purdue University <i>Characterizing and Engineering Shape Memory in Nanostructured Metals Via Molecular Dynamics Simulations</i>
4:00 pm	Willie Padilla , Boston College <i>Dynamic Metamaterials for Real-World Applications</i>	Walter Paxton , CINT <i>Polymersome Permeability and Fusion</i>	Marian Kennedy , Clemson University <i>Characterizing the Sliding Wear of Metallic/Ceramic Nanolaminates</i>
4:30 pm	Daniel Mittleman , Rice University <i>An Electrically Driven Terahertz Modulator with Over 20 dB of Dynamic Range</i>	Dvora Perahia , Clemson University <i>A Road to Controlled Transport: Polymers as Effective Transport Stable Media</i>	
5:00 pm	Poster Session		Mezzanine
7:00 pm	End of session, please enjoy dinner on your own		

Tuesday Morning, September 23

7:30 am	Registration Desk Open Breakfast		Mezzanine Ballroom North
8:30 am	6th International Workshop on Electromagnetic Metamaterials Ballroom South	Panel Discussion (All welcome): CINT Strategic Planning Don Lucca , Chair, Users Executive Committee Neal Shinn , CINT Director Quanxi Jia , CINT Co-Director (Acting)	Ballroom North
	Session 3: Metasurfaces II Xiang Zhang , University of California, Berkeley <i>Electrical Response of Photonic Spin</i>		

	<i>Hall Effect on a Metasurface</i>		
9:00 am	Hou-Tong Chen , CINT <i>Few-Layer Ultrathin Terahertz Metamaterials</i>	Nanostructures in Polymers Ballroom North	Nanomechanical Response of Composite, Complex, and Thin Structures Sitha Room
		Karen Winey , University of Pennsylvania <i>Morphologies and Dynamics in Precise Copolymers</i>	Dan Gianola , University of Pennsylvania <i>Measuring the Stochastic Nature of Surface Dislocation Nucleation in Defect-Scarce Nanostructures</i>
9:30 am	Gennady Shvets , University of Texas at Austin <i>Spectrally Selective Chiral Silicon Metasurfaces Based on IR Fano Resonances</i>	Michael Salerno , CINT <i>Mechanical Properties of Two-Dimensional Alkanethiol-Coated Gold Nanoparticle Membranes</i>	Antonia Antoniou , Georgia Institute of Technology <i>Mechanical and Catalytic Behavior of Nanoporous Platinum</i>
9:45 am		Michael Hore , Case Western Reserve University <i>Understanding Polymer and Surfactant Surface Coatings on Nanoparticles Using Small-Angle Neutron Scattering</i>	
10:00 am	Mark Brongersma , Stanford University <i>Device Applications of Metafilms and Metasurfaces</i>		John Carpenter , Los Alamos National Laboratory <i>ARB + FSW: A Top-Down Approach for Fabricating Engineering Quantities of Ordered Metallic Nanocomposites</i>
10:15 am		Ann Junghans , Los Alamos National Laboratory <i>Polyelectrolyte Multilayer-pH-Responsive Lipid Bilayers and Beyond</i>	
10:30 am	Break	Break	Break
11:00 am	Session 4: Plasmonics David Smith , Duke University <i>TBD</i>	Brad Olsen , Massachusetts Institute of Technology <i>Thermodynamics of Protein Block Copolymer Self-Assembly</i>	Marko Knezevic , University of New Hampshire <i>Evolution of Microstructure and Strain Localizations in Two-Phase Polycrystalline HCP/BCC Composites</i>
11:30 am	Natalia Litchinitser , University at Buffalo, the State University of New York <i>Structured Light in Optical</i>	Omar Saleh , University of California, Santa Barbara <i>The Elasticity of a Single Polyelectrolyte</i>	Blythe Clark , Sandia National Laboratories <i>The Nanomechanics of Failure in Structural Metals</i>

	<i>Metamaterials</i>	***End of Symposium***	
12:00 pm	Withawat Withayachumnankul , The University of Adelaide, Australia <i>Plasmonic Resonance: a Route to High Efficiency Terahertz Absorbers</i>		Sid Pathak , Los Alamos National Laboratory <i>Analyzing Structure-Property Linkages in Bone using Nanoindentation and Raman Spectroscopy</i> ***End of Symposium***
12:15	Lunch		Ballroom North

Tuesday Afternoon, September 23

	6th International Workshop on Electromagnetic Metamaterials	Ballroom South
1:30 pm	<u>Session 5: Active and Nonlinear Metamaterials II</u> Victor Brar , California Institute of Technology <i>Active Control of Mid-IR Absorption and Emission Using Plasmonic Modes in Graphene Metasurfaces</i>	
2:00 pm	Richard Averitt , Boston University & University of California at San Diego <i>Nonlinear Semiconducting Metamaterials at Terahertz Frequencies</i>	
2:30 pm	Mikhail Belkin , University of Texas at Austin <i>Giant Nonlinear Response from Plasmonic Metasurfaces Coupled to Intersubband Transitions</i>	
3:00 pm	Igal Brener , CINT <i>Metasurfaces and Epsilon-Near-Zero Modes in Semiconductors</i>	
3:30 pm	Break	
4:00 pm	Session 6: New Directions Nicholas Fang , Massachusetts Institute of Technology <i>Electromechanical Processes Assisted by Plasmonic Nanostructures</i>	
4:30 pm	Zubin Jacob , University of Alberta, Canada <i>New Frontiers in Metamaterials: Transparent Sub-Diffraction Optics and High Temperature Applications</i>	
5:00 pm	Nanfang Yu , Columbia University <i>Controlling Light Propagation in Waveguides Using Phased Antenna Arrays</i> ***End of Symposium***	