

# Low Density Materials Program Review

Dr. Joycelyn Harrison | June 4-5, 2012 | Dayton, OH

**Wright Brothers Institute, TecEdge**

Dayton, OH

**AGENDA Day 1 – Monday, June 4, 2012**

Time	Title of Project	Speaker
0700-0800	Registration	
0800-0815	Opening Remarks	<b>Joycelyn Harrison</b> , Air Force Office of Scientific Research
0815-0845	<a href="#">Continuous Fiber Spinning Technology for Armchair Quantum Wire</a>	<b>Matteo Pasquali</b> , Rice University.
0845-0915	<a href="#">Interfacial Engineering for Low Density Graphene Nanocomposites and Fluids (FY11 YIP)</a>	<b>Micah Green</b> , Texas Tech
0915-0945	<a href="#">Gel Spun PAN/CNT Based Carbon Fibers with Honey-Comb Cross-Sections</a>	<b>Satish Kumar</b> , Georgia Tech
0945-1015	<a href="#">Studying the Dependency of Interfacial Formation with Carbon</a>	<b>Marilyn Minus</b> , Northeastern University
1015-1030	<b>BREAK</b>	
1030-1100	<a href="#">Nanotailored Carbon Fibers (Phase II STTR)</a>	<b>Han Chae</b> , Nanoengineered Materials Corp.
1100-1130	<a href="#">Macroscopic Crosslinked Neat Carbon Nanotube Materials</a>	<b>Richard Liang</b> , Florida State University <b>Ben Wang</b> , Georgia Tech
1130-1200	<a href="#">Electroactive, Radiation-Shielding Boron Nitride Polymer Composites</a>	<b>Alex Zettl</b> , UC Berkeley <b>Cheol Park</b> , National Institute of Aerospace
1200-1230	<a href="#">Multi-Scale Experimental Study of Mechanical Properties of Carbon and Boron Nitride Nanotubes and their Composites (FY11 YIP)</a>	<b>Changhong Ke</b> , State University NY, Binghamton
1230-1345	<b>LUNCH</b>	
1345-1415	Tu(R)Ning Weakness to Strength: Mechanomutable Bioinspired Materials	<b>Markus Buehler</b> , MIT
1415-1445	<a href="#">Thermal and Mechanical Properties of Nanocellulosic Materials: Integrated Modeling and Experiments</a>	<b>Ashlie Martini</b> , UC Merced <b>Jeff Youngblood</b> and <b>Robert Moon</b> , Purdue University
1445-1515	<a href="#">Experimental and Theoretical Studies of Carbon Nanotube Hierarchical Structures</a>	<b>Mrinal Saha</b> , University of Oklahoma
1515-1545	<a href="#">Structural Foaming at the Nano-, Micro- and Macro-Scales of Continuous Carbon Fiber Reinforced Polymer Matrix Composites</a>	<b>James Seferis</b> , Glocal Network Corp.
1545-1615	<a href="#">Exploring the Behavior of Nanoporous Foams with Controllable Density and Pore Size</a>	<b>Andrea Hodge</b> , University of Southern California
1615-1730	<b>POSTER SESSION</b>	
1730	<b>ADJOURN FOR THE DAY</b>	



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### POSTER PRESENTATIONS

Optimization of the Strain- and-Temperature-Dependence of Metamaterials For Electromagnetically-Tailored Structures	<b>Brandon Arritt,</b> AFRL
Characterization of Nanostructured Polymer Films (FY12 YIP)	<b>Rodney Priestley,</b> Princeton University
ZnO Nanowire Fiber/Matrix Interface for Multifunctional Composites with Enhanced Strength	<b>Henry Sodano,</b> University of Florida
MURI: Fabrication of 3D Pillared Network Nanostructures of Carbon Nanotubes and Graphene Sheets for Multifunctional Applications	<b>Liming Dai,</b> Case Western Reserve University
MURI: Synthesis and Characterization of 3D Carbon Nanotube Solid Networks	<b>Pulikel Ajayan and Matteo Pasquali,</b> Rice University
In-Situ Interphase Characterization of Polymer-Based Nano-Composites	<b>Marilyn Minus,</b> Northeastern University
Bonding Unidirectional Carbon Nanotube with Carbon for High Performance, Low Density Composites	<b>Yuntian Zhu,</b> NC State University
Atomic Engineering of Heat Transfer at Carbon Nanotube-Based Interfaces	<b>Chris Muratore,</b> AFRL
Synthesis of 3D Neat Nanotube Structures via Automated Guided Discovery	<b>Benji Maruyama,</b> AFRL
Acquisition of a Thermal Field Emission Scanning Electron Microscope	<b>David Veazie,</b> Southern Polytechnic University <b>Eric Mintz,</b> Clark Atlanta University
Electroactive, Radiation-Shielding Boron Nitride Polymer Composites	<b>Alex Zettl,</b> University of California Berkeley <b>Cheol Park,</b> National Institute of Aerospace
Multi-Scale Simulation Assisted Design of Hybrid Oxidation Tolerant Composites	<b>Kishore Pochiraju,</b> Stevens Institute of Tech
Advanced Single-Polymer Nanofiber-Reinforced Composite: Towards Next Generation Ultralight Superstrong/Tough Structures	<b>Yuris Dzenis,</b> University of Nebraska <b>Stephen Cheng,</b> University of Akron
Fabrication of 3D Pillared Network Nanostructures of Carbon Nanotubes and Graphene Sheets for Multifunctional Applications	<b>Liming Dai,</b> Case Western Reserve University



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**AGENDA Day 2 – Tuesday, June 5, 2012**

Time	Title of Project	Speaker
0700-0800	Registration	
0800-0815	Programmatic Matters/Q&A	<b>Joycelyn Harrison,</b> Air Force Office of Scientific Research
0815-0845	<a href="#">MURI Introduction: Nanofabrication of Tunable 3D Nanotube Architectures</a>	<b>Ajit Roy,</b> AFRL
0845-0915	<a href="#">Multi-Scale Mechanism-Based Life Prediction of Polymer Matrix Composites for Aircraft Engine and Airframe Applications</a>	<b>Samit Roy,</b> University of Alabama
0915-0945	<a href="#">Composite Material Virtual Design: Fracture Parameters Atomistic to Micro</a>	<b>Tim Brietzman,</b> AFRL
0945-1015	<a href="#">A Molecular Modeling Approach to Predicting Elastic and Failure Behavior of Thermosetting Polymers</a>	<b>Sharmila Mukhopadhyay,</b> Wright State University <b>Mesfin Tsige,</b> University Southern Illinois
1015-1045	<b>BREAK</b>	
1030-1100	<a href="#">Pulsed Electromagnetic Fields and Failure of Composites</a>	<b>Olesya Zhupanska,</b> University of Iowa
1100-1130	<a href="#">Multiscale Modeling of Failure and Damage of Thermosetting Polymer Networks</a>	<b>Gregory Odegard,</b> Michigan Tech
1130-1200	<a href="#">Molecular Design and Mechanical Behavior of Low-Density Multifunctional Hybrid Materials</a>	<b>Reinhold Dauskardt,</b> Stanford University
1200-1330	<b>LUNCH</b>	
1330-1430	<a href="#">Bio-Inspired Interfaces for Hybrid Structures (FY10 YIP)</a>	<b>Ashkan Vaziri,</b> Northeastern University
1430-1500	<a href="#">Enzymatic Gas Generation and Hybrid Active Pores for Enabling Low Density Actuation</a>	<b>Ryan Justice,</b> AFRL
1500	<b>MATERIALS AND MANUFACTURING DIRECTORATE TOUR</b>	
1630	<b>MEETING ADJOURNED</b>	