

Schedule (final)

Nanotechnology Materials and Devices Workshop 2014

*24-25 February, 2014, Great Hall, Tangeman University
Center, University of Cincinnati, Cincinnati, Ohio*

SUNDAY, FEBRUARY 23TH:

6:30 pm Informal Welcome Dinner (pay on your own)

Marriott Kingsgate Conference Center, Caminetto Lounge, 151 Goodman Drive, Cincinnati, Ohio 45219 USA, 1-513-487-3800; <http://www.marriott.com/hotels/hotel-information/restaurant/cvgkg-kingsgate-marriott-conference-center-at-the-university-of-cincinnati/>. The Marriott hotel is in walking distance (across Martin Luther King Blvd.) from the Hampton hotel. There is a UC shuttle bus every 10 minutes from the Marriott to the UC Main Street stop near the Tangeman Center.

MONDAY, FEBRUARY 24TH:

7:45am Registration Opens, Tangeman Great Hall (Beverages/pastries provided with musical entertainment by UC student and pianist Kristen Schulz)

8:15 Welcome by Vesselin Shanov (UC), Kevin Yost (AFRL), Bang Tsao (UDRI)

Session 1. Nanotubes, Fibers and Applications (Session Chair Noe Alvarez)

8:30 Talk 1 Stephen Hawkins, Queen's University Belfast, UK; *Emitting Electrons, Catching CO₂, and Ten More Things You Can Do by Structuring with Carbon Nanotubes*

9:00 Talk 2 Dong Qian, Univ. Texas at Dallas; *Multi-scale Modeling of CNT Rope*

9:30 Talk 3 Richard Liang, Florida State University; *Carbon Nanotube Alignment, Assembling and Packing for High-Performance Composite Applications*

10:00 *Networking Break*

10:20 Talk 4 Fei Wei, Tsinghua Univ., Beijing, China; *Structure Control and Large Scale Production of sp² Carbon Nanomaterials*

10:50 Talk 5 Alan Windle, Univ. Cambridge, UK; *Synthesis and Properties of Single Wall Carbon Nanotube Fibre* by Thuri Gspann and Alan Windle

11:20 Talk 6 Mary Anne White, Dalhousie Univ., Halifax, Nova Scotia, Canada; *Physical Properties of Carbon Nanotube Materials*

11:50 Lunch on your own, downstairs in the Tangeman Center

Session 2. Materials and Devices Medley (Session Chair Ajit Roy)

1:10 Talk 7 Gleb Yushin, Georgia Tech; *CNT and Graphene Based Nanocomposites for Supercapacitors, Li Ion and Li-S Batteries*

1:40 Talk 8 Carter Kittrell, Rice Univ., TX; Tentative title: *Growth and Applications of Graphene*

2:10 Talk 9 Mauricio Terrones, Penn State Univ.; *Graphene and Carbon Nanotube 3-Dimensional Networks: Synthesis Approaches, Properties and Applications*

2:40 Talk 10 David Lashmore, Univ. New Hampshire; *Enhanced Electrical Transport in 1-D Conductors*

3:10 *Networking Break*

3:30 Talk 11 Ray Baughman, Univ. Texas-Dallas; *Artificial Muscles for Fun and Profit*

4:00 Talk 12 Raj Singh, Oklahoma State Univ.; *Micro- and Nano-Structured Diamond Thin Films for Thermal Management*

Session 3. Government (Session Chair Kevin Yost)

4:30 Talk 13 Benji Maruyama, Air Force Research Laboratory, Dayton, Ohio; *Automated Rapid Experimentation Applied to Carbon Nanotube Growth*

5:00 Talk 14 Emilie J. Siochi, NASA Langley, Hampton, VA; *Structural Carbon Nanotube Nanocomposites for Aerospace Applications*

5:30 Group Photo

6:00 Networking buffet dinner at UC Faculty Club (cost \$35 per person)

TUESDAY, FEBRUARY 25TH

7:45am Registration Open, Tangeman Great Hall (Beverages/pastries provided with musical entertainment by UC student and pianist Kristen Schulz)

Session 4. Up and Coming New Researchers (Session Chair Vesselin Shanov)

8:00 Talk 15 John Bulmer, Krzysztof Koziol, Univ. of Cambridge, UK; *Microwave Conductivity of Sorted Single Wall Carbon Nanotube Assemblies*

8:30 Talk 16 Svitlana Fialkova, Sergey Yarmolenko, North Carolina A&T State Univ., Greensboro, NC; *Nano-Imprint Lithography for Next Generation Carbon Nanotube-based Devices*

9:00 Talk 17 Ana Laura Elias, Penn State Univ., Pa; *Effects of Boron and Sulfur During the Growth of Novel Carbon Nanotube Morphologies*

9:30 Talk 18 Maria F. Pantano and Nicola M. Pugno, University of Trento, Trento, Italy; *Theoretical, experimental and numerical investigation on the fracture strength of high-strength nanofibers*

10:00 Talk 19 Dawid Janas, Krzysztof Koziol, Univ. Cambridge, UK; *Carbon Nanotube Wires under Extreme Environments*

10:30 *Networking Break*

Session 5. Industry (Session Chair Bang Tsao)

10:50 Talk 20 Paul Kladitis, Univ. of Dayton Research Institute, Dayton, Ohio; *Initial Results for 60-inch Nano Adaptive Hybrid Fabric (NAHF-X) System - Commercial-Size Scale-Up of Hybrid Fabrics for Multifunctional Composites*

11:20 Talk 21 Mark Schauer, Nanocomp Technologies, Merrimack, New Hampshire; *Production & Applications of CNT Yarns, Tapes & Sheets*

11:50 Lunch, on your own, downstairs in the Tangeman Center (A Tour of the UC Nanoworld Labs is available from 12:00 to 12:40 for half of the lunch period)

1:20 Talk 22 Joseph Sprengard, General Nano, Cincinnati, OH; *Pathways to Manufacturing Nanotube Continuous Sheet Materials*

1:50 Talk 23 Seth S. Kessler, Metis Design Corporation, Boston, MA; *Nano-Engineered Multifunctional Structures*

2:20 Industry Presentations, 4 min each describing recent advances in nano products and applications

3:00 Workshop Closing Remarks, Mark Schulz (UC)

Industry Tour

3:20 Commute by bus to General Electric Aircraft Engine (GEAE) Learning Center, Evendale, Ohio, for Tour and Presentation by GE (group will meet in front of the ERC building to take bus, Charter Bus Service)

6:30 Return to UC