

**NanoFocus and Oklahoma NSF EPSCoR Annual State Conference
Cox Convention Center • Oklahoma City, OK
March 6-7, 2008**

Sponsored by:



TENTATIVE AGENDA

MARCH 6, 2008 - DAY 1

- 8:00 Registration & Continental Breakfast** (Lobby/Rooms 4/5)
- 8:45 Welcome & Introductions** (Rooms 1, 2 & 3)
Frank Waxman, Director, Oklahoma Experimental Program to Stimulate Competitive Research (EPSCoR)
Jim D. Mason, Executive Director, Oklahoma Nanotechnology Initiative, Oklahoma State Chamber
- 8:55 Companies Participating in the 2008 Oklahoma Nanotechnology Application Program**
- 9:05 Keynote Address – “NSF EPSCoR: Stimulating Research in Science and Engineering,”**
Henry Blount, Head, National Science Foundation EPSCoR
- 9:40 Plenary Speaker – “Health Effects Related to Nanoparticle Exposures - How Do We Evaluate the Impacts?”** *David B. Warheit*, DuPont Co.
- 10:15 BREAK & NANO PRODUCTS RIBBON CUTTING CEREMONY** (Lobby/Room7) Sponsored by The Tulsa Metro Chamber

**CONCURRENT BREAKOUT SESSIONS, LUNCH & POSTER SESSION
(Agenda listed by science theme)**

NANOTECHNOLOGY SESSIONS

- 10:45 – 11:45 BREAKOUT SESSION 1** (Room 1)
 - 10:45 “Nanotechnology and Homeland Security,”** *Kenneth Klabunde*, University Distinguished Professor, Kansas State University and Founder, NanoScale Corporation
 - 11:15 “Graphene-based Materials”** *Rodney Ruoff*, Professor and Cockrell Family Regents Chair, Dept of Mechanical Engineering, The University of Texas at Austin
- 11:45 – 12:30 LUNCH** (Rooms 4/5) Sponsored by OCAST
- 12:30 – 2:00 Manned Poster Session** – Presenters are available at posters (Lobby)
- 12:30 – 2:00 ONI Undergraduate Nanotechnology Symposium** (Lobby)

- 2:00 – 2:45 Unmanned Poster Session** – Presenters may visit other posters (Lobby)
- 2:45 – 3:15 BREAK** (all) Sponsored by The Tulsa Metro Chamber
- 3:15 – 4:40 BREAKOUT SESSION 2** (Room 1)
- 3:15 “The National Institute for Nano-Engineering,”** *Regan Stinnett*, Program Manager, National Institute for Nano Engineering, Sandia National Labs
- 3:45 “Health Impacts of Engineered Nanomaterials: Fullerenes as a Case Study,”** *Kevin Ausman*, Assistant Professor, Department of Chemistry, Oklahoma State University
- 4:05 Martin Bionics Update – 2007 ONAP Award Winner** – Jay Martin, President
- 4:20 “Nanoparticle BioSensors,”** *Kenneth P. Roberts*, Associate Professor, Department of Chemistry and Biochemistry, The University of Tulsa
- 4:40 “Southwest NanoTechnologies Update” – 2007 ONAP Winner** – *David J. Arthur*, Chief Executive Officer
- 5:00 – 5:30 Plenary Speaker** (Rooms 1, 2 & 3) – **“Why the ONI is Focusing on Applications of Nanotechnology,”** *Jim D. Mason*, Executive Director, Oklahoma NanoTechnology Initiative, Oklahoma State Chamber
- 5:30 – 6:30 RECEPTION** (all) Sponsored by The Greater Oklahoma City Chamber

BIOFUELS SESSIONS

- 10:45 – 12:30 BREAKOUT SESSION 1** (Room 2)
- 10:45 “Adding Cellulosic Bioenergy to Oklahoma’s Energy Portfolio,”** *Raymond L. Huhnke*, Professor, Biosystems and Agricultural Engineering, Oklahoma State University
- 11:00 “Switchgrass as the Model Herbaceous Species for Development as a Bioenergy Feedstock Crop,”** *Charles M. Taliaferro*, Regents Professor Emeritus, Plant & Soil Sciences, Oklahoma State University
- 11:30 “Breeding and Genomics Research in Switchgrass,”** *Yangi Wu*, Assistant Professor, Plant and Soil Sciences, Oklahoma State University
- 12:00 “Genetic Modification of Biofuel Crops for Improved Ethanol Production,”** *Zeng-yu Wang*, Associate Professor, Forage Improvement Division, The Samuel Roberts Noble Foundation
- 12:30 – 1:15 LUNCH** (Rooms 4/5) Sponsored by OCAST
- 1:15 – 1:45 Unmanned Poster Session** - Presenters may visit other posters (Lobby)
- 1:45 – 2:45 Manned Poster Session** – Presenters are available at posters (Lobby)
- 2:45 – 3:15 BREAK** (all) Sponsored by The Tulsa Metro Chamber
- 3:15 – 5:00 BREAKOUT SESSION 2 – JOINT SESSION WITH PLANT VIRUS BIODIVERSITY & ECOLOGY** (Rooms 2/3)
- 3:15 “Discovery of Reservoirs and Transmission Mechanisms for Plant Viruses Using Metagenomic Sequencing,”** *Mya Breitbart*, Assistant Professor, College of Marine Science, University of South Florida

- 3:50** **“MicroRNAs and Plant Stress Responses,”** *Ramanjulu Sunkar*, Assistant Professor, Biochemistry and Molecular Biology, Oklahoma State University
- 4:25** **“Chemical Links between Plants, Plant Viruses and Their Vectors,”** *Sanford D. Eigenbrode*, Professor and Chair of the Division of Entomology, Department of Plant, Soil and Entomological Sciences, University of Idaho
- 5:00 – 5:30** **Plenary Speaker** (Rooms 1, 2 & 3) – **“Why the ONI is Focusing on Applications of Nanotechnology,”** *Jim D. Mason*, Executive Director, Oklahoma NanoTechnology Initiative, Oklahoma State Chamber
- 5:30 – 6:30** **RECEPTION** (all) Sponsored by The Greater Oklahoma City Chamber

PLANT VIRUS BIODIVERSITY & ECOLOGY SESSIONS
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- 10:45 – 12:30** **BREAKOUT SESSION 1** (Room 3)
- 10:45** **“Directing Plant Virus Self-Assembly to Generate Nano Structures,”** *Adam Zlotnick*, Associate Professor, Department of Biochemistry and Molecular Biology, University of Oklahoma Health Sciences Center
- 11:20** **“Characterization and Distribution of a Novel Tymovirus in *Asclepas viridis* (milkweed) from the Tallgrass Prairie Preserve of Oklahoma,”** *Byoungyun Min*, Postdoctoral Fellow, Oklahoma State University and The Samuel Roberts Noble Foundation
- 11:55** **“Ultra-high Throughput Genetic Sequencing of Endogenous Plant Viruses,”** *Graham B. Wiley*, Graduate Research Assistant, Department of Chemistry and Biochemistry, University of Oklahoma
- 12:30 – 1:15** **LUNCH** (Rooms 4/5) Sponsored by OCAST
- 1:15 – 1:45** **Unmanned Poster Session** - Presenters may visit other posters (Lobby)
- 1:45 – 2:45** **Manned Poster Session** – Presenters available at posters (Lobby)
- 2:45 – 3:15** **BREAK** (all) Sponsored by The Tulsa Metro Chamber
- 3:15 – 5:00** **BREAKOUT SESSION 2 – JOINT SESSION WITH BIOFUELS** (Rooms 2/3)
- 3:15** **“Discovery of Reservoirs and Transmission Mechanisms for Plant Viruses Using Metagenomic Sequencing,”** *Mya Breitbart*, Assistant Professor, College of Marine Science, University of South Florida
- 3:50** **“MicroRNAs and Plant Stress Responses,”** *Ramanjulu Sunkar*, Assistant Professor, Biochemistry and Molecular Biology, Oklahoma State University
- 4:25** **“Chemical Links between Plants, Plant Viruses and Their Vectors,”** *Sanford D. Eigenbrode*, Professor and Chair of the Division of Entomology, Department of Plant, Soil and Entomological Sciences, University of Idaho
- 5:00 – 5:30** **Plenary Speaker** (Rooms 1, 2 & 3) – **“Why the ONI is Focusing on Applications of Nanotechnology,”** *Jim D. Mason*, Executive Director, Oklahoma NanoTechnology Initiative, Oklahoma State Chamber
- 5:30 – 6:30** **RECEPTION** (all) Sponsored by The Greater Oklahoma City Chamber

MARCH 7, 2008 - DAY 2

- 8:30 Registration & Continental Breakfast** (Lobby/Room 4/5)
- 9:00 Plenary Speaker – “On Viruses, Nanoparticles, and Optics with Them,”** *Bogdan Dragnea*, Assistant Professor of Chemistry and Adjunct Professor of Physics, Indiana University
- 9:35 Plenary Speaker – “Catalytic Conversion of Biomass to Fuel Compounds,”** *Daniel Resasco*, Douglas and Hilda Bourne Chair, George Lynn Cross Professor, School of Chemical Biological and Materials Engineering, University of Oklahoma
- 10:10 BREAK** (20 minutes) Sponsored by The Tulsa Metro Chamber

CONCURRENT BREAKOUT SESSIONS & LUNCH (Agenda listed by science theme)

NANOTECHNOLOGY SESSIONS

10:30 – 12:00 BREAKOUT SESSION 1 (Room 1)

- 10:30 “Metal Oxide Nanostructures for Improved Electrochromic Windows and Li-Ion Batteries,”** *Anne C. Dillon*, Senior Research Scientist, National Renewable Energy Laboratory
- 11:00 “Engineering at the Nanoscale - The Carbon Nanotube Experience,”** *Pulckel M. Ajayan*, Benjamin M. and Mary Greenwood Anderson Professor of Engineering, Department of Mechanical Engineering and Materials Science, Rice University
- 11:30 “Model for an Interdisciplinary, Inter-university, Introductory Nanotechnology Experience: a Two Year Retrospective,”** *Alan Cheville*, Associate Professor, School of Electrical and Computer Engineering, Oklahoma State University
- 11:45 “Nanotechnology Technician Education in OSU-Okmulgee,”** *Mike Sluch*, Instructor, Engineering Technologies, Oklahoma State University-Okmulgee

12:00 – 1:30 LUNCH & KEYNOTE ADDRESS (Rooms 4&5) Sponsored by OCAST

- 12:30 “A Consumer’s Guide to MEMS & Nanotechnology,”** *Marlene Bourne*, President and Principal Analyst, Bourne Research LLC
- 1:15 Book Signing with Marlene Bourne**, author, “*Consumers Guide to Nano and MEMS Products*”

1:30 – 3:25 BREAKOUT SESSION 2 (Room 1)

- 1:30 Regional State Nanotechnology Roundtable**
Scott Bryant, MANCEF & New Mexico
Kenneth Klabunde, Kansas State University
Jim Mason, Oklahoma Nanotechnology Initiative
John Ahlen, Nanotechnology in Arkansas
Debbie Woodward, Colorado Nanotechnology Alliance
- 2:15 “Watching Single Protein Molecules in Action Using Plasmonic Nanostructures,”** *A. Kaan Kalkan*, Assistant Professor, School of Mechanical and Aerospace Engineering, Oklahoma State University

- 2:35** **“XetaComp Update” – 2007 ONAP Winner – Earl Herring**, General Manager
- 2:50** **“Carbon Nanotubes in Polymers: Where Are We and Where Are We Going?”**
Brian Grady, Professor, School of Chemical, Biological and Materials Engineering,
University of Oklahoma
- 3:20 – 3:30** **BREAK** (10 minutes) Sponsored by The Tulsa Metro Chamber
- 3:30 – 4:45** **BREAKOUT SESSION 3** (Room 1)
- 3:30** **Access Optics, LLC Update – 2007 ONAP Winner – Robert Hogrefe**,
Co-founder and President
- 3:45** **“Adding Nanowires to On-chip Circuitry for Cell Stimulation Studies,”**
Bret Flanders, Assistant Professor, Department of Physics, Oklahoma State
University
- 4:05** **“Rupture Pin Technologies Update” – 2007 ONAP Award winner – Julian**
Taylor, Chief Executive Officer
- 4:20** **“Development of Structural Nanocomposites,”** *Mrinal C. Saha*, Assistant
Professor, School of Aerospace and Mechanical Engineering, University of
Oklahoma
- 4:40** **Drawing for Nano IPOD, Closing Comments and Adjournment**

BIOFUELS BREAKOUT SESSIONS

- 10:30 – 11:00** **BREAKOUT SESSION 1** (Room 2)
- 10:30** **“Conversion of Biomass Derived Oxygenates to Fuels and Chemicals,”**
Richard G. Mallinson, C.M. Sliepcevich Professor of Chemical Engineering
School of Chemical, Biological and Materials Engineering, University of
Oklahoma
- 11:00–12:00** **JOINT SESSION 2 – BIOFUELS AND PLANT VIRUS BIODIVERSITY & ECOLOGY**
(Rooms 2/3)
- 11:00** **“Genomics of Ethanol-Producing Bacteria,”** *Joe (Jizhong) Zhou*, Presidential
Professor, Department of Botany and Microbiology, Director, Institute for
Environmental Genomics, Editor for Applied and Environmental Microbiology,
Stephenson Research & Technology Center, University of Oklahoma
- 11:30** **“Examination/Manipulation of Ethanol-Producing Acetogens,”** *Ralph S.*
Tanner, Professor, Department of Microbiology, University of Oklahoma
- 12:00 – 1:30** **LUNCH & KEYNOTE ADDRESS** (Rooms 4&5) Sponsored by OCAST
- 12:30** **“A Consumer’s Guide to MEMS & Nanotechnology,”** *Marlene Bourne*,
President and Principal Analyst, Bourne Research LLC
- 1:15** **Book Signing with Marlene Bourne**, author, *“Consumers Guide to Nano and
MEMS Products”*
- 1:30** **Biofuels Sessions Adjourned**
(Participants welcome to join the Nanotechnology Sessions)

PLANT VIRUS BIODIVERSITY & ECOLOGY SESSIONS
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10:30 – 11:00 BREAKOUT SESSION 1 (Room 3)

10:30 “Cryptic Viruses of Cryptic Fungi: Biodiversity of Endophyte Mycoviruses,”
Tracy S. Feldman, Postdoctoral Associate, The Samuel Roberts Noble Foundation

10:55 "Plant Virus Biodiversity and Ecology – Concluding Remarks," *Ulrich K. Melcher*, Robert J. Sirny Professor of Agricultural Biochemistry, Department of Biochemistry and Molecular Biology, Oklahoma State University

11:00–12:00 JOINT SESSION 2 – BIOFUELS AND PLANT VIRUS BIODIVERSITY & ECOLOGY
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12:30 “A Consumer’s Guide to MEMS & Nanotechnology,” *Marlene Bourne*, President and Principal Analyst, Bourne Research LLC

1:15 Book Signing with Marlene Bourne, author, “*Consumers Guide to Nano and MEMS Products*”

1:30 Plant Virus Biodiversity & Ecology Sessions Adjourned
(Participants welcome to join the Nanotechnology Sessions)