



AGENDA
Regional, State, and Local Initiatives in Nanotechnology
- NNI nanoRegional Workshop -
www.nano.gov/nanoRegional.html

Wednesday, April 1, 2009

- AM The Oklahoma Nanotechnology Initiative workshop (March 30-April 1, 2009) ends
- PM Joint tour activities for NNI NanoRegional Workshop and Oklahoma Nanotechnology Initiative workshop
Participants attending only the NNI Workshop should plan to arrive in OKC Wednesday morning at Will Rogers International Airport. Ten minute cab ride to check in to the Skirvin Hilton Hotel in downtown Oklahoma City.
- 1:00 Visits in Oklahoma City
Board buses at Skirvin Hilton Hotel for 5 minute trip to Presbyterian Research Park for briefings on applications of nanotechnology by OrthoCare/Martin Bionics, NanoBioMagnetics, and Charlesson, Inc.
- 3:00 Southwest Nanotechnologies Inc.
Bus leaves Presbyterian Research Park for 25 minute trip to Norman, Oklahoma for a tour of the new Southwest Nanotechnologies Inc. (SWeNT) carbon nanotube production facility near the University of Oklahoma and then goes to OU for meeting with EKIPS.
- 5:00 Return to Skirvin Hilton Hotel
- 5:30 Welcoming Reception for Regional, State and Local Initiatives in Nanotechnology Workshop
Poster room in Centennial Ballroom

Thursday, April 2, 2009

- 7:30 Continental breakfast
- 8:15 Welcome from **Jari Askins**, Lt. Governor, State of Oklahoma
- 8:25 Welcome and charge to the workshop (**Mike Roco** and **Jim Mason**)

Keynotes (each 20 minutes)

- 8:35 Federal role in industrial support
Marc Stanley (Director, NIST Technology Innovation Program)
- 9:00 Involvement of states in nanotechnology partnerships
Skip Rung (ONAMI)
- 9:25 University –based nanotechnology partnerships
Mauro Ferrari (University of Texas)
- 9:50 Involvement of industry in nanotechnology partnerships
Sean Murdock (Nanobusiness Alliance)



10:15 Coffee break

Poster room in Centennial Ballroom opens from 10 AM to 6 PM (regional, state or local nanotechnology partnership; industrial associations; small businesses; NNI agencies are invited to present a poster and one-two page summary for distribution at the meeting and on the website)

Keynotes

Chair: Warren Ford, Oklahoma State Univ.

10:30 [Industry-university-government partnerships in nanotechnology](#)

Mike Roco (NILI/NSET)

10:55 Nanoelectronics Research Initiative and other models

Ralph Cavin (SRC/SIA)

Case studies

11:20 Case study: State-corporate partnership for economic development

Ed Cupoli (CNSE-SUNY Albany)

11:40 Case Study: ONI and regional impact

Jim Mason (ONI)

12: 00 Lunch Break (boxed lunches)

Keynotes

Chair: Clark Cooper, NSF

12:30 Nanotechnology and Life Sciences

Mostafa Analoui (The Livingston Group)

12:55 Organization and business preparation for introducing nanotechnology

Rich Chapas (Battelle)

Topical Panels (overview presentations followed by discussions)

Note: each panel will have brief presentations followed by Q&A; each presentation will be a summary or conclusions (1-2 slides) of a short 1-2 page statement e-mailed in advance and available on the conference website and handouts.

1:20 Panel: NNI infrastructure and funding

Moderators: **Minoo Dastoor** (NASA)

Short statements: **Mike Roco** (NSF funding)

Sally Tinkle (NIH funding)

Dianne Poster (NIST funding)

Bill Mullins (DOD funding)

Stephen Streiffer (DOE research centers)

Krish Mathur (DOEd activities)



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- 2:05 Panel: International models
Moderators: **Phil Lippel** and **Richard Johnson** (Arnold & Porter)
Short statements: **Scott Bryant** (MANCEF)
Gary Albach (IndustryCanada)
Jaime Parada (General Director Natl. Council for S&T in Mexico)
John Cowie (Technology Manager for Agenda 2020)
- 2:40 Break
- 3:00 Panel: Fostering nanotechnology innovation
Moderators: **James Rudd** (NSF) and **Rich Chapas** (Battelle)
Short statements: **Alden Bean** (CIMS, North Carolina State Univ.)
Les Alexander (A123 Systems)
Edward Ahn (Pioneer Surgical)
Charlie Gause (Luna Nanomaterials)
Doug Schulz (North Dakota State U. CNSE)
- 3:35 Panel: Nano-EHS
Moderators: **Sally Tinkle** (NIEHS) and **Terry Medley** (DuPont)
Short statements: **Steve Brown** (Intel)
Arturo Keller (UCSB/CEIN)
Stacey Harper (Oregon State University)
Golam Mustafa (EPA)
- 4:10 Panel: State models for supporting emerging nanotechnology
Moderators: **Skip Rung** (ONAMI)
Short statements: **Ed Cupoli** (CNSE-SUNY Albany)
Jim Mason (ONI)
Philip Shapira (Georgia Tech)
Griffith Kundahl (Colorado Nanotechnology Alliance)
- 4:45 Panel: Industry groups partnering in nanotechnology
Moderators: **Hratch G. Semerjian** (CCR)
Short statements: **Brent Segal** (Lockheed)
Dave Arthur (SWeNT)
Ralph Cavin (SRC/SIA)
Richard Johnson (Arnold & Porter)
Daniel Rardon (PPG industries)
- 5:20 Open forum: New partnering methods
Moderators: **Mike Roco** (NSF) and **Mike Moradi** (Charlesson Pharmaceuticals)
Open contributions from the participants
Response to comments from the public
- 6:00 Closing comments



- 6:45 Bus departs for Science Museum
7:00 Networking Dinner at the Science Museum
8:00 “Molecules to the Max”: Premiere presentation of IMAX RPI movie on nano
9:15 Bus departs for Skirvin Hilton

Friday, April 3, 2009

- 7:30 Continental breakfast at the poster room
8:15 Welcome and overview of program (**Mike Roco** and **Jim Mason**)

Keynote

Chair: World Nieh, USDA Forest Service

- 8:25 Nanotechnology in US Industry
Matthew Nordan (Lux Research)

Panels on future activities (overview presentations followed by discussions)

- 9:00 Panel: Nanotechnology workforce development and education (organizer P. Lippel)
Moderators: **Bob Chang** (Northwestern U.)
Carl Batt (Cornell U.)
Short statements: **Steve Fonash** (PSU - NACK)
Sheryl Hale (OK Dept Career & Tech. Education)
Srinivas Sridhar (Northeastern IGERT with NIH)

9:45 Break

Poster room in Centennial Ballroom opens from 10 AM to 6 PM (regional, state or local nanotechnology partnership; industrial associations; NNI agencies are invited to present a poster and one-two page summary for distribution at the meeting and on the website)

- 10:00 Panel: Nanotechnology Research and Manufacturing Infrastructure Development
Moderators: **Mark Tuominen** (U. Mass – Amherst) and **Sean Murdock** (NBA)
Short statements: **Mike Postek** (NIST)
Dave Arthur (SWeNT)
Marty Fritts (NCL)

- 10:45 Panel: Focus on Economic Development and Commercialization
Moderator: **Mike Moradi** (Charlesson Pharmaceuticals)
Short statements: **Jim von Ehr** (Zyvex)
Michael Carolina (OCAST)
Alan Brown (Pa NMCC)
Mostafa Analoui (The Livingston Group)



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- 11:30 Open Forum: Focus on Best Practices and Future Opportunities for Partnerships,
(Need for the synthesis, see afternoon sessions)
- 12:00 Working Lunch:
Report Synthesis Breakout Sessions (involving all participants; pre-assign 2-3 co-authors of the respective chapters)
1. Models for regional, state and local, and international partnerships
Skip Rung and Jim Mason
 2. Workforce development and education
Bob Chang, Krish Mathur, and Phil Lippel
 3. Research and development infrastructure
Ralph Cavin, Mostafa Analoui, and Marlowe Epstein
 4. Economic development and commercialization
Mike Moradi, Jim von Ehr and Geoff Holdridge
 5. Resources for RSL nanotechnology partnerships: partnerships, exchanges, continuing information systems
Mark Tuominen, Sean Murdock, and Heather Evans
- 3:30 Closing Remarks and Next Steps (Moderators **Mike Roco**)
- 4:00 Adjourn



Keynote Abstracts:

Federal role in industrial support

Marc Stanley, NIST Technology Innovation Program

Abstract

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Involvement of States in Nanotechnology Partnerships

Robert D. “Skip” Rung, ONAMI

Abstract

The successful experience, since 2003, of the ONAMI signature research center will be used to suggest generally applicable principles for the startup and operation of state-funded initiatives established for the purpose of innovation-based economic development. [\[back\]](#)

University –based nanotechnology partnerships

Mauro Ferrari, University of Texas

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Involvement of industry in nanotechnology partnerships

Sean Murdock, Nanobusiness Alliance

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Industry-university-government partnerships in nanotechnology

M.C. Roco, National Science Foundation and National Nanotechnology Initiative

Abstract

The current rudimentary capabilities for systematic control and manufacture at the nanoscale are envisioned to evolve faster after 2010 as one would begin production of nanosystems for revolutionary new products. A main goal of nanotechnology R&D in the U.S. is provide the efficient means to replace more traditional industries. This paper presents mechanisms for knowledge and technology collaboration between industry, academia and government in the area of nanotechnology supported by federal agencies. The NNI organization has established a working group on Nanomanufacturing, Industry Liaison and Innovation (NILI) in order to advance partnerships and technology transfer. It has been estimated at NSF the global market of final products that incorporate nanotechnology increases by about 25 percent per year. This estimation made in 2000 holds in 2009, and we aim at maintaining a corresponding rate in the U.S. [\[back\]](#)

Nanoelectronics Research Initiative and other models

Ralph Cavin, SRC/SIA

Abstract

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www.nano.gov/nanoRegional.html

Nanotechnology and Life Sciences

Mostafa Analoui, The Livingston Group

Abstract

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Organization and business preparation for introducing nanotechnology

Rich Chapas, Battelle

Abstract

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Nanotechnology in US Industry

Matthew Nordan, Lux Research

Abstract

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PANEL QUESTIONS:

NNI INFRASTRUCTURE & FUNDING

1. What funding opportunities for nanotechnology are available in your agency, and what is the level of activity? What infrastructure for R&D and other activities related to nanotechnology are sponsored by your agency?
2. Where would you place those activities on the path from invention or discovery to commercial success?

INTERNATIONAL MODELS

1. What is your country's approach to promoting technology transfer and commercialization of nanotechnology? What are the respective roles of national, state or provincial, and local authorities, and how do they interact?
2. What technology transfer and commercialization programs are available in your country to support nanotechnology innovation? Where do these lie on the path from invention or discovery to commercial success?

FOSTERING NANOTECHNOLOGY INNOVATION

1. What regional, state, or local programs best support your company's nanotechnology development plans, and how could they be improved?
2. What other models and approaches would effectively foster nanotechnology innovation in your industry and your region?

NANOTECHNOLOGY ENVIRONMENTAL, HEALTH, AND SAFETY

1. What activities does your organization undertake or participate in to meet its nanoEHS needs (e.g., developing materials databases and standards, materials R&D, product stewardship initiatives, and work place safety measures – including, as appropriate, worker training, workplace monitoring and controls, and other risk management methods)?
2. How could these approaches be expanded or enhanced to accelerate the responsible development of nanotechnology, and how should this new work be shared among academia, government, industry, and other stakeholders?

STATE MODELS FOR SUPPORTING EMERGING NANOTECHNOLOGY

1. How does your organization measure success? To whom is the organization accountable, and how is it held accountable?
2. What motivates your stakeholders to collaborate, and what additional future incentives would enhance these collaborations?



INDUSTRY GROUPS PARTNERING IN NANOTECHNOLOGY

1. What groups in your industry are engaged with government and local organizations to promote nanotechnology-based economic development, what are the barriers for such partnerships, and what is needed to facilitate more partnerships?
2. How is innovation in your industry balanced between market pull and technology push? In light of this balance, what is the best model for cooperation among nanotechnologists from industry, academia, and government?

NANOTECHNOLOGY WORKFORCE DEVELOPMENT & EDUCATION

1. What is needed to accelerate nanotechnology-related education and workforce development? Where are the needs most urgent?
2. What should be done in the immediate future to meet these needs, and at what level (i.e. federal, regional, state, local)?

NANOTECHNOLOGY RESEARCH & MANUFACTURING INFRASTRUCTURE DEVELOPMENT

1. What improvements or additions to U.S. R&D infrastructure would catalyze nanotechnology innovation? What presently unavailable (or underavailable) facilities, tools, or services are most urgently needed?
2. What should be done in the immediate future to meet these needs, and by whom? What roles should federal, regional, state, or local entities take in infrastructure development? What are the roles of government, academia, and industry, as developers and as users?

FOCUS ON ECONOMIC DEVELOPMENT & COMMERCIALIZATION

1. What are the needs for successful economic development and commercialization of nanotechnology? Please provide any helpful examples of clever models for nanotechnology commercialization and collaboration.
2. What has to be done in the immediate future to meet these needs, and at what level (federal, regional, state, local)?