

# SEMI<sup>®</sup> NanoForum

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**New Opportunities  
Experienced Voices  
Practical Solutions**

**November 14-17, 2004  
Hilton Austin Hotel  
Austin, Texas**



# SEMI NanoForum

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## What Makes Us Different?

The first international conference that will bring together key decision makers and technical experts from the semiconductor equipment and materials industry and the nanotechnology world.

**“1 of Top 5 Major Nanotechnology Conferences of 2004”**

***-- Tradeshow Week***

# SEMI NanoForum

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## Conference Goals

- **Expand Market Opportunities for SEMI Members**
- **Increase Awareness of Nanotechnology Criteria**
- **Increase Awareness of Existing Solutions**
- **Develop a Nanotechnology Infrastructure**
- **Networking Opportunity**

# Target Nanotech Industries

- **Medical & Biotechnology**
- **Industrial Controls**
- **Defense & Aerospace**
- **Information Technology**
- **Consumer**
- **Automotive**
- **Telecomm & Wireless**



# SEMI NanoForum

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## Who Should Attend?

### Companies and Organizations

- Semiconductor equipment, materials and service suppliers
- Semiconductor manufacturers
- Nanotechnology companies
- Universities
- Government laboratories

### Individuals

- Senior-level decision makers
- Chief technical officers
- Strategic marketing directors
- Business development directors
- Senior technologists
- Members of the technical staff

# SEMI NanoForum

## Speakers and Panelists Represent:

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- 3M
  - Applied Materials
  - ASML Special Applications
  - Applied Nanotech
  - Daimler-Chrysler
  - DARPA
  - DuPont Experimental Station
  - EV Group
  - FSI International
  - Genus
  - Hitachi High-Technologies
  - IBM
  - Infineon
  - Intel
  - ITRI (Taiwan)
  - KLA-Tencor
  - Lockheed Martin

- Lucent Technologies
- Medtronic
- Molecular Imprints
- Motorola Laboratories
- Nanotechnologies
- National Science Foundation
- Nanosys
- NGEN Partners
- Novellus Systems
- Philips Advanced Metrology
- Rose Street Labs/Flip Chip International
- Tegal Corp.
- Texas Instruments
- Tokyo Electron AT
- University of Texas
- Veeco Instruments
- Zyvex

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## Sponsors and Partners Include

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- **AeA**
  - **European NanoBusiness Association**
  - **EV Group**
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  - **IBF Conferences**
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  - **Loomis Group**
  - **Nano Business Alliance**
  - **Red Herring**
  - **Small Times**
  - **Solid State Technology**
  - **Texas Healthcare and Bioscience Initiative**
  - **Texas Nanotechnology Initiative**
  - **Veeco Instruments**

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## Conference Outline

- **Tutorial: The Basics of Nanotechnology**
- **The Nanotechnology Challenge**
- **Commercial Opportunities and Markets**
- **Capabilities and Synergies**
- **Infrastructure Workshop**

# SEMI NanoForum 2004 Agenda

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**Sunday, November 14**

**Tutorial—Introduction to Nanotechnology  
Presented by the University of Texas**

**Nanoelectronics/Photonics**  
Professor Sanjay Banerjee

**Nanomaterials**  
Professor Brian Korgel

**Nanoprinting/Nanofabrication**  
Professor Grant Wilson

**Nanocharacterization**  
Professor Paul Barbara

# SEMI NanoForum 2004 Agenda

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**Monday, November 15**

## **Session 1—The Nanotechnology Challenge**

### **Silicon Nanoelectronics: A Major Force Going Forward**

Frank Robertson, Intel

### **Lessons Learned from the MMST Program**

Dr. Robert Doering, Senior Fellow and Technology Strategy Manager,  
Texas Instruments Inc.

### **The Nanotechnology Revolution**

Larry Bock, Chief Executive Officer, NanoSys Inc.

# SEMI NanoForum 2004 Agenda

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**Monday, November 15**

## **Session 2—Commercial Opportunities and Markets**

### **Electronics/Information Technology**

Dr. Chris Murray, Manager of Nanoscale Materials and Devices, IBM

### **Government Defense**

Dr. Zachary Lemnios, Director, Microsystems Technology Office,  
Defense Advanced Research Projects Agency (DARPA)

### **Medical/Biotech**

Dr. James Carney, Senior Principal Staff Engineer, Medtronic, Inc

### **Luncheon Keynote Speaker**

Dr. George Atkinson, Science and Technology Advisor to the  
Secretary of State, United States State Department

### **Defense**

Dr. Sharon Smith, Director of Technology, Lockheed Martin Corporation

# SEMI NanoForum 2004 Agenda

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**Monday, November 15 (continued)**

## **Telecommunications**

Dr. Elsa Reichmanis, Bell Labs Fellow and Director, Materials Research,  
Bell Laboratories, Lucent Technologies

## **Transportation**

Dr. Hartmut Presting, Senior Manager, Coordinator of Nanotechnology for Automobiles,  
DaimlerChrysler Research

## **Consumer**

Dr. James Jaskie, Chief Technologist & Dan Noble Fellow, Motorola Laboratories

## **Commercial Applications**

Dr. Tom Cellucci, President and Chief Operating Officer, Zyvex Corporation

## **Packaging**

Dr. Joan Vrtis, Chief Technology Officer, Rose Street Labs, Flip Chip International

# SEMI NanoForum 2004 Agenda

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**Monday, November 15 (continued)**

## **A Regional Success Story**

Dr. Tsung-Tsan Su, General Director, Nanotechnology Research Center, Industrial Technology Research Institute (ITRI), Taiwan

## **Panel – Financing Commercialization**

Moderator—Jim Von Ehr, Founder, Chairman and Chief Financial Officer, Zyvex Corp.

## **Panel Members**

- Dan Colbert, Chief Technical Officer, NGEN Partners
- James Rudd, Program Manager, Small Business Innovation Research, National Science Foundation
- Josh Wolfe, Co-founder and Managing Partner of Lux Capital and Editor, *Forbes/Wolfe Nanotech Report*
- Krishna Srinivasan, Principal, Austin Ventures
- Randy Bell, Chief Executive Officer, Nanotechnologies, Inc.
- Zvi Yanev, Chief Executive Officer, Applied Nanotech

# SEMI NanoForum 2004 Agenda

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Tuesday, November 16

## Session 3 -- Capabilities & Synergies

### Materials

Dr. Larry Wendling, Staff Vice President for Corporate R&D, 3M

### Materials

Dr. Uma Chowdhry, Staff Vice President, Dupont Experimental Station

### Photo -- Optical

Norbert Kappel, Vice President of Marketing, ASML Special Applications

### Photo -- Beam

Genya Matsuoka, Chief Senior Engineer, Hitachi High-Technologies Corporation

### Photo -- Imprint

Dr. Norman Schumaker, Chief Executive Officer, Molecular Imprints Inc.

# SEMI NanoForum 2004 Agenda

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**Tuesday, November 16 (continued)**

## **Dry Etch**

Masayuki Tomoyasu, Director, Development Planning Dept., Tokyo Electron AT, Ltd.

## **Wet Etch**

Dr. Jeffery W. Butterbaugh, Chief Technologist, FSI International Inc.

## **Luncheon Keynote**

Dr. Mark Pinto, Senior Vice President, New Business and New Products Group, Applied Materials Inc.

## **Deposition--Plating**

Jonathan Reid, Advanced Cu Film Development Manager, Novellus Systems

## **Deposition**

Dana Tribula, Managing Director, Group Marketing Cu, PVD and Integrated Systems, Applied Materials

# SEMI NanoForum 2004 Agenda

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**Tuesday, November 16 (continued)**

**Deposition/ALD**

Dr. Thomas Seidel, Executive Vice President and Chief Technical Officer  
Genus Inc.

**Metrology – Optical**

Dr. Dan Wack, Vice President, Advanced Development, Optical CD Division  
KLA-Tencor Corp.

**Metrology – Profilometry – AFM**

Ed Braun, Chief Executive Officer, Veeco Instruments Inc.

**Metrology – Beam**

Dr. Michael Gostein, Chief Technologist, Philips Advanced Metrology

# SEMI NanoForum 2004 Agenda

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**Tuesday, November 16 (continued)**

**Panel – Next Steps**

**Moderator:** Kelley Kordzik, Section Head, Intellectual Property Section and Chair  
Nanotechnology Practice Group, Winstead Sechrest & Minick P.C.

Dr. Elsa Reichmanis, Bell Labs Fellow and Director, Materials Research, Bell Laboratories,  
Lucent Technologies

Dr. Jeffery W. Butterbaugh, Chief Technologist, FSI International Inc.

Dr. Peter Podesser, Chief Executive Officer and President, EV Group

Dr. Robert Doering, Senior Fellow and Technology Strategy Manager, Texas Instruments Inc.

Mike Parodi, Chairman, President and Chief Executive Officer, Tegal Corp.

Norbert Kappel, Vice President of Marketing, ASML Special Applications

# SEMI NanoForum 2004 Agenda

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**Wednesday, November 17**

## **SEMI NanoForum Workshop**

**This closing session will give attendees an open forum to synthesize and discuss the information presented over the previous two days. Participants will determine what actions could be taken to bring ideas to life and spur the development of nanotechnology applications.**

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**Sponsorship Opportunities Available**

**60 Exhibition Booths Available**

**Contact Terry Berke at [tberke@semi.org](mailto:tberke@semi.org)**

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To register visit  
[www.semi.org/nanoforum](http://www.semi.org/nanoforum)

**Register by October 15 and save \$100!**