

# Nano Bio Clean Tech™

The 4th International Congress of Nanotechnology 2007  
Clean Tech Congress 2007

November 5 - 8, 2007 • Hyatt Regency San Francisco Airport



“Forging the New Scientific Frontier in the Global Economy”



International Association  
of Nanotechnology  
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# Welcome



## The 4th International Congress of Nanotechnology & Clean Tech 2007

November 5 -8, 2007 • Hyatt Regency San Francisco Airport

**“Forging the New Scientific Frontier in the Global Economy”**

<http://www.nanotechcongress.com>

### ICNT 2007

#### Conference Topics:

- Nanomaterials
- Nanodevices
- Nanoelectronics
- Nanobiotechnology
- Nanomedicine
- Nano Drug Delivery Systems
- Nanotechnology in Semiconductor Industry
- Nanotechnology in Biopharmaceutical Industry
- Nanotechnology in Energy Industry
- Nano Tools
- Molecular Engineering
- Nano Manufacturing
- Nanoparticles Toxicology
- Societal & Environmental Impacts
- Health Safety Implications
- Intellectual Property and Technology Transfer
- Capital Funding and Grants for Start-up Ventures
- Other related topics

### CLEANTECH CONGRESS 2007

#### Conference Topics:

- Cleantech Business
- Biofuels
- Photovoltaic
- Hydrogen
- Fossil Fuels
- Electric Car
- Sustainable Energy Public Policy
- Direct Thermal Energy Conversion
- Electrochemical Conversion and Storage
- Nanostructured Solar Cell Manufacturing
- Intellectual Property
- Commercialization
- Venture capital investment



### International Association Of Nanotechnology

The International Association of Nanotechnology is a non-profit organization with the goals to foster scientific research and business development in the areas of nanoscience and nanotechnology for the benefits of society. The Association fosters friendship, equality and cooperation amongst its members around the world.

Under the provisions of a \$1.5 million high growth jobs training grant from the federal US government, the Association is able to offer several programs that address the need for workforce training in the nanotechnology and clean tech sectors.

To join the Association, please visit our web site: [www.ianano.org](http://www.ianano.org)



### Letter from the Conference Chair

Dear Colleague,

Welcome to the 4th International Congress of Nanotechnology & Clean Tech 2007.

This year's program features a wide and rewarding range of forums, training modules, invited lectures, breakout scientific sessions and roundtable business discussions that highlight the latest development and applications in the fields of nanotechnology, nanomedicine and clean tech.

The nano bio and clean technologies are becoming increasingly important to the continued growth and welfare of the global economy. On an annualized basis, the federal government of the United States earmarks \$1.4 billion to the development and enrichment of nanotechnology. Within the past year, the European Union has committed more than \$2 billion to the development of nanotechnology-related projects; other countries have invested a significant R&D budget towards nanotechnology research.

Nanomedicine has opened a new dimension of research and product development, focusing on the novel physical, chemical and biological properties of materials at the nano-scale level for potential applications in prevention, diagnosis and treatment of diseases.

While nanotechnology continues to fill the gap between concept and reality, clean tech has also emerged as the watchword of the decade: More companies and organizations are focusing on the demand for technologies that protect the climate, provide power and offer more efficient means of storing energy. In many cases, nanotechnology is the engine that drives the advancement of clean tech.

The program has been designed to help you to gain insights into some of the latest scientific breakthroughs and exciting business opportunities as well as to present to you challenges facing the emerging industries which require international collaboration.

I would like to thank our volunteers, and many of our colleagues who have done so much to make this year's conference successful.

I look forward to meeting each one of you in San Francisco. I hope you enjoy this beautiful city and find the program, papers, and workshops stimulating and valuable.

With warmest regards,

**Lloyd L. Tran**

President, International Association of Nanotechnology  
Director, California Institute of Nanotechnology

# Program At-A-Glance



## Monday November 5, 2007 (Pre-conference Workshops)

- 8:00 AM - 2:00 PM Workshop Registration
- 10:00 AM - 5:00 PM Conference Registration
- 10:00 AM - 5:00 PM Exhibitor Registration
- Advanced Workshops**
- 9:00 AM - 12:00 PM **Workshop1:** Introduction to Nanotechnology  
Room Regency A
- 9:00 AM - 12:00 PM **Workshop2:** Carbon Nanotubes: an introduction  
Room Regency B
- 2:45 PM - 5:45 PM **Workshop3:** Nanobiotechnology & Nanomedicine: Applications of Tissue Engineering  
Room Regency B
- 2:45 PM - 5:45 PM **Workshop4:** Intellectual Property & Technology Licensing & Corporate Strategic Alliance  
Room Regency A

**Professional Certificates in Nanotech**  
(combined workshops for both Business Re-engineering & Training the Trainer)

- 9:00 AM - 10:30 AM **Nanotech 120BE:** Nano Bio Clean Tech Business: an Overview
- 10:45 AM - 12:15 PM **Nanotech 100BE:** Introduction to Nanotechnology
- 1:00 PM - 2:30 PM **Nanotech 140BE:** Environmental Health & Safety Implications of Nanotechnology

**"Business Re-engineering" Workshop**  
(Room: Regency A)

- 2:45 PM - 5:45 PM **Nanotech 240BE:** Technology Licensing & Corporate Strategic Alliance
- Nanotech 220BE:** Essentials of Patent & Intellectual Property  
(2:45 PM - 5:45 PM)

**"Train the Trainer" Workshop**  
(Room: Regency B)

- 2:45 PM - 5:45 PM **Nanotech 425TT:** Nanobiotechnology & Nanomedicine: Applications of Tissue Engineering

## Tuesday November 6, 2007

- 7:30 AM - 4:00 PM Registration
- 7:30 AM - 8:30 AM Breakfast
- 8:30 AM - 12:00 PM **General Sessions**  
Welcoming Remarks from the Program Chair  
Keynote  
Invited Lectures
- 12:00 PM - 2:00 PM Lunch / Poster Presentation
- 2:00 PM - 5:30 PM **Breakout Sessions**  
**Track A:** Nanomedicine  
**Track B:** Nanomaterials  
**Track C:** Environmental Health & Safety Nanoelectronics  
**Track D:** Professional Development Certificate in Nanotechnology Business Re-Engineering  
**Track E:** Professional Development Certificate in Nanotechnology "Train the Trainer"
- 2:00 PM - 5:30 PM **Workshop 5:** Financing an Emerging Technology Company  
**Workshop 6:** Nanomaterial Characterization  
**Workshop 7:** Micro and Nano-Fabrication

## Wednesday November 7, 2007

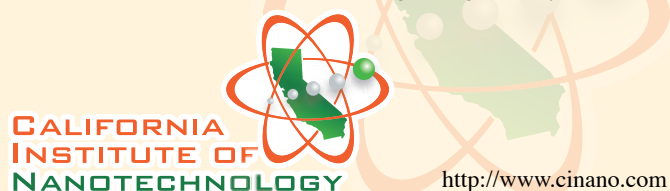
- 7:30 AM - 4:00 PM Registration
- 7:30 AM - 8:30 AM Breakfast
- 8:30 AM - 12:00 PM General Sessions  
Keynotes  
Invited Lectures
- 12:00 PM - 2:00 PM Lunch
- 2:00 PM - 5:30 PM **Breakout Sessions**  
**Track A:** Nanomedicine  
**Track B:** Nanomaterials  
**Track C:** Clean Tech Leader Forum- Session I  
**Track D:** Professional Development Certificate in Nanotechnology Business Re-Engineering  
**Track E:** Professional Development Certificate in Nanotechnology "Train the Trainer"
- 2:00 PM - 5:30 PM **Workshop 8:** Surface & Thin Films Applications in Nanotechnology  
**Workshop 9:** Fundamentals & Applications of Carbon Nanotubes

## Thursday November 8, 2007

- 7:30 AM - 4:00 PM Registration
- 7:30 AM - 8:30 AM Breakfast
- 8:30 AM - 12:00 PM General Sessions  
Keynotes  
Invited Lectures
- 12:15 PM - 2:00 PM Lunch
- 2:00 PM - 5:30 PM **Breakout Sessions**  
**Track A:** Nanostructures & Applications  
**Track B:** Clean Tech Forum- Session I  
**Track C:** Clean Tech Forum- Session II  
**Track D:** Professional Development Training "Train the Trainer": Field Trip to Stanford University Nano Characterization Laboratory Workshop on How to Use AFM and SEM for Nanoscale Characterization
- 5:30 PM - 6:00 PM Congress Conclusion

### SPONSORED BY

The California Institute of Nanotechnology's mission is conduct research and development in the frontier of nanotechnology with its wide spectrum of applications, while serves a nanotechnology workforce training institute to meet the needs of the growing industry.



# Conference Schedule



## Monday November 5, 2007

8:00 AM - 10:00 AM	Workshop Registration
10:00 AM - 5:00 PM	Exhibitor Registration
10:00 AM - 5:00 PM	Conference Registration
9:00 AM - 12:15 PM (Regency A)	<b>Workshop 1:</b> Introduction to Nanotechnology
9:00 AM - 10:30 AM	Nanotech 120BE: Nano Bio Clean Tech Business: an Overview <b>Lloyd L. Tran, Director</b> California Institute of Nanotechnology San Jose, CA - USA
10:45 AM - 12:15 PM	Nanotech 100BE: Nanotechnology: an Introduction <b>Cat- Tien Nguyen, Senior Scientist</b> NASA Ames Research Center, Moffett Field, CA - USA
9:00 AM - 12:00 PM (Regency B)	<b>Workshop 2:</b> Carbon Nanotubes: an introduction <b>Meeyya Meyyappan, Chief Scientist,</b> Exploration Technology, NASA Ames Research Center, Moffett Field, CA - USA
	<b>Professional Certificates in Nanotechnology</b> (Combined workshop for both " <u>Business Re-engineering</u> " & " <u>Train the Trainer</u> ")
12:15 PM - 1:30 PM	Lunch on your own
1:30 PM - 2:30 PM (Regency A)	(Combined workshop for both " <u>Business Re-engineering</u> " & " <u>Train the Trainer</u> ") <b>Nanotech 140BE: Environmental Health &amp; Safety Implications of Nanotechnology</b> <b>Jeffrey Wong, Chief Scientist</b> Department of Toxic California Environmental Protection Agency, Sacramento, CA - USA
2:30 PM - 2:45 PM	Coffee Break
2:45 PM - 5:45 PM (Regency B)	<b>Workshop 3:</b> Nanobiotechnology & Nanomedicine "Train the Trainer" Certificate Nanotech 425TT: Nanobiotechnology & Nanomedicine: Applications of Tissue Engineering <b>Thomas J. Webster, Associate Professor</b> Division of Bio-engineering, Brown University Providence, RI - USA
2:45 PM - 5:45 PM (Regency A)	<b>Workshop 4:</b> Intellectual Property & Technology "Business Re-engineering" Certificate Nanotech 220BE: Essentials of Patents & Intellectual Property <b>Craig Fellestein, CEO</b> Intelligence Operations Group, LLC, New York, NY - USA
	Nanotech 220BE: Technology Licensing & Corporate Strategic Alliance <b>Joel Ackerman, Of counsel</b> Townsend & Townsend, San Francisco, CA - USA

## Tuesday November 6, 2007

7:30 AM - 4:00 PM	Registration
7:30 AM - 8:30 AM	Breakfast

**Tuesday AM**  
(Grand Ballroom ABC)  
8:30 AM - 9:00 AM  
T-G-1

9:00 AM - 9:15 AM  
T-G-2

9:15 AM - 10:00 AM  
T-G-3

10:00 AM - 10:15 AM

10:15 AM - 10:45 AM  
T-G-4

10:45 AM - 11:15 AM  
T-G-5

11:15 AM - 11:45 AM  
T-G-6

11:45 AM - 12:15 PM  
T-G-7

12:15 PM - 1:30 PM

1:30 PM - 2:00 PM

**Tuesday PM**  
**Track A**  
(Grand Ballroom A)  
2:00 PM - 2:30 PM  
T-A-1

2:30 PM - 3:00 PM  
T-A-2

3:00 PM - 3:30 PM  
T-A-3

3:30 PM - 3:45PM

### General Session

Opening Remark from **Lloyd L. Tran**, Director, California Institute of Nanotechnology. President, International Association of Nanotechnology;  
"The State of Nanotechnology 2007: Forging the New Scientific in the Global Economy"

Welcome Remarks from the Honorable **Senator Leland Yee**  
Senator of the State of California

**Roger Kornberg**, Professor  
Nobel Laureate in Chemistry 2006  
Department of Structural Biology  
Stanford University Medical School

Coffee Break

**Miloslav Frumar**, Professor, Head of Research Center University of Pardubice Pardubice, Czech Republic  
"Nano-size films for high capacity phase-change memories"

**Hiroshi Yamamoto**  
RIKEN Saitama, JAPAN  
"Molecular Conductor Nanowires Sheathed by Supramolecular Networks"

**Paul Brazis**  
Motorola Printed Electronics Technology  
Schaumburg, IL - USA  
"Printed electronics using nanoparticle dispersions"

**Noor Butt**  
National Commission on Nano Science and Technology (NCNST), Islamabad, PAKISTAN  
"Nano Materials of Pd-Pd and Fe-Co alloys and the Mossbauer Studies"

Lunch

Poster Presentation

### Nanomedicine

**Thomas J. Webster**, Associate Professor, Divisions of Engineering and Orthopedics, Brown University, Providence, RI - USA  
"Reduced Inflammation and Better Tissue Integration of Nanomaterials"

**Darwesh K Aladin<sup>1</sup>, William W Lu<sup>1</sup>, Kenneth MC Cheung<sup>1</sup>, Alfonso HK Ngan<sup>2</sup>, Danny Chan<sup>3</sup> and Keith DK Luk<sup>4</sup>**  
<sup>1</sup> Dept. of Orthopaedics and Traumatology, <sup>2</sup> Department of Mechanical Engineering, <sup>3</sup> Department of Biochemistry, The University of Hong Kong, Pokfulam, Hong Kong, PRC  
"Nano Structure of Human Intervertebral Disc Collagens and its association with the Macro-Mechanical Properties of the Disc Tissue"

**Masaaki Kawai**  
Division of Surgical Oncology, Tohoku University Graduate School of Medicine, 2-1, Seiryō-cho, Aoba-ku, Sendai, Miyagi JAPAN 980-8575  
"Interstitial nano-particle tracking and analysis of movements in the human tumor xenograft in mice"

Coffee Break

# Conference Schedule



The Conference Schedule may be subject to changes

3:45 PM - 5:45 PM  
T-A-4

## Cancer Nanomedicine- Special Session

### Kattesh Katti

Gauss Professor, Professor of Radiology and Physics Director, University of Missouri Cancer Nanotechnology Platform  
Columbia, MO, USA

"Nano-Naturo Connection in Nanomedicine: Green Nanoparticles in Medicine and Technology"

### Larry A. Nagahara

Project Manager, Nanotechnology in Cancer, Office of the Director, National Cancer Institute, Bethesda, MD, USA  
"NCI Alliance for Nanotechnology in Cancer: Research and Strategic Direction"

### Raghuraman Kannan

Assistant Professor of Radiology, Director, Nanoparticle Production Core Facility, University of Missouri-Columbia, MO, USA  
"Targeted Gold Nanoparticles for Breast Cancer Imaging"

### Henry White

President/CEO, Nanoparticle Biochem Inc, Columbia, MO, USA  
"Commercial Aspects of Nanomedicine for a Small Company"

## Tuesday PM Track B

(Grand Ballroom B)  
2:00 PM - 2:30 PM  
T-B-1

## Nanomaterials

### Dae Su Kim<sup>1</sup>, Woo Jin Choi<sup>1</sup>, Ji-Hyun Byun<sup>1</sup>, and Robert L. Powell<sup>2</sup>

<sup>1</sup> Department of Chemical Engineering, Chungbuk National University, 410 Sungbongro Cheongju, Chungbuk 361-763, South Korea

<sup>2</sup> Department of Chemical Engineering and Materials Science, University of California at Davis, 1 Shields Avenue, Davis, CA - USA

"Effects of Amine Functionalization on the Curing and Physical Properties of Epoxy-MWNT Nanocomposites"

2:30PM - 3:00 PM  
T-B-2

### Albert Figuerola<sup>1</sup>, Angela Fiore<sup>1</sup>, Teresa Pellegrino<sup>1</sup>, Riccardo Di Corato<sup>1</sup>, Andrea Falqui<sup>2</sup>, Cinzia Giannini<sup>3</sup>, Edoardo Micotti<sup>4</sup>, Alessandro Lascialfari<sup>5</sup>, Maurizio Corti<sup>4</sup>, Roberto Cingolani<sup>1</sup>, Davide Cozzoli<sup>1</sup>, Liberato Manna<sup>1</sup>

<sup>1</sup> National Nanotechnology Laboratory of CNR Distretto Tecnologico ISUFI

Via per Arnesano Km.5 73100 Lecce (Italy),

<sup>2</sup> Institut National de Sciences Appliquées – INSA Departement de Genie Physique 135 Avenue de Rangueil 31077 Toulouse Cedex 4 (France)

<sup>3</sup> CNR-Istituto di Cristallografia (IC)

Via Amendola 122/D 70126 Bari (Italy)

<sup>4</sup> Dip. di Fisica "A.Volta", Università di Pavia, and Unita' CNR-INFM and CNISM, Via Bassi 6, I-27100, Pavia, Italy

<sup>5</sup> Istituto di Fisiologia Generale e Chimica Biologica "G. Esposito", Milano and S3-CNR-INFM, Modena, Italy.

"Size-Controlled Bimagnetic FePt/iron oxide Hybrid Nanocrystals: One-Pot Synthesis, Structural-Magnetic Characterization and Potential Applications"

3:00 PM - 3:30 PM  
T-B-3

### C.D. Reddy and C. Lu

Institute of High Performance Computing, 1 Science Park Road, #01-01 The Capricorn, Science Park II, Singapore 117528.

"Continuum parameters for vibration analysis of single-walled carbon nanotubes"

3:30 PM - 3:45 PM

Coffee break

3:45 PM - 4:15 PM  
T-B-4

### Kijung Yong and Youngjo Kark

Surface Chemistry Laboratory of Electronic Materials, Department of Chemical Engineering, Pohang University of Science and Technology (POSTECH), Pohang 790-784, Korea

"Fabrication of ZnO nanorod and heteronanostructure array using low temperature method"

4:15 PM - 4:45 PM  
T-B-5

### Bryan P. Ribaya<sup>1,2</sup>, Darrell L. Niemann<sup>1,2</sup>, Joseph Leung<sup>2</sup>, Philip Brown<sup>2</sup>, Norman Gunther<sup>1</sup>, Mahmud Rahman<sup>1</sup>, and Cattien V. Nguyen<sup>1,2</sup>

<sup>1</sup> Department of Electrical Engineering, Santa Clara University, Santa Clara, CA 95053

<sup>2</sup> NASA Ames Center for Nanotechnology, Moffett Field, CA 94035

"A Study on Individual Carbon Nanotube Field Emission Cathodes: Mechanical and Electrical Reliability and the Effects of Cathode Structure"

4:45 PM - 5:15 PM  
T-B-6

### R. Bertschinger<sup>1</sup>, Ph. A. Aebi<sup>2</sup>, T. A. Jung<sup>1</sup>

<sup>1</sup> Laboratory for Micro- and Nanostructures, Paul Scherrer Institute,

5232 Villigen PSI, Switzerland

<sup>2</sup> Institut de Physique, Université de Neuchâtel, 2007 Neuchâtel, Switzerland

"Influence of Dipolar Fields in Molecular Monolayer Phases: Sub-Phthalocyanine/Ag(111)"

5:15 PM - 5:45 PM  
T-B-7

### Riichiro Ohta<sup>1,2</sup>, Setha Yim<sup>1,3</sup>, Nathaniel B. Zuckerman<sup>1</sup>, Jessica L. Killian<sup>1</sup>, Chuck Hitzman<sup>1,4</sup>, Emily Allen<sup>3</sup>, M. Meyyappan<sup>1</sup> and Cattien V. Nguyen<sup>1</sup>

<sup>1</sup> NASA Ames Research Center, Moffett Field, CA 94043, <sup>2</sup> University Affiliated Research Center,

<sup>3</sup> Department of Chemical and Materials Engineering, San Jose State University, San Jose, CA 95192, and

<sup>4</sup> Stanford Nanocharacterization Laboratory, Stanford University, CA 94305

"Grain Boundary Effect on the Direct Growth of Carbon Nanotubes on Ni Alloys for Field Emission Applications"

5:45 PM - 6:15 PM  
T-B-8

### M. Anis-ur-Rehman<sup>1</sup> and Asghari Maqsood<sup>2</sup>

<sup>1</sup> Applied Thermal Physics Laboratory, Department of Physics, COMSATS Institute of Information Technology, Islamabad, Pakistan.

<sup>2</sup> Thermal Physics Laboratory, Department of Physics, Quaid-i-Azam University, Islamabad 45320, Pakistan

"Synthesis and characterization of Zn doped Cobalt Nano ferrites"

## Tuesday PM Track C

(Grand Ballroom C)  
2:00 PM - 2:30 PM  
T-C-1

## Environmental, Health & Safety

### Petia Simeonova, A. Erdely, V. G. Walker, T. Hulderman, and R. Salmen

National Institute for Occupational Safety and Health, Morgantown, WV - USA  
"Carbon nanotubes – toxicity evaluation"

2:30PM - 3:00 PM  
T-C-2

### Patrick Lin

The Nanoethics Group  
Santa Barbara, CA, USA

"Superman vs. Frankenstein's Monster: The Debate on Human Enhancement Technologies"



# Conference Schedule



The Conference Schedule may be subject to changes

3:00 PM - 3:30 PM  
T-C-3

**Jean-Pascal Piret<sup>1</sup>, Sébastien Vankoningsloo<sup>1</sup>, Renaud Vigneron<sup>2</sup>, Stéphanie Rolin<sup>3</sup>, Christelle Saout<sup>4</sup>, Bernard Masereel<sup>3</sup>, Joseph Delhalle<sup>4</sup>, Stephane Lucas<sup>2</sup> and Olivier Toussaint<sup>1</sup>**

<sup>1</sup> Laboratory of Biochemistry and Cellular Biology (URBC), University of Namur, 61 rue de Bruxelles, 5000 Namur, Belgium.

<sup>2</sup> Laboratory of Analysis by Nuclear Reactions (LARN), University of Namur, 61 rue de Bruxelles, 5000 Namur, Belgium.

<sup>3</sup> Pharmacy Department, University of Namur, 61 rue de Bruxelles, 5000 Namur, Belgium.

<sup>4</sup> Laboratory of Chemistry and Electrochemistry of Surfaces, University of Namur, 61 rue de Bruxelles, 5000 Namur, Belgium.

"Nanotoxic: Risk assessment of nanoparticles on human health using in vitro and in vivo models"

3:30 PM - 3:45 PM

Coffee break

3:45 PM - 4:15 PM  
T-C-4

**Masanori Horie<sup>1</sup>, Shigehisa Endoh<sup>2</sup>, Haruhisa Kato<sup>3</sup>, Shinichi Kinugasa<sup>3</sup>, Kayori Takahashi<sup>3</sup>, Katsuhide Fujita<sup>1</sup>, Yoshiro Saito<sup>1</sup>, Yasukazu Yoshida<sup>1</sup>, Hitoshi Iwahashi<sup>1</sup>, Etsuo Niki<sup>1</sup>, and Junko Nakanishi<sup>4</sup>**

<sup>1</sup> Human Stress Signal Research Center (HSSRC), National Institute of Advanced Industrial Science and Technology (AIST), 1-8-31 Midorigaoka, Ikeda, Osaka 563-8577, Japan

<sup>2</sup> Research Institute for Environmental Management Technology, AIST, 16-1 Onogawa, Tsukuba, Ibaraki 305-8569, Japan

<sup>3</sup> National Metrology Institute of Japan (NMIJ), AIST, 1-1-1 Higashi, Tsukuba, Ibaraki 305-8565, Japan  
"Biological effects induced by ultrafine TiO<sub>2</sub> in cell culture system"

National Institute of Advanced Industrial Science and Technology, Ikeda, Japan  
"Biological effects induced by ultrafine TiO<sub>2</sub> in cell culture system"

3:45 PM - 4:15 PM  
T-C-5

**Ganesh Rajagopalan and Lawrence Y.C. Leong**  
Kennedy/Jenks Consultants, Irvine, CA - USA  
"Removal of Nanomaterials in Wastewater"

4:15 PM - 4:45 PM  
T-C-6

**Boumadhi Najih<sup>1,2</sup>, Grosseau Philippe<sup>1</sup>, Guilhot Bernard<sup>2</sup>, Cottier Michèle<sup>3</sup>, Vergnon Jean-Michel<sup>3</sup>, Boudard Delphine<sup>3</sup>, Sebastien Patrick<sup>4</sup>.**

<sup>1</sup> Centre SPIN, department PC2M, CNRS UMR 5148, Ecole Nationale Supérieure des Mines of Saint-Etienne

<sup>2</sup> CIS, Centre Ingénierie et Santé, Ecole Nationale Supérieure des Mines of Saint-Etienne.

<sup>3</sup> Medicine faculty (EA 3063)/CHU of Saint-Etienne : Pneumology - cytology et histology.

<sup>4</sup> H.S.E manager of Saint-Gobain CREE, Cavailon.

"Study the biological activity of fines industrials SiC powders "

**Tuesday PM  
Track D**

2:00 PM - 5:00 PM  
T-D-1-BE

**Professional Development Training  
Business Re-Engineering**

**Nanotech 320  
Workshop 5A: Financing a Start-up Enterprise in Emerging Technology**

(Room: Regency A)

**Andrew D. Wahl**  
Managing Director  
IG Partners  
Redwood Shores, CA 94065

3:30 PM - 3:45 PM

Coffee Break

3:45 PM - 5:15 PM  
T-D-2-BE

**Nanotech 340  
Workshop 5B: Initial Public Offering Options for a High Growth Enterprise**

(Room: Regency A)

**Andrew D. Wahl**

5:15 PM - 6:30 PM

Poster Presentation

**Tuesday PM  
Track E**

1:30 PM - 3:30 PM  
T-E-1-TT

**"Train the Trainer" Workshops**

**Nanotech 225TT - Workshop: 6  
Nanomaterials Characterization**

(Room: Regency B)

**Geetha Dholakia**, Senior Research Scientist  
NASA Ames Research  
Moffett Field, CA USA

3:30 PM - 3:45 PM

Coffee Break

3:45 PM - 5:00 PM  
T-E-2-TT

**Nanotech 320TT - Workshop: 7  
Micro and Nano-Fabrication:  
Principle and Applications**  
(Room: Regency B)  
**Mahmudur Rahman**, Professor  
Electrical Engineering Department  
Director, Electron Devices Laboratory  
Santa Clara University, Santa Clara, CA - USA

## Wednesday November 7, 2007

7:30 AM - 12:00 PM

Registration

7:30 AM - 8:30 AM

Breakfast

**Wednesday AM**  
(Grand Ballroom ABC)

**General Session**

8:30 AM - 8:45 AM  
W-G-1

Opening Remarks from Program Chair

8:45 AM - 9:00 AM  
W-G-2

Welcome Remarks from the **Honorable Senator Richard Polanco** (retired)  
Former Senate Majority Leader, State of California

9:00 AM - 9:15 AM  
W-G-3

**David Crane**  
Special Advisor to the Governor for  
Jobs and Economic Growth  
State of California

9:15 AM - 10:00 AM  
W-G-4

**Harry Kroto (Nobel Laureate in Chemistry 1996)**  
Department of Chemistry and Biochemistry  
Florida State University  
Tallahassee, Florida, USA

10:00 AM - 10:15 AM

Coffee break

10:15 AM - 10:40 AM  
W-G-5

**Phani Ayalasomayajula**  
CEO, Center for Advanced Nano-Technologies  
Abruzzo, ITALY  
"Synthesis of SnO<sub>2</sub> nanofibers by electrospinning technique and their applications in gas sensors"

10:40 AM - 11:05 AM  
W-G-6

**Ning Xi**  
Michigan State University  
East Lansing, MI 48824 USA  
"Manufacturing and Testing of Carbon Nanotube (CNT) Based IR Detectors"

# Conference Schedule



The Conference Schedule may be subject to changes

11:05 AM - 11:30 AM  
W-G-7

**Curt Richter**  
National Institute of Standards and Technology  
Gaithersburg, MD 20899, USA  
"Metrology to Enable Emerging Nanoelectronics"

11:30 AM - 11:55 AM  
W-G-8

**Subir Sarkar**  
Jadavpur University  
Kolkata, INDIA  
"Genetic approach for efficient high speed nanodevices"

**Wednesday PM  
Track A**  
(Grand Ballroom A)  
2:00 PM - 2:30 PM  
W-A-1

## Nanomedicine

**Ahsan Ali, Mansharipova A.T., Gilmanov M.K., Djusipov A.K., Rao Khalid M.**  
Scientific research institute of cardiology and internal diseases. Almaty, Kazakhstan  
KazNanoMed. Almaty, Kazakhstan.  
"New Methods of Drug Delivery"

2:30 PM - 3:00 PM  
W-A-2

**A. S. Afonso<sup>1</sup>, L. R. Goulart-Filho<sup>2</sup>, M. Moura<sup>2,1</sup>, M. B. Goulart<sup>3</sup>, J. M. Madurro<sup>1</sup> and A. G. Brito-Madurro<sup>1</sup>**  
<sup>1</sup> Institute of Chemistry, Federal University of Uberlandia, Brazil.  
<sup>2</sup> Institute of Genetics and Biochemistry, Federal University of Uberlandia, Brazil. Phone: +55 34 32182478.  
<sup>3</sup> National Reference Center of Leprosy, Clinics Hospital, School of Medicine, Federal University of Uberlandia, Brazil.  
"Detection of Mycobacterium Leprae DNA onto graphite for leprosy diagnostics"

3:00 PM - 3:30 PM  
W-A-3

**Dewayne Stennett<sup>1</sup>, Helen Asemota<sup>1,2,3</sup>, Frederick Oladeinde<sup>4,5</sup>, Andrew Wheatley<sup>1,2</sup>, Lowell Dilworth<sup>1</sup>, Oswald Simon<sup>1</sup>, Christine Hohmann<sup>6</sup>, Yvonne Bronner<sup>5</sup> and Joseph Bryant<sup>7</sup>**  
<sup>1</sup> Basic Medical Sciences Department,  
<sup>2</sup> Biotechnology Centre, University of the West Indies, Mona Campus, Kingston 7, Jamaica.  
<sup>3</sup> Shaw University Nanotechnology Initiative, Raleigh, North Carolina, U.S.A  
<sup>4</sup> Chemistry Department, Morgan State University, Baltimore, Maryland, U.S.A  
<sup>5</sup> Center for Complementary and Alternative Medicine, School of Public Health & Policy, Morgan State University, Baltimore, Maryland, USA  
<sup>6</sup> Biology Department, Morgan State University, Baltimore, Maryland, USA  
<sup>7</sup> Animal Core Facility Department, University of Maryland Biotechnology Institute, Baltimore, Maryland, USA  
"Bitter Yam Biomaterials influence Kidney Function and Electrolytes Balance in Transgenic Mice Model of Hypercholesterolemia"

3:30 PM - 3:45 PM

Coffee Break

3:45 PM - 4:15 PM  
W-A-4

**Yu Sakurai, M.Takeda, L.Cong, A.Kasuya, Y.Kobayashi and N.Ohuchi**  
Graduate School of Medicine, Tohoku University, Sendai, Japan  
"Nanosized Silver Iodide Beads As X-Ray Contrast Media and its In Vivo Distribution"

4:15 PM - 4:45 PM  
W-A-5

**Darby Kozak**  
University of Queensland  
Queensland, Australia  
"Profiling Protein Surface Interactions of Multicomponent Suspensions via Flow Cytometry"

4:45 PM - 5:15 PM  
W-A-6

**Wednesday PM  
Track B**  
(Grand Ballroom B)  
2:00 PM - 2:30 PM  
W-B-1

2:30 PM - 3:00 PM  
W-B-2

3:00 PM - 3:30 PM  
W-B-3

3:30 PM - 3:45 PM

3:45 PM - 4:15 PM  
W-B-4

4:15 PM - 4:45 PM  
W-B-5

4:45 PM - 5:15 PM  
W-B-6

5:15 PM - 5:45 PM  
W-B-7

5:45 PM - 6:15 PM  
W-B-8

**Kathleen Sirois**  
University of Newcastle Callaghan  
NSW, Australia  
"Glucose Biosensors Based on Hygroscopic Insulator Field-Effect Transistors"

## Nanomaterials

**Geetha R Dholakia**  
Center for Advanced Aerospace Materials and Devices, NASA Ames Research Center, Moffett Field, CA 95051.  
"Self assembly: From organic molecules to inorganic nanowires"

**Giuseppe Manai**  
Trinity University, Dublin, Ireland  
"Growth and reactivity to oxygen of ultra-thin Ni films on Rh(111)."

**Thathan Premkumar, Ji-Yong Shin, Dongsik Kim, Kyungjae Lee, and Kurt E. Geckeler**  
Laboratory of Applied Macromolecular Chemistry, Department of Materials Science and Engineering Gwangju Institute of Science and Technology (GIST), 1 Oryong-dong, Buk-gu, Gwangju 500-712, South Korea.  
"Surfactants as a Versatile Tool for the Preparation of Gold Nanoparticles"

Coffee Break

**Khlyustova, Anna. V., Maximov, A. I., Subbotkina, I. N.**  
Institute Solution Chemistry of RAS, Ivanovo, Russia  
"Application of Underwater Volume Discharges in Electrolyte Solution for Cleaning from Organic Compounds"

**Jaw-Yen Yang and Tse-Yang Hsieh,**  
Computational Nanotechnology Laboratory, National Taiwan University  
No. 1, Section 4, Roosevelt Road, Taipei 10764 TAIWAN  
"Simulation of Thermal Conductivity of Multi-dimensional Nanocomposites using Photo Boltzmann Equation"

**Darrell L. Niemann<sup>1,2</sup>, Jessica L. Killian<sup>3,4</sup>, Nathaniel Zuckerman<sup>3,4</sup>, Bryan P. Ribaya<sup>1,2</sup>, Mahmud Rahman<sup>2</sup>, M. Meyyappan<sup>1</sup> and Cattien V. Nguyen<sup>3,4</sup>**  
<sup>1</sup> NASA Ames Research Center, Moffett Field, CA 94035  
<sup>2</sup> Electron Devices Laboratory, EE Dept., Santa Clara University, Santa Clara, CA 95053  
<sup>3</sup> Department of Chemistry, San Jose State University, One Washington Sq., San Jose, CA 95192;  
<sup>4</sup> ELORET Corp. NASA Ames Research Center, M/S 229-1, Moffett Field, CA 94035  
"Field Emission Properties of Carbon Nanotube Pillar Arrays Patterned Directly on Metal Alloy Surfaces"

**Kevin Radican, N. Berdunov, and I. V. Shvets**  
CRANN, School of Physics, Trinity College, Dublin, Ireland  
"Periodic Self Faceting: Formation of MoO<sub>2</sub> nanowires on the Mo(110) surface."

**Priya Rajdev and Dipankar Chatterji**  
Molecular Biophysics Unit, Indian Institute of Science, Bangalore-560012, India.  
"Trapping Single Molecule on Langmuir-Blodgett Films: Thermodynamic and spectroscopic characterization of Nickel-Histagged protein interaction"

# Conference Schedule



*The Conference Schedule may be subject to changes*

## Wednesday PM

### Track C

(Grand Ballroom C)  
2:00 PM - 5:30 PM  
W-C-1

### Clean Tech Discussion Forum

#### Invited Speakers/Panelists

**Dan Cort**, Mayor - Pacific Grove, CA  
**Dan Furtado**, Mayor - Campbell, CA  
**Brian Meano**, CEO  
 Fieldstone Energy Company, Cleveland, OK  
**Robert Preus**, President  
 Abundant Renewable Energy, Newberg, OR  
**Mark Goldes**, CEO  
 Magnetic Power, Inc., Sebastopol, CA  
**Scott Elrod**  
 Manager Hardware System Laboratory  
 Palo Alto Research Center  
 Palo Alto, CA - USA  
**Rich Hilt**, Consultant  
 Brightline, Menlo Park, CA  
**Marianna Grossman**, Consultant  
 Minerva Consulting, Palo Alto, CA

9:15 AM - 9:45 AM  
T-G-3

### Alex Zettl

Professor - Department of Physics  
 University of California at Berkeley &  
 Lawrence Berkeley National Laboratory  
 Berkeley, CA USA  
 "Nanodevice "Firsts" for Electronics  
 and Energy Applications"

9:45 AM - 10:15 AM  
T-G-4

### K.V.Ravi

Director, Solar Business Group - Applied Materials  
 Santa Clara, CA USA  
 "Photovoltaics - enabling scale manufacturing  
 and cost reduction"

10:15 AM - 10:30 AM

Coffee Break

10:30 AM - 12:00 PM  
T-G-5-8

### Panel Discussion on Clean Tech Investment

#### Ira Ehrenpreis

General Partner - Technology Partners

#### Bill Reichert

Managing Director - Garage Technology Partners

#### Michael Sears

Managing Partner - Atrium Capital

#### Abe Yokell

Senior Associate - Rockport Capital Partners

#### Scott Chou

Partner - Gabriel Venture Partners

#### Mark Chasan

CEO - Transformative Capital, Inc

#### David Ward

Senior Partner - MTI Partners Inc

## Wednesday PM

### Track D

(Regency A)  
2:00 PM - 3:30 PM  
W-D-1-BE

### Professional Development Training Business Re-Engineering Certificate

#### Nanotech 440BE: Nanotech Re-Engineering Project Development- Part 1

Preparation of Project Proposal  
 Lead by faculty members of the  
 California Institute of Nanotechnology

3:30 PM - 3:45 PM

Afternoon Coffee Break

3:45 PM - 5:45 PM  
W-D-2-BE

#### Nanotech 440BE: Nanotech Re-Engineering - Project Presentation - Part 2

Preparation of Project Proposal  
 Lead by faculty members of the  
 California Institute of Nanotechnology

## Thursday AM

(Boardroom IV )

10:30 AM - 12:00 PM

### Professional Development Training "Train the Trainer"

#### Nanotech 525TT: Certificate Nanotech & Cleantech Projects

## Wednesday PM

### Track E

(Regency B)  
2:00 PM - 4:00 PM  
W-E-1-TT

### "Train the Trainer" Workshops

#### Nanotech 235TT: Surfaces & Thin Films: Applications in Nanotechnology

**Zhen Guo**, Senior Process Engineer  
 INTEL Corporation  
 Santa Clara, CA USA

4:00 PM - 4:15 PM

Afternoon Coffee Break

4:15 PM - 6:15 PM  
W-E-2-TT

#### Nanotech 315 TT: Fundamentals & Applications of Carbon Nanotubes

**Cat-Tien Nguyen**  
 Senior Scientist, Center for Nanotechnology  
 NASA Ames Research Center  
 Moffett Field, CA 94035 USA

10:30 AM - 12:00 PM

Lunch

## Thursday PM

### Track A

(Grand Ballroom A)  
2:00 PM - 2:30 PM  
Th-A-1

### Nanostructures & Applications

#### Maureen Gorsen

Director, The Department of Toxic  
 Substances Control  
 Sacramento, CA USA

2:30 PM - 3:00 PM  
Th-A-2

#### Joel Ackerman

Of Counsel, Townsend & Townsend  
 San Francisco, CA

3:00 PM - 3:30 PM  
Th-A-3

#### Neville Freeman

Farfield Scientific Inc, Pittsburgh, PA, USA  
 "The physical measurement of a wide range  
 of nanosystems in real time"

3:30 PM - 3:45 PM

Afternoon Coffee Break

3:45 PM - 4:15 PM  
Th-A-4

#### Zhihao Yang

President and CTO, NanoMas Technologies, Inc.  
 Vestal, NY  
 "Nanoparticle inks for printed electronics"

4:15 PM - 4:45 PM  
Th-A-5

#### Yuri Glukhoy & Lloyd Tran

California Institute of Nanotechnology  
 San Jose, CA 96126 USA  
 "A novel manufacturing method to produce ultra pure  
 gold and silver nanoparticles for medical applications"

## Thursday November 8, 2007

## Thursday AM

(Grand Ballroom ABC)  
8:30 AM - 8:45 AM  
T-G-1

### General Session

Opening Remarks from Program Chair

8:45 AM - 9:15 AM  
T-G-2

#### Assembly Member Loni Hancock

Assembly member of the State of California



# Conference Schedule



*The Conference Schedule may be subject to changes*

4:45 PM - 5:15 PM  
Th-A-6

**Christine Arit**  
German Aerospace Centre (DLR)  
Braunschweig, Germany  
"Ceramic Nanoparticles: The Key to Future Aerospace Materials"

2:30 PM - 3:00 PM  
Th-C-2

**John Boesel**  
President & CEO - WestStart-CALSTART  
Pasadena, CA USA  
"Solutions for Sustainable Transportation"

5:15 PM - 5:45 PM  
Th-A-7

**Rodica Moraescu, Frank Hubenthal, Lars Englert, Lars Haag, Thomas Baumert, and Frank Träger,**  
Institut für Physik and Center for Interdisciplinary Nanostructure Science and Technology - CINSaT, Universität Kassel, Heinrich-Plett-Straße 40, D-34132, Kassel, Germany  
"Nanoapplications of Regular Arrays of Gold Nanoparticles Prepared by Nanosphere Lithography"

3:00 PM - 3:30 PM  
Th-C-3

**Patrick McMullens**  
Chief Technology Officer - Vycon, Inc., Yorba Linda, CA  
"Reduction of Fuel and Emissions in Port Cranes with the use of Energy Storage Flywheels"

3:30 PM - 3:45 PM

Coffee Break

**Thursday Track B**  
(Grand Ballroom B)  
2:00 PM - 2:30 PM  
Th-B-1

## Clean Tech Leader Forum - Session II

**A. Paul Alivisatos**  
Department of Chemistry, University of California, Berkeley, Berkeley, CA 94720-1460, USA  
"Nanocrystal Based Solar Cells"

3:45 PM - 4:15 PM  
Th-C-4

**Jacob Weiss**  
President- Medis Technologies, New York, NY  
"Commercializing Fuel Cell Technology for Mass Adoption"

4:15 PM - 4:45 PM  
Th-C-5

**R. Douglas McPheters**  
President and CEO - HoloTouch, Inc., Darien, CT  
"Clean Facility Advantages of Touchless, Holographic Human-Machine Interfaces"

2:30 PM - 3:00 PM  
Th-B-2

**Hector Cotal**  
Senior Scientist, Spectrolab  
Sylmar, CA, USA  
"Progress toward Low-Cost, Power Generation from High Efficiency Multijunction Concentrator Solar Cells"

4:45 PM - 5:15 PM  
Th-C-6

**Firouz Shahrokhi**  
President - PowerAvenue Corp., Nashville, TN  
"Building Hydrogen Economy Based on Sand and Water"

3:00 PM - 3:30 PM  
Th-B-3

**Claes G Granqvist**  
Department of Engineering Sciences, The Angstrom Laboratory, Uppsala University, Uppsala, Sweden  
"Electrochromic foil technology for buildings: Combining energy efficiency and indoor comfort"

5:15 PM - 5:45 PM  
Th-C-7

**Vasily Borzenko, Dmitry Dunikov and Stanislav Malyschenko**  
Joint Institute for High Temperatures RAS, Moscow, Russia  
"Reversible Solid State Hydrogen Storage Systems for Fuel Cell Power Supply"

3:30 PM - 3:45 PM

Coffee Breaks

## Thursday PM Track D

1:30 PM - 5:00 PM  
Th-D-TT

**"Train the Trainer" Workshops**  
Bus departs at SFO Hyatt Hotel at 12:30 PM

3:45 PM - 4:15 PM  
Th-B-4

**Clark Gellings**  
Vice President, Electric Power Research Institute, Palo Alto, CA 94304 USA  
"Nanotechnologies in electric utility applications"

Field Trip: 1:30 PM to 5:00 PM  
Workshop on How to Use AFM and SEM for Nanoscale Characterization at Stanford University Nano Characterization Laboratory

4:15 PM - 4:45 PM  
Th-B-5

**Rajeeva Lahri and Keshav Prasad**  
Signet Solar, Menlo Park, CA 94025 USA  
"Mass Adoption of Solar Photovoltaics: Lessons from the Semiconductor Industry"

**Prof. Robert Sinclair**  
Chair, Materials Science and Engineering Director, Nano Characterization Laboratory Stanford University

4:45 PM - 5:15 PM  
Th-B-6

**Roland Schoettle**  
CEO, Optimal Technologies International Inc. Benicia CA, USA  
"What does the Electric Power System of the Future Need to Be?"

5:45 PM - 6:15 PM

Congress Conclusion

5:15 PM - 5:45 PM  
Th-B-7

**Moneer Azzam**  
President/CEO - SolarOne Solutions Framingham, MA USA  
"How Advancements in LED Lighting Technology is Creating New Opportunity for Solar Powered Lighting"

**Thursday PM Track C**  
(Grand Ballroom C)  
2:00 PM - 2:30 PM  
Th-C-1

## Clean Tech Leader Forum - Session III

**Anand Rangarajan**  
Executive Vice President and Chief Technologies Officer  
WorldWater & Solar Technologies Corp., Ewing, NJ  
"Latest Development in Solar PV Conventional Technologies/ Innovative Water Supply Solutions"





## Poster Presenters

**A.M. M. Abeykoon<sup>1</sup>, M. Castro-Colin<sup>2</sup>, E. V. Anokhina<sup>1</sup>, M. N. Iliev<sup>1</sup>, W. Donner<sup>1</sup>, A. J. Jacobson<sup>1</sup>, and S. C. Moss<sup>1</sup>**

<sup>1</sup> University of Houston, Houston, TX 77204,

<sup>2</sup> University of Texas, El Paso, TX 79968.

“Synchrotron X-ray and Optical Studies of the Structures of HgSe and Se Semiconductor Nanoclusters Confined in Zeolite-L and Zeolite-Y”

**M. Anis-ur-Rehman<sup>1</sup> and Asghari Maqsood<sup>2</sup>**

<sup>1</sup> Applied Thermal Physics Laboratory, Department of Physics, COMSATS Institute of Information Technology, Islamabad, Pakistan.

<sup>2</sup> Thermal Physics Laboratory, Department of Physics, Quaid-i-Azam University, Islamabad 45320, Pakistan

“Synthesis and characterization of Zn doped Cobalt Nano ferrites”

**G. Ali Mansoori<sup>1</sup>, Thomas F. George<sup>2</sup>, Guoping Zhang<sup>3</sup> and Lahsen Assoufid<sup>4</sup>**

<sup>1</sup> Departments of Bio & Chemical Engineering, University of Illinois at Chicago. Chicago, IL 60612, USA

<sup>2</sup> Office of the Chancellor and Center for Molecular Electronics Departments of Chemistry & Biochemistry and Physics & Astronomy

University of Missouri–St Louis, St Louis, MO 63121, USA

<sup>3</sup> Department of Physics, Indiana State University, Terre Haute, IN 47809, USA

<sup>4</sup> Argonne National Laboratory, Argonne, IL 60439, USA

“Structure and Opto-Electronic Behavior of Diamondoids, with Applications as MEMS and at the Nanoscale Level”

**J. Bhattacharya and AK Dasgupta**

University of Calcutta, West Bengal, India

“Gold Nanoparticle Induced Transformation of Non-Competent Escherichia Coli”

**M. Chávez, A. Hernández, L. Maya, I. Gómez, R. Lucio**

Universidad Autónoma de Nuevo León,

Facultad de Ciencias Químicas ,

Monterrey, Nuevo León, México

“Evaluation of photocatalytic activity ZnO obtained by sol-gel in the hexavalent chromium removal”

**Dosev, Dosi, Nichkova, Mikaela; Ma, Zhi-Ya, Gee, Shirley J.;**

**Kennedy, Ian M. , Hammock, Bruce D. ; Chang, Dan**

University of California Davis, One Shields Avenue, Davis, CA 95616

“Magnetic luminescent nanoparticles for internal calibration in multiplexed immunoassays”

**Rubén E. Estrada-Salas, Ariel A. Valladares-Clemente**

Materials Research Institute,

National Autonomous University of Mexico

Mexico City, Mexico

“DFT Studies on Electronic Properties of Endohedral Metallofullerenes”

**Yasir Faheem<sup>1</sup> and Khurram Saleem<sup>2</sup>**

<sup>1</sup> Corrosion & Protection Centre, School of Materials, University of Manchester, The Mill, Manchester, M60 1QD, United Kingdom

<sup>2</sup> Chemistry Department, University of Engineering and Technology, Lahore-54890, Pakistan

“Free Standing Nanoparticles Formation and Phase Transformation in Lead Zirconate Titanate Derived by Sol-Gel”

**Curtis O. Green<sup>1</sup>, Dennis H. Bailey<sup>2</sup>, Lowell L. Dilworth<sup>1</sup>, Andrew O. Wheatley<sup>1,2</sup> David Hui<sup>3</sup> and Helen N. Asemota<sup>1,2,4</sup>**

<sup>1</sup> Department of Basic Medical Sciences (Biochemistry),

<sup>2</sup> Biotechnology Centre, University of the West Indies, Mona, Jamaica,

<sup>3</sup> Dept. of Mech. Engineering, Univ. of New Orleans, USA.

<sup>4</sup> Dept. of Nat. Sciences, Shaw Univ., Raleigh, NC., USA.

“Polymethoxylated Flavones from Jamaican and Mexican Citrus Peels: Characterization and Nanoparticulataizaion for Potential Biomedical Application”

**Ashish K. Keshari<sup>1,2</sup>, Prashant K. Singh<sup>1,3</sup>, and Avinash C. Pandey<sup>1,2</sup>**

<sup>1</sup> Nanophosphor Application Centre, University of Allahabad, Allahabad-211 002, India.

(A DST Funded Project under IRHPA in collaboration with Nanocrystal Technology, New York),

<sup>2</sup> Department of Physics, University of Allahabad, Allahabad-211 002, India.

<sup>3</sup> Centre for Biotechnology, University of Allahabad, Allahabad-211 002, India.

“Temporal evolution study of biotin capped ZnS:Mn<sup>2+</sup> nanocrystals”

**A. Kisner<sup>1,2</sup>, A. R. Vaz<sup>2</sup>, M. R. Aguiar<sup>2</sup>, F. A. Cavarsan<sup>2</sup>, J. A. Diniz<sup>2</sup>, L. T. Kubota<sup>1,2</sup>**

<sup>1</sup> Institute of Chemistry, UNICAMP, PO Box 6154, Campinas-SP, Brazil

<sup>2</sup> Center of Semiconductors Components (CCS), UNICAMP, PO Box 6061, Campinas-SP, Brazil.

“Assisted Integration of Au Nanorods as Nanoelectrodes of MOS Capacitors by Focused Ion Beam”

**Hirohiko Kitsuki<sup>1</sup>, Kristofer Gleason<sup>1</sup>, Patrick Wilhite<sup>1</sup>, Makoto Suzuki<sup>1</sup>, Quoc Ngo<sup>1,2</sup>, Alan M. Cassell<sup>2</sup>, Jun Li<sup>2</sup>, and Cary Y. Yang<sup>1</sup>**

<sup>1</sup> Center for Nanostructures, Santa Clara University, Santa Clara CA, 95053

<sup>2</sup> NASA Ames Research Center, Center for Nanotechnology, Moffett Field, CA, 94035

“Scanning Transmission Electron Microscopy of Carbon Nanofibers under High-Current Stress”

**Stephanie I-Im Lim, and Chuan-Jian Zhong**

Department of Chemistry, State University of New York, Binghamton, New York 13902, USA

“Gold Nanoparticles to Probe Biointerfacial Reactivity of Homocysteine”

**Shun-ichi Matsuura<sup>1</sup>, Tetsuji Itoh<sup>1</sup>, Ryo Ishii<sup>1</sup>, Kengo Sakaguchi<sup>2</sup>, Tatsuo Tsunoda<sup>1</sup>, Takaaki Hanaoka<sup>1</sup>, Fujio Mizukami<sup>1</sup>**

<sup>1</sup> Research Center for Compact Chemical Process National Institute of Advanced Industrial Science and Technology (AIST), Nigatake 4-2-1, Miyagino-ku, Sendai 983-8551, Japan

<sup>2</sup> Department of Applied Biological Science, Tokyo University of Science, Yamazaki 2641, Noda, Chiba 278-8510, Japan

“Artificial Assembly of Hetero-Proteins Encapsulated in Mesoporous Material”

## Poster Presentation

### Poster Presenters (continued)

**R. S. Moria, A. M. Patel, Dr. D. J. Sen, Dr. C. N. Patel**  
Department of Pharmaceutical Analysis and Quality Assurance  
Shri Sarvajanik Pharmacy College, Mehsana-384001,  
Gujarat, INDIA.  
“The Impact of Nanotechnology on Controlled Drug Delivery”

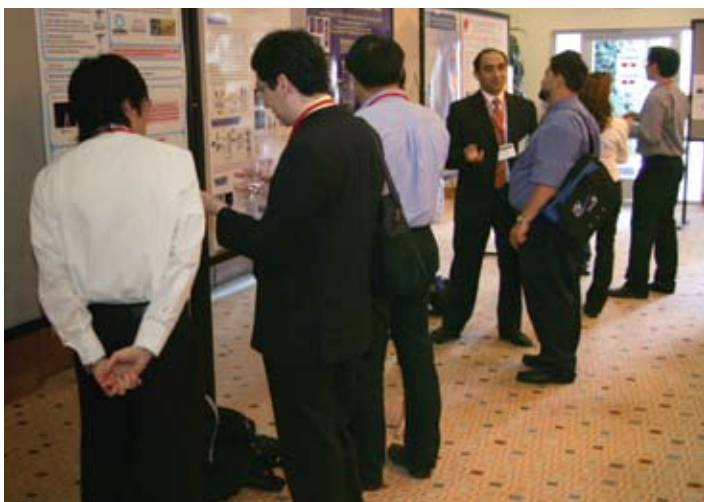
**A.R. Phani<sup>1</sup>\*, D. Di Claudio<sup>2</sup> and S. Santucci<sup>1</sup>**  
<sup>1</sup> CASTI, CNR-INFM Regional Laboratory, Department of Physics,  
University of L'Aquila  
Via Vetoio 10 Coppito 67010 L'Aquila ITALY  
<sup>2</sup> Microntechnology, Avezano, Italy  
“Enhanced antibacterial and photocatalytic properties of Fe<sup>3+</sup>  
doped TiO<sub>2</sub>, Carbon nanotube doped TiO<sub>2</sub> thin films synthesized  
by sol-gel technique”

**Pankaj Prajapati, C. N. Patel**  
Shri Sarvajanik Pharmacy College,  
Mehsana, Gujarat, India – 384001.  
“Studies in Design and Development of Colon  
Specific Drug Delivery Using Polymers”

**Thathan Premkumar<sup>1</sup>, Jong-Beom Kim<sup>1</sup>,  
Olivia Giani<sup>2</sup>, Jean-Jaques Robin<sup>2</sup>, Francois Schue<sup>2</sup>,  
and Kurt E. Geckeler<sup>1</sup>**  
<sup>1</sup> Laboratory of Applied Macromolecular Chemistry, Department of  
Materials Science and Engineering, Gwangju Institute of Science and  
Technology (GIST), Gwangju, South Korea;  
<sup>2</sup> Laboratory of Macromolecular Chemistry, UMR 5073, CNRS,  
University Montpellier II, Montpellier, France.  
“Carbon Nanotube/Poly(L-lysine) Composites”

**Ravikumar Vasantlal Modi and Dr. Dhruvo Jyoti Sen**  
Department of Pharmaceutical Chemistry,  
Shri Sarvajanik Pharmacy College,  
Hemchandracharya North Gujarat University,  
Arvind Baug, Mehsana-384001, Gujarat, India,  
Phone: 02762-247711; Fax: 02762-247712  
“Structure activity relationship studies of synthesized urea  
Diamides on CNS depression and sleeping time potentiation effect”

**Kijung Yong and Seongho Jeon**  
Surface Chemistry Laboratory of Electronic Materials, Department of  
Chemical Engineering, Pohang University of Science and Technology  
(POSTECH), Pohang 790-784, Korea  
“Growth and characterization of tungsten oxide nanorods using thermal  
annealing of thin films”



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#### COURSES:

Nanotech 100BE: Introduction to Nanotechnology  
Nanotech 120BE: Nanotech & Cleantech Business: an Overview  
Nanotech 140BE: Environmental Health & Safety Implications of Nanotechnology  
Nanotech 220BE: Essentials of Patent & Intellectual Property  
Nanotech 240BE: Technology Licensing & Corporate Strategic Alliance  
Nanotech 320BE: Financing an Emerging Technology Company  
Nanotech 340BE: IPO Options for High Growth Enterprise  
Nanotech 440BE: Nanotech & Cleantech Projects

#### “Train the Trainer” CERTIFICATE IN NANOTECH & CLEANTECH

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Prerequisite: a minimum of a BS degree with 10 years of academic/industry experience; or a PhD with five years of academic/industry experience or equivalent.

#### COURSES:

Nanotech 125TT: Introduction to Nanotechnology  
Nanotech 145TT: Environmental Health & Safety Implications of Nanotechnology  
Nanotech 225TT: Nanomaterials Characterization  
Nanotech 235TT: Surface & Thin Film - Applications in Nanotechnology  
Nanotech 245TT: Nanotech & Cleantech Business  
Nanotech 315TT: Introduction to Carbon Nanotubes  
Nanotech 325TT: Micro and Nano-Fabrication: An Overview  
Nanotech 425TT: Nanobiotechnology & Nanomedicine:  
Fundamentals & Applications of Tissue Engineering  
Nanotech 525TT: Nanotech & Cleantech Projects

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**Taylor & Francis**, founded in the City of London in 1798, is the oldest commercial journals publisher in the world, and one of the leading global academic publishers. Taylor & Francis was founded as a printer and publisher of scientific journals: Philosophical Magazine - now a journal of condensed matter physics - has remained in continuous publication since then.

[www.taylorandfrancisgroup.com](http://www.taylorandfrancisgroup.com)



**NanoMas Technologies, Inc.** is an early-stage start-up company, specializing in nanotechnology R&D and commercialization. NanoMas is focused on Bringing breakthroughs in nanotechnology to real world applications, and realizing profits from our nanotechnology innovations.

<http://www.nanomastech.com>



**Sun Nano** is the premium supplier of quality inorganic nano-particles and various types of carbon nanotubes. We can conduct R&D on custom-specified nano-material compositions. We can also prepare most nano-particles and nanotubes in colloid or stable suspension forms. Welcome to our store: [www.nanomaterialstore.com](http://www.nanomaterialstore.com)



**The Employment Training Panel ETP** is a business and labor supported state agency that assists employers in strengthening their competitive edge by providing funds to off-set the costs of job skills training necessary to maintain high-performance workplaces. ETP is governed by a 7-member Panel, appointed by the Governor and the Assembly and Senate leadership.

<http://www.etp.ca.gov>



**Lawrence Berkeley National Laboratory (Berkeley Lab)** has been a leader in science and engineering research for more than 70 years. Berkeley Lab conducts unclassified research across a wide range of scientific disciplines with key efforts in fundamental studies of the universe; quantitative biology; nanoscience; new energy systems and environmental solutions; and the use of integrated computing as a tool for discovery.

<http://www.lbl.gov/>



**The Stanford Nanocharacterization Laboratory (SNL)**, provides modern facilities for the characterization of materials. It is a sister facility to the Stanford Nanofabrication Facility (SNF) in Stanford's National Nanotechnology Infrastructure Network (NNIN) program. Our mission is to provide high quality, useful data and insight for as wide a range of users as possible. The equipment currently available includes several types of high-resolution microscopes and X-ray diffractometers and others.

<http://www.stanford.edu/group/snl/>



**The California Institute of Nanotechnology's** mission is to conduct research and development and provide workforce education and training in nanotechnology.

In order to meet the needs of the emerging industry, the Institute provides:

- Basic to advanced training programs taught by world-class scientists and business leaders.
- Networking opportunities with nanotechnology research centers and companies worldwide.
- Organized scientific conferences and job fairs to bring scientists, researchers, business executives, employers and job seekers together.
- Training to equip qualified dislocated workers with the essential skills for the nanotechnology industry.

<http://www.cinano.com>



**The Clean Tech California Initiative** is aimed at fostering the innovation and development of clean technologies, addressing workforce needs for high growth, high demand job training in California, and creating a consortium of public and private organizations to promote the affordability of clean technologies.

<http://www.cleantechcalifornia.com>



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<http://www.doleta.gov>

## INTERNATIONAL ASSOCIATION OF NANOTECHNOLOGY



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We are a non-profit organization with the goals to foster scientific research and business development in the areas of Nanoscience and Nanotechnology for the benefit of society.