

# Nano Bio Clean Tech™

## The 5th International Congress of Nano-Bio Clean Tech 2008

October 27-30, 2008  
San Francisco Airport Marriott Hotel



**“Accelerating Commercialization in Nano Bio & Clean Tech”**



National Research Council Canada

Conseil national de recherches Canada



# nanobio-cleantech **Welcome** CONGRESS 2008

## The 5th International Congress of Nanotechnology & Clean Tech 2008

October 27-30, 2008 • San Francisco Airport Marriott Hotel

**“Accelerating Commercialization in Nano Bio & Clean Tech”**

<http://www.ianano.org>



### Letter from the Conference Chair

Dear Colleague,

Welcome to the 5th International Congress of Nanotechnology & Clean Tech 2008.

This year's program features a wide spectrum of inter-related topics in the emerging field of nano bio and clean tech. In addition to keynotes, invited lectures, breakout scientific sessions and roundtable business discussions, the Congress highlights several forums focusing on the latest development in Nanoscale Materials Stewardship Program, NanoSafety Consortium, Climate Change Protection, Thin Film Photovoltaics, Emerging Nano Bio Clean Tech Companies, and Venture Capital Investment Forum.

The nano bio and clean technologies are becoming increasingly important to the continued growth and welfare of the global economy. Significant R&D has been increasingly allocated towards nanotechnology research: indeed, on an annual basis the United States federal government earmarks \$1.5 billion to the development and enrichment of nanotechnology. Within the past year, the European Union has similarly committed more than \$2 billion a year to the development of nanotechnology-related projects.

While nanotechnology continues to fill the gap between concept and reality, clean tech has also emerged as the third largest venture investment, with more than \$3 billion invested in start-ups over the past 12 months in the U.S. alone. 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 insight 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 the volunteers and 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  
San Jose, California, USA

### Nanotechnology Congress 2008

#### Conference Topics:

- Nanomaterials
- Nanodevices
- Nanoelectronics
- Nanobiotechnology
- Nanomedicine
- Nano Drug Delivery Systems
- Nanotechnology in Biopharmaceutical Industry
- Nanotechnology in Energy Industry
- Nano Tools
- Medical Imaging
- Nano Manufacturing
- Nanoparticles Toxicology
- Societal & Environmental Impacts
- Health Safety Implications
- Intellectual Property and Technology Transfer
- Investment Opportunities for Start-up Ventures
- Other related topics

### Cleantech Congress 2008

#### Conference Topics:

- Cleantech Business
- Biofuels
- Photovoltaic
- Electric Car
- Sustainable Energy Public Policy
- Climate Change Protection
- Cities Mayor Global Warming Solutions
- Nano Battery Storage Systems
- 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)

# nanobio-cleantech Program At-A-Glance CONGRESS 2008

## Monday October 27, 2008

8:30 AM - 2:00 PM Workshop Registration

10:00 AM - 5:00 PM Exhibitor Registration

9:00 AM - 5:30 PM **Pre-Conference Workshops**

9:00 AM - 10:30 AM **Workshop 1A:**  
Introduction to Nanotech & Clean Tech

10:45 AM- 12:15 PM **Workshop 1B**  
Nanofabrication: Principles and Applications

1:30M - 3:00 PM **Workshop 2A**  
Introduction to Carbon Nanotubes

3:15 PM - 6:00 PM **Workshop 2B**  
Nanobiotechnology & Tissue Engineering

1:30 PM - 6:00 PM **Workshop 3:**  
NanoScale Materials Stewardship - A Stakeholder's Workshop

## Tuesday, October 28, 2008

7:30 AM - 4:00 PM Registration

7:30 AM - 8:30 AM Breakfast

8:30 AM - 12:00 PM **General Session**  
Welcoming Remarks  
Keynotes  
Invited Lectures  
Climate Change Protection- Mayor Forum

10:00 PM- 6:30 PM Exhibit & Poster Presentations

12:30 PM - 1:30 PM Lunch

1:30 PM - 5:30 PM **Breakout Sessions**

Track A: Nanomaterials  
Track B: NanoCharacterization  
Track C: NanoBio & Nanomedicine  
Track D: Clean Technology  
Track E: Intellectual Property

5:30 PM - 7:00 PM Poster Presentations, Exhibit & Reception

## Wednesday, October 29, 2008

7:30 AM - 4:00 PM Registration

7:30 AM - 8:30 AM Breakfast

8:30 AM - 12:00 PM **General Session**  
Welcoming Remarks  
Keynotes  
Invited Lectures

10:00 AM- 5:00 PM Exhibit

12:00 PM - 1:30 PM Lunch

1:00 PM - 5:00 PM Job Fair

1:30 PM - 5:00 PM **Breakout Sessions**

Track A: Nanomedicine  
Track B: Nanoparticles  
Track C: Clean Technology  
Track D: Nanoscale Photovoltaics

## Thursday October 30, 2008

7:30 AM - 4:00 PM Registration

7:30 AM - 8:30 AM Breakfast

8:30 AM - 12:00 PM **General Session**  
Welcoming Remarks  
Keynotes  
Invited Lectures

10:00 AM - 12:00 PM Exhibits

12:00 PM - 2:00 PM Lunch at *El Torito* (Restaurant)

2:00 PM - 5:00 PM **Breakout Sessions**  
Track A: Nanostructures  
Track B: Medical Imaging & Diagnostics  
Track C: Emerging Tech Investment Forum

5:00 PM Meeting Adjourned

### SPONSORED BY

Clean Tech Institute provides expert management consulting services on strategic planning, corporate development, business positioning, and capital funding assistance in the emerging clean tech industry. In partnership with the International Association of Nanotechnology, the Institute provides workforce training as well as facilitating the deployment and use of clean tech solutions by business, government, universities and other institutions.



# nanobio clean tech Conference Schedule

CONGRESS 2008

## Monday, October 27, 2008

## Tuesday, October 28, 2008

8:00 AM - 10:00 AM	Workshop Registration
10:00 AM - 5:00 PM	Exhibitor Registration
10:00 AM - 5:00 PM	Conference Registration
<b>Pre-Conference Workshops</b>	
9:00 AM - 10:30 AM M-W-1	Workshop 1A <b>(located in Marina del Rey)</b> <b>Introduction to Nanotech &amp; Clean Tech</b> <b>Lloyd L. Tran</b> <i>Director, California Institute of Nanotechnology</i>
10 :45 AM- 12:15 PM M-W-2	Workshop 1B <b>Nanofabrication: Principles and Applications</b> <b>Mahmadur Rahman</b> Associate Professor, Santa Clara University
12:15 PM - 1:30 PM	Lunch on your own
1:30 PM - 3:00 PM M-W-3	Workshop 2A <b>(located in Marina del Rey)</b> <b>Introduction to Carbon Nanotubes</b> <b>Cattien Nguyen</b> Senior Scientist, NASA Ames Research Center
3:00 PM - 3:15 PM	Coffee Break
3:15 PM - 6:00 PM M-W-4	Workshop 2B <b>(located in Marina del Rey)</b> <b>Nanobiotechnology &amp; Tissue Engineering</b> <b>Thomas Webster</b> Associate Professor, Brown University, USA
1:30 PM - 6:00 PM M-W-5	Workshop 3 <b>(located in Monterey)</b> <b>Nanomaterials Stewardship - A Stakeholder's Workshop</b>  <b>Jeff Wong</b> Chief Scientist, Dept. of Toxic Substances Control, California Environmental Protection Agency (CAL EPA)  <b>Robert A. Sullivan</b> Staff Counsel, Dept. of Toxic Substances Control, CAL EPA  <b>Stan Phillippe</b> Dept. of Toxic Substances Control, CAL EPA  <b>Kristan Markey</b> U.S. Environmental Protection Agency

7:30 AM - 4:00 PM	Registration
7:30 AM - 8:30 AM	Breakfast
10:00 AM- 6:30 PM	Exhibit Poster Presentation
<b>General Session (located in Salon E)</b>	
8:30 AM - 8:45 AM	Opening Remarks
8:45 AM - 9:15 AM T-G-1	<b>Lloyd L. Tran</b> , President International Association of Nanotechnology; Director, California Institute of Nanotechnology <i>"The State of Nanotech and Clean Tech Industry: An Overview"</i>
9:15 AM - 9:45 AM T-G-2	<b>Chih-Ming Ho</b> Director, Center for Cell Control - NIH NDC, University of California, Los Angeles, CA, USA
9:45 AM - 10:15 AM T-G-3	<b>Timothy Sands</b> Director, Birck Nanotechnology Center, Purdue University <i>"Will Nanotechnology Enable Efficient Thermoelectric Refrigerators and Waste Heat Generators?"</i>
10:15 AM - 10:30 AM	Coffee Break
10:30 AM - 11:00 AM T-G-4	<b>S. Seeger, G.R.J. Artus, J. Zimmermann</b> Director, Institute of Physical Chemistry, Zurich, Switzerland; Chair, Physical Sciences, University of Zurich, Zurich, Switzerland <i>"Silicone Nanofilaments: Platform Technology for Tailored Surface Properties"</i>
11:00 AM - 12:30 PM T-G-5	<b>Climate Change Protection- Mayor Forum Panel Discussion with cities mayors</b> <b>Pat Eklund</b> , Mayor of Novato, CA <b>Ross Clark</b> , Climate Change Action Coordinator, City Of Santa Cruz, CA <b>Christine Krolik</b> , Vice Mayor, Hillsborough, CA <b>Susan Gorin</b> , Vice Mayor of Santa Rosa, CA <b>Tony Santos</b> , Mayor of San Leandro, CA <b>Mike Weber</b> , Mayor of South Lake Tahoe, CA <b>Dana Williams</b> , Mayor of Park City, Utah <b>Mark Wheatley</b> , Mayor of Arcata, CA
12:30 PM - 1:30 PM	Lunch Exhibit Poster Presentation

### Breakout Sessions

#### Track A : NanoMaterials (Marina del Rey)

**H. A. Zambrano<sup>1</sup>, J. H. Walther<sup>1,2</sup>, P. Koumoutsakos<sup>2</sup>, I. F. Sbalzarini<sup>3</sup>**

<sup>1</sup> Technical University of Denmark, Denmark

<sup>2</sup> Chair of Computational Science, ETH Zurich, Switzerland

<sup>3</sup> Chair of Computational Science and Swiss Institute of Bioinformatics, ETH Zurich, Switzerland  
*"Thermophoretic motion of water nanodroplets confined inside carbon nanotubes"*

1:30 PM - 2:00 PM  
T-A-1



## The Clean Tech California Initiative

Fosters the innovation and development of clean technologies

Addresses the workforce needs for high growth, high demand job-training in California

Creates a consortium of public and private organizations to promote the affordability of clean technologies

**cleantechcalifornia.com**

# nanobioelectronics Conference Schedule

CONGRESS 2008

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

**Qing-Hua Xu**  
National University of Singapore, Singapore  
"Fluorescence Enhancement of Fluorescein Isothiocyanate by Silver Nanoparticles"

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

**Sangyeob Lee<sup>1</sup>, Jinshu Shi<sup>2</sup>, Sheldon Q. Shi<sup>3</sup> and H. Michael Barnes<sup>4</sup>**  
Dept. Forest Products, Mississippi State University, USA  
"Inorganic Nanoparticles Impregnated Kenaf Fibers as Reinforcement for Polymer Matrix Composites in the Automobile Application"

3:00 PM - 3:15 PM

Coffee Break

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

**Anthony Wagner**  
Clean Technologies International Corp., USA  
"A novel new carbon nano material made into threads"

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

**Veronica Kim, Young Baek Kim**  
Plainsborough West HS, USA  
PaiChai University, South Korea  
"Photo-induced Translational Motions of Small Particles with Various Potential Applications"

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

**Teena James<sup>1</sup>, Manu Sebastian Mannoor<sup>1</sup>, Detchko V. Ivanov<sup>1</sup>, Bill Braunlin<sup>2</sup> & Les Beadling<sup>2</sup>**  
<sup>1</sup>Microelectronics Research Center, New Jersey Institute of Technology, USA  
<sup>2</sup>Rational Affinity Devices LLC, USA  
"Ultra Sensitive Debye Capacitive Sensor with Nanoscale Electrode Spacing for Label-free Nucleic Acid Analysis"

4:45 PM - 5:15 PM  
T-A-7

**Yuliang Li**  
Institute of Chemistry, Chinese Academy of Sciences, P.R. China  
"Gold Nanoparticle-Based Optical Sensing of Cu(II) Ions"

5:30 PM - 7:00 PM

Reception  
Exhibit  
Poster Presentation

## **Track B : NanoCharacterization (Monterey)**

1:30 PM - 2:00 PM  
T-B-1

**T. Nogami, M. Hashimoto, K. Tsukagoshi**  
Professor, Doshisha University, Japan  
"Microchip Capillary Electrophoresis with chemiluminescence detection for separation and determination of trace amounts of metal ions"

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

**Patrick Lemoine**  
University of Ulster, Ireland  
"Characterisation of periodic nanostructures for nano bio-application"

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

**Peter Zhdan**  
University of Surrey, United Kingdom  
"Nanoscale surface SPM characterization in ambient environment of nanomaterials and "industrial" samples with unlimited size and thickness: some problems and solutions"

3:00 PM - 3:15 PM

Coffee Break

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

**Weixuan Jing<sup>1</sup>, Ruxu Du<sup>1</sup>, Zhuangde Jiang<sup>2</sup>**  
<sup>1</sup> The Institute of Precision Engineering at the Chinese University of Hong Kong, Hong Kong, PR China

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

<sup>2</sup> State Key Laboratory for Manufacturing Systems Engineering at Xi'an Jiaotong University, Xi'an, PR China  
"Characterization of Au Ring Microelectrodes with Cyclic Voltammetry & AC Impedance Spectroscopy"

**Elnaz Yaghini<sup>1</sup>, Alexander M Seifalian<sup>2</sup>, Alexander J MacRobert<sup>1</sup>**

<sup>1</sup> National Medical Laser Centre (NMLC), UCL Medical School, University College, London, UK  
<sup>2</sup> Biomaterial and Tissue Engineering Centre, Academic Division of Surgical and Interventional Science, University College, London, UK  
"Measurement-layer Separation of Nanorod Assembly Multi-layer Structure for Ways Nanorod-Characteristic Measurement Method, Simulation & Application Possibility"

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

**Farbod Khoshnoud<sup>1,2</sup>, Clarence W. de Silva<sup>1</sup>**  
<sup>1</sup>Industrial Automation Laboratory, University of British Columbia, Canada  
<sup>2</sup>SOFTEK Services, Ltd., Canada  
"An Embedded Nano-electromechanical Capacitive Sensor Based on Carbon Nanotubes for Vibration Monitoring"

4:45 PM - 5:15 PM  
T-B-7

**Tran Hoang Hai, Phan Nha Truc, Doan Thi Kim Dung, Le Hong Phuc**  
Ho Chi Minh City Institute of Physics, Vietnam  
"Immobilizing and characterization of trypsin on magnetic nanoparticles coated chitosan"

5:30 PM - 7:00 PM

Reception  
Exhibit  
Poster Presentation

## **Track C: NanoBio & NanoMedicine (Santa Barbara)**

1:30 PM - 2:00 PM  
T-C-1

**Victor Morozov**  
National Center for Biodefense and Infectious Diseases (NCBID), George Mason University, USA  
Institute of Theoretical and Experimental Biophysics, Russian Academy of Sciences, Russia  
"New Electrospray based technology for manufacturing nano-aerosols, free nanomats and nanofilters for collection of bio-aerosol"

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

**Rodion Belosludov**  
Tohoku University, Japan  
"Ab initio Study on the Quantum Dot Organic Ligand Interface: Effect of Core Structure on Cytotoxicity"

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

**Juntao Luo, Kai Xiao, Yuan-pei Li, Joyce Lee, Holland Cheng, Li Xing, and Kit S. Lam**  
UC Davis Cancer Center, Division of Hematology and Oncology, Dept. of Internal Medicine, College of Biological Sciences, University of California, Davis, CA, USA  
"Novel Size-tunable Cancer Nanotherapeutics"

3:00 PM - 3:15 PM

Coffee Break

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

**Baiju G. Nair, Saino H. Varghese, Remya Nair, T. Maekawa, Y. Yoshida, D. Sakthi Kumar**  
Bio Nano Electronics Research Center, Graduate School of Interdisciplinary New Science, Toyo University, Japan  
"A bio polymer developed from poly ethylene glycol - An effective material to modify the surface of the nano drugs"

# nanobiotechnology Conference Schedule

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3:45 PM - 4:15 PM T-C-5	<b>Irfan S. Ahmad<sup>1,2</sup>, Ken L. Watkin<sup>1,3</sup>, Brian T. Cunningham<sup>1,4</sup>, Rashid Bashir<sup>1,4,5</sup>, Atiya Abbasi<sup>6</sup>, Sherine George<sup>1,5</sup>, Saubia Naz<sup>6</sup>, Uzma Zaman<sup>6</sup></b> 1 Center for Nanoscale Science and Technology, and Micro and Nanotechnology Laboratory, 2 Agricultural and Biological Engineering, 3 College of Applied Health Sciences, 4 Electrical and Computer Engineering, 5 Bioengineering, University of Illinois, USA, and 6 Dr. Panjwani Center for Molecular Medicine and Drug Research, ICCBS, University of Karachi, Pakistan <i>"Integrating Medicinal Plants with Biosensing for Cancer Nanomedicine"</i>	1:30 PM - 2:00 PM T-E-1	<b>Track E: Intellectual Property (Santa Clara)</b> <b>Peter Skiff</b> Buchanan Ingersoll & Rooney, Alexandria, VA, USA <i>"Intellectual Property"</i>
4:15 PM - 4:45 PM T-C-6	<b>Jason Sakamoto</b> The Alliance for NanoHealth, USA <i>"Silicon Biomedical nano-devices for early detection and drug delivery for cancer and other clinical applications"</i>	2:00 PM - 2:30 PM T-E-2	<b>Sam Nguyen</b> Foley & Lardner LLP, Palo Alto, CA, USA <i>"Clean Tech Patents with Demonstrated Commercial Value: An Analysis of the Characteristics of Licensed Clean Tech Patents from Publicly Announced Commercialization Deals"</i>
4:45 PM - 5:15 PM T-C-7	<b>Danial Shahmirzadi<sup>1</sup>, Adam Hsieh<sup>2</sup></b> Orthopaedic Mechanobiology Laboratory <sup>1</sup> Dept. of Mechanical Engineering, University of Maryland, USA <sup>2</sup> Dept. of Bioengineering, University of Maryland, USA <i>"Quantifying Microscale Solid Area via Macroscale Measurements of Soft Tissues: Application to Elastin Fibers in Arterial Tissue"</i>	2:30 PM - 3:00 PM T-E-3	<b>David Walker</b> Enable IPC, USA <i>"Intellectual Property and Technology Transfer"</i>
5:30 PM - 7:00 PM	Reception Exhibit Poster Presentation	3:00 PM - 3:15 PM	Coffee Break
1:30 PM - 2:00 PM T-D-1	<b>Gerald Braun</b> California Energy Commission (CEC) Public Interest Energy Research (PIER) Renewable Energy Technologies Program Area, University of California, CA, USA	3:15 PM - 3:45 PM T-E-4	<b>Michelle Hedges</b> Griffith Hack, Patent and Trademark Attorneys, Melbourne, Australia <i>"IP Considerations in Structuring Nanotechnology Research"</i>
2:00 PM - 2:30 PM T-D-2	<b>Gregg Dixon</b> EnerNOC, Inc., Boston, MA, USA <i>"Saved Energy is Cleanest - How Energy Efficiency and Demand Response Help Stop Climate Change"</i>	3:45 PM - 4:15 PM T-E-5	<b>James Wood</b> Reed Smith LLP, Oakland, CA, USA <i>"The impact of litigation on nanotechnology and how to minimized the risk"</i>
2:30 PM - 3:00 PM T-D-3	<b>Tara Marchant</b> Greenliving Institute <i>"Sustainable Energy Public Policy: Health Impacts and Investment to Burden Communities"</i>	4:15 PM - 4:45 PM T-E-6	<b>Joseph Kovarik</b> Sheridan Ross PC, USA <i>"Mediation of Patent Disputes: "You can't shake hands with a clenched fist"</i>
3:00 PM - 3:15 PM	Coffee Break	4:45 PM - 5:15 PM T-E-7	<b>Joel Ackerman</b> Townsend & Townsend, San Francisco, CA, USA <i>"Identifying and Resolving Intellectual Property Issues in Business Transactions"</i>
3:15 PM - 3:45 PM T-D-4	<b>Margaret Taylor</b> Goldman School of Public Policy, University of California, Berkeley, CA, USA	5:30 PM - 7:00 PM	Reception Exhibit Poster Presentation
3:45 PM - 4:15 PM T-D-5	<b>John Hettrich</b> American Energy Choice, Inc, San Jose, CA, USA	<b>Wednesday, October 29, 2008</b>	
4:15 PM - 4:45 PM T-D-6	<b>Mike Hess</b> Mariah Power, Reno, NV, USA	7:30 AM - 4:00 PM	Registration
4:45 PM - 5:15 PM T-D-7	<b>Darcie Houck</b> Fredericks Peebles & Morgan, Sacramento, USA <i>"Effect of Climate Change &amp; Renewable Energy Development on Native Communities"</i>	7:30 AM - 8:30 AM	Breakfast
5:30 PM - 7:00 PM	Reception, Exhibit, & Poster Presentations	10:00 AM - 5:00PM	Exhibits
		8:30 AM - 8:45 AM W-G-1	<b>General Session (Salon E)</b> Welcoming Remarks from Program Chair
		8:45 AM - 9:15 AM W-G-2	<b>Guozhong Cao</b> Professor of Materials Science and Engineering, University of Washington, Seattle, WA, USA <i>"Popcorn-style ZnO/TiO2 Films for Dye-Sensitized Solar Cells"</i>
		9:15 AM - 9:45 AM W-G-3	<b>Michael T. Tseng<sup>1</sup>, Eric Grulke<sup>2</sup> &amp; Robert A. Yokel<sup>2</sup></b> <sup>1</sup> University of Louisville, Louisville, KY, USA <sup>2</sup> University of Kentucky, Lexington, Kentucky, USA <i>"Pivotal Role of Reticuloendothelial Cells in Biodistribution of Engineered Nanomaterials"</i>
		9:45 AM - 10:15 AM W-G-4	<b>John McDevitt</b> Professor of Chemistry & Biochemistry, University of Texas at Austin, Austin, TX, USA Chief Technologist, LabNow Corp

# nanobiotechnology Conference Schedule CONGRESS 2008

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10:15 AM - 10:30 AM	Coffee Break		Behavioral & Brain Sciences, University of Texas at Dallas, Richardson, TX, USA <sup>2</sup> RBC Life Sciences Inc., Irving, TX, USA <i>"Enhanced Learning and Psychomotor Effects of Microhydrin®, a Nano Particulate Antioxidant Supplement, in Young and Aging Rats"</i>
10:30 AM - 11:00 AM W-G-5	Welcome Remarks from <b>Lt. Governor John Garamendi</b> State of California, CA, USA		
11:00 AM - 11:30 AM W-G-6	<b>Kate Gordon</b> Apollo Alliance, USA <i>"The New Apollo Program - A Federal Investment Strategy for the New Clean Energy Economy"</i>	4:15 PM-4:45 PM W-A-6	<b>Arthur Zucker</b> Ohio University, Athens, OH, USA <i>"New and Old in Nanoscience"</i>
11:30 AM - 12:00 PM W-G-7	<b>Eric Archambault</b> Science-Metrix, Montreal, CANADA	4:45 PM - 5:15 PM W-A-7	<b>Janne Nikkinen</b> Center for Social Ethics, University of Helsinki, Finland <i>"Socio-Ethical Analysis of the Use of Quantum Dots in Nanomedicine"</i>
12:00 PM - 1:30 PM 1:00 PM - 5:00 PM	Lunch Job Fair		
	<b>Breakout Sessions</b>		<b>Track B: Nanoparticles (Monterey)</b>
1:30 PM - 2:00 PM W-A-1	<b>Track A: NanoMedicine (Marina del Rey)</b> <b>Arezoo Campbell<sup>1</sup>, Flemming R. Cassee<sup>2</sup>, Miriam E. Gerlofs-Nijland<sup>2</sup></b> <sup>1</sup> Western University of Health Sciences, USA <sup>2</sup> Centre for Environmental Health Research, National Institute for Public Health and the Environment, The Netherlands <i>"Brain Regions show Variation in response after exposure to diesel engine exhaust"</i>	1:30 PM - 2:00 PM W-B-1	<b>Sheng-Chiang Lee and Randall D. Peters</b> Mercer University, USA <i>"Novel Nano-Positioning Sensor with Un-limited Dynamic Range for Nano-Fabrication Process and Scanning Probe Microscopy"</i>
2:00 PM - 2:30 PM W-A-2	<b>Kwang Jae Cho<sup>1</sup>, Yu Jin Kim<sup>2</sup>, Hyun Tae Moon<sup>3</sup>, Youngro Byun<sup>3,4</sup>, Heung Soo Shin<sup>5</sup> and Yong-kyu Lee<sup>2</sup></b> <sup>1</sup> Department of Otolaryngology, Head and Neck Surgery, The Catholic University of Korea, College of Medicine Uijeongbu, St. Mary's Hospital, Kyunggi-Do, Korea, <sup>2</sup> Department of Chemical and Biological Engineering, Chungju National University, Chungbuk, Korea, <sup>3</sup> Mediplus Corporation, Seoul, Korea, <sup>3,4</sup> College of Pharmacy, Seoul National University, Seoul, Korea, <sup>5</sup> Department of Bioengineering, Hanyang University, Seoul, Korea <i>"Sodium Deoxycholate (DOC) Conjugated Heparin Nanoparticles for Inhibition of Angiogenesis"</i>	2:00 PM-2:30 PM W-B-2	<b>Arthur Chait</b> EoPlex Technologies, Inc <i>"Bridging the Gap Between Macro and Micro Devices for Manufacture of Portable Fuel Cells and Energy Harvesters With High Volume Print Forming HVPF"</i>
2:30 PM - 3:00 PM W-A-3	<b>Mary Jane Cunningham<sup>1</sup>, Linda Bockoven<sup>2</sup>, Mrinal Shah<sup>3</sup>, and Carolina Lema<sup>4</sup></b> <sup>1</sup> Integrated Laboratory Systems, Inc., USA <sup>2</sup> Lone Star College-Montgomery, USA <sup>3</sup> Rensselaer Polytechnic Institute, Center of Biotechnology & Interdisciplinary Studies, USA <sup>4</sup> University of Texas at El Paso, USA <i>"mRNA, miRNA and Protein Expression Profiling: Tools to Predict Toxicity of Nanomaterials?"</i>	2:30 PM- 3:00 PM W-B-3	<b>Rahme Kamil, Sistach Stephanie, Marty Jean-Daniel, De Viguerie Nancy, Mingotaud Christophe, Gauffre Fabienne</b> Laboratoire des IMRCP, Universit, de Toulouse, France <i>"Amphiphilic Stabilizers for Water-soluble Nanoparticles"</i>
3:00 PM - 3:15 PM	Coffee Break	3:00 PM - 3:15 PM	Coffee Break
3:15 PM - 3:45 PM W-A-4	<b>Golrokh Malih<sup>1</sup>, Azam Bakhtiaran<sup>2</sup></b> <sup>1</sup> School of Medicine, Washington University in St. Louis, School of Medicine, <sup>2</sup> Tehran University of Medical Sciences <i>"The Role of Lysophosphatidic Acid-Induced Stimulation of a Calcium-dependent K<sup>+</sup> Channel on BAVSM Cells and their possible involvement in Atherosclerosis Prevention"</i>	3:15 PM - 3:45 PM W-B-4	<b>Ramin Sattari, Csaba László Sajti, a Niko Bärsch, a Jurij Jakobi, a Stephan Barcikowski</b> Laser Zentrum Hannover Membership Corporation, Germany <i>"Continuous Production of Ceramic Nanoparticles by Laser Ablation in Liquid Media"</i>
3:45 PM - 4:15 PM W-A-5	<b>L.T. Thompson<sup>1</sup>, P. Lea<sup>1</sup>, G.E. Farmer<sup>1</sup>, K.L. Lloyd<sup>2</sup></b> <sup>1</sup> Aging & Memory Research Laboratory, School of	3:45 PM - 4:15 PM W-B-5	<b>Lucia G. Delogu<sup>1</sup>, Nunzio Bottini<sup>1</sup>, Massimo Bottini<sup>2</sup></b> <sup>1</sup> Institute for Genetic Medicine, Keck School of Medicine, University of Southern California, USA <sup>2</sup> Burnham Institute for Medical Research, USA <i>"ASO-conjugated PEGylated carbon nanotubes for PTPN22 silencing"</i>
		4:15 PM - 4:45 PM W-B-6	<b>Jasmine A. Jacob<sup>1</sup>, Sergej Naumov<sup>2</sup>, Nandita Biswas<sup>1</sup>, Tulsi Mukherjee<sup>1</sup> and Sudhir Kapoor<sup>1</sup></b> Radiation & Photochemistry Division, Bhabha Atomic Research Centre, India Leibniz-Institut für Oberflächenmodifizierung, Germany <i>"Synthesis of Silver Nanoparticles: Experimental and Theoretical Simulations"</i>
		4:45 PM - 5:15 PM W-B-7	<b>Tran Hoang Hai, Ly Thi My Huong, Le Khanh Vinh, Le Hong Phuc, Doan Thi Kim Dung, Bui Duc Long</b> Ho Chi Minh City Institute of Physics, Vietnam <i>"Studying Arsenic Absorbability of magnetic nanoparticles Fe<sub>3</sub>O<sub>4</sub> With Oleate Coating"</i>

# nanobiocontech

# Conference Schedule

## CONGRESS 2008

The Conference Schedule may be subject to changes

		<b>Thursday, October 30, 2008</b>	
1:30 PM - 2:00 PM W-C-1	<b>Track C : Clean Technology</b> <b>(San Ramon)</b>  <b>Josef Schröer</b> Chemspeed Technologies, USA <i>"Accelerating Sample Preparation in the Biofuel R&amp;B by automated High Output Technologies"</i>	4:15 PM - 4:45 PM W-D-6	<b>Michael Cumbo</b> NanoGram Solar, Milpitas, CA, USA
2:00 PM - 2:30 PM W-C-2	<b>S.A. Shah, R. Saunders, R. Clarke, C. E. Davies, R. Y. G. Davies</b> University of the West Indies, Trinidad & Tobago W.I. <i>"The decontamination of E. Coli infected water using a reactor containing a special membrane of Titanium Dioxide nanoparticles"</i>	4:45 PM - 5:15 PM W-D-7	<b>Alexander v. Welczek</b> President and Chief Executive Officer Solar Power Partners Inc.
2:30 PM - 3:00 PM W-C-3	<b>D.M.A. Alrousan, P.S.M. Dunlop, P.Fernandez, J.A. Byrne</b> University of Ulster, Ireland <i>"Solar Photocatalytic disinfection of water for use in developing countries"</i>	7:30 AM - 12:00 PM	Registration
3:00 PM - 3:15 PM	Coffee Break	7:30 AM - 8:30 AM	Breakfast
3:15 PM - 3:45 PM W-C-4	<b>Joe Raguso</b> Intrinsiq Materials Ltd, United Kingdom <i>"Nanomaterials for thin film silicon photovoltaics, air filtration and other cleantech applications"</i>	8:30 AM - 8:45 AM	<b>General Session</b> <b>(Salon E)</b>
3:45 - 4:15 PM W-C-5	<b>Kee S. Moon, Sam Kassegne, Khaled Morsi, Jingang Yi, Asfaw Beyene</b> Department of Mechanical Engineering, College of Engineering, San Diego State University, USA <i>"Low-cost Polymeric and Carbon-based Photovoltaic cells for Clean-Energy Applications"</i>	8:45 AM - 9:15 AM TH-G-1	Welcoming remarks from Conference Chair
4:15 PM - 4:45 PM W-C-6	<b>Bob Rudd</b> Sustainable Energy Partners, San Francisco, CA, USA	9:15 AM - 9:45 AM TH-G-2	<b>Samuel B. Adeloju, Qaisar Ameer and Manzar Sohail</b> Nanoscience and Sensor Technology Research Group, School of Applied Sciences and Engineering, Monash University, Victoria, Australia <i>"Electrochemical Embedment of Gold Nanoparticles and Enzymes into Polypyrrole for Fabrication of Robust NanoBiosensors"</i>
1:30 PM - 2:00 PM W-D-1	<b>Track D: Nanoscale Photovoltaics</b> <b>(Santa Barbara)</b>  <b>Hatice Sengul, Thomas L. Theis</b> Institute for Environmental Science and Policy, University of Illinois at Chicago, USA <i>"Environmental tradeoffs of nanophotovoltaics: A life cycle analysis of quantum dot PV modules"</i>	9:45 AM - 10:15 AM TH-G-3	<b>Qiao Lin</b> Dept. of Mechanical Engineering, Columbia University <i>"Exploiting Micro- and Nanotechnology for Thermal Characterization and Manipulation of Biomolecules"</i>
2:00 PM - 2:30 PM W-D-2	<b>Xiaojuan Fan,<sup>a</sup> Honghan Fei,<sup>b</sup> David Rogow,<sup>b</sup> Scott R. J. Oliver,<sup>b</sup> Thomas Wilson,<sup>a</sup> Huong Nguyen,<sup>a</sup> and Michael Norton<sup>c</sup></b> <sup>a</sup> Department of Physics and Physical Science, Marshall University, Huntington, WV, USA <sup>b</sup> Department of Chemistry and Biochemistry, University of California, Santa Cruz, CA, USA <sup>c</sup> Department of Chemistry, Marshall University, Huntington, WV, USA <i>"Porous Nanocrystalline TiO<sub>2</sub> Electrodes for Dye-Sensitized Solar Cells"</i>	10:15 AM - 10:30 AM	<b>Thomas Fischer<sup>1</sup>, Suraj Puri<sup>2</sup>, Ronald Hoyer<sup>3</sup>, Kurt Wostyn<sup>4</sup>, Tom Janssens<sup>4</sup></b> 1 Infineon AG, Germany 2 Nano Green Technology Inc. California USA 3 Qimonda., Germany 4 IMEC, Belgium <i>"A New Approach for Feol Critical Wafer Surface Cleaning"</i>
2:30 PM - 3:00 PM W-D-3	<b>Stephen Compagni Portis</b> UC Berkeley Renewable and Appropriate Energy Laboratory (RAEL)	10:30 AM - 11:00 AM Th-G-4	Coffee Break
3:00 PM - 3:15 PM	Coffee Break	11:00 AM - 11:30 AM TH-G-5	<b>Tinh Nguyen</b> National Institute of Standards and Technology, Gaithersburg, MD, USA <i>"Degradation and Nanoparticle Release of Polymer Nanocomposites Exposed to Solar UV Radiation"</i>
3:15 PM - 3:45 PM W-D-4	<b>Craig Hill</b> Principal, Northcross, Hill & Arch	11:30 AM - 12:00 PM TH-G-6	<b>Paula Mints</b> Principal Analyst, PV Services Program Associate Director, Energy Practice Navigant Consulting
3:45 PM - 4:15 PM W-D-5	<b>Peggy Hock</b> United Solar Ovonic, San Diego, CA, USA	12:00 PM - 1:30 PM	<b>Mark Bunger</b> Director of Research, LUX Research
			Lunch

# nanobiotechnology Conference Schedule CONGRESS 2008

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## Breakout Sessions

### Track A: NanoStructures (Marina del Rey)

2:00 PM - 2:30 PM  
TH-A-1

#### **Benoit Simard**

National Research Council Canada, Canada  
"Single-walled carbon nanotube-based high performance materials"

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

#### **I. Mende, H. Way**

NETZSCH-Feinmahltechnik GmbH, Bavaria  
NETZSCH Fine Particle Technology, LLC., USA  
"Manufacturing of Particles in the Nanometer Size Range"

3:00 PM - 3:30 PM  
TH-A-3

#### **Wuzong Zhou**

University of St Andrews, Fife, Scotland  
"Formation Mechanism of Anodic Titanium Oxide Nanotubes"

3:30 PM - 3:45 PM

Coffee Break

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

#### **Amir Khosravani<sup>1</sup>, A.J. Latibari<sup>2</sup>, M. Tajvidi<sup>3</sup>, S.A. Mirshokraei<sup>4</sup>, M. Rahmaninia<sup>5</sup>, and Mousa M. Nazhad<sup>6</sup>**

1 Research Fellow, Asian Institute of Technology (AIT), Thailand  
2 Associate Professor, Azad University, Karaj, Iran  
3 Assistant Professor, Tehran University, Iran  
4 Professor, Wood & Paper Science Dept, Tehran University, Iran  
5 Research Fellow, Asian Institute of Technology, Thailand  
6 Corresponding author, Pulp and Paper Technology, AIT  
"The Performance of NanoParticles in Relation with Zeta Potential of the Wet-End System"

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

#### **Maribel Guzman<sup>1</sup>, Jean Dille<sup>2</sup>, Stephane Godet<sup>2</sup>**

<sup>1</sup> Pontificia Universidad Catolica del Peru, PERU  
<sup>2</sup> Universit. Libre de Bruxelles, BELGIUM  
"Synthesis of silver nanoparticles by chemical reduction method and their antibacterial activity"

### Track B: Medical Imaging & Diagnostics (Monterey)

2:00 PM - 2:30 PM  
TH-B-1

#### **Krassen Dimitrov**

Australian Institute for Bioengineering and Nanotechnology, Australia  
"Nano-barcoding of Single Molecules for Biomedical Applications"

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

#### **T.Y. Yin, L.S. Ling, M. Nazlan Mohd Muhid, H. Hamdan**

Universiti Teknologi Malaysia, Malaysia  
"Nanostructured Couples Semiconductor Photocatalyst"<sup>2</sup>

3:00 PM - 3:30 PM  
TH-B-3

#### **Shu Wang**

Key Laboratory of Organic Solids, Institute of Chemistry, Chinese Academy of Sciences, China  
"Fluorescent Assays for DNA Methylation and SNP with Conjugated Polyelectrolytes"

3:30 PM - 3:45 PM

Coffee Break

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

#### **David C. Kennedy, Lilin Tay, Yanouchka Rouleau and John. P. Pezacki**

Steacie Institute for Molecular Sciences, National Research Council, Canada  
"Design of Nanoparticle-based Contrast Agents for Live Cell Imaging of Cell Surface Receptors"

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

#### **Barbara Blasiak<sup>1,4</sup>, Ulrike Trojahn<sup>2,3</sup>, Abedelnasser Abulrob<sup>8,9</sup>, Zhijun Zhang<sup>4</sup>, Teodor Veres<sup>4,5</sup>, Celine Desvaux<sup>4</sup>, Umar Iqbal<sup>5</sup>, Maureen O'Connor<sup>2,3</sup>, Garnette Sutherland<sup>1</sup>, Boguslaw Tomanek<sup>4,6,7</sup>**

<sup>1</sup>Department of Clinical Neurosciences, University of Calgary, Canada  
<sup>2</sup>Biotechnology Research Institute, National Research Council of Canada, Canada,  
<sup>3</sup>McGill University, Canada  
<sup>4</sup>Functional Nanomaterials Group, Industrial Materials Institute, National Research Council of Canada, Canada  
<sup>5</sup>INRS - Energie et mat, riaux Institut national de recherche scientifique  
<sup>6</sup>Institute of Nuclear Physics, Polish Academy of Sciences, Poland  
<sup>7</sup>Institute for Biodiagnostics (West), National Research Council Canada  
<sup>8</sup>Institute of Biological Sciences, National Research Council Canada, Canada  
<sup>9</sup>Faculty of Medicine, University of Ottawa, Canada  
"A magnetic resonance study of Fe<sub>3</sub>O<sub>4</sub> and FeCo core nanoparticles for molecular MR imaging"

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

#### **Pompi Hazarika and David A. Russell**

School of Chemical Sciences & Pharmacy, University of East Anglia, UK  
"Detection of Drugs and Metabolites in Latent Fingerprints using Antibody-Magnetic Particle Conjugates"

2:00 PM - 5:00 PM

### Track C: Emerging Investment Forum (San Ramon)

#### **Forest Baskett**

General Partner, New Enterprise Associates

#### **Vlad Dabija**

Managing Director, IgniteIP, LLC

#### **Liangjie Dong**

MicroNose Technology, Inc.

#### **Rich Helfrich**

Managing Director, Alameda Capital

#### **Victor Hwang**

Managing Director, T2 Venture Capital

#### **Rick DeGolia**

The Angels Forum

#### **Patrick Plummer**

Plummer Law Office

#### **Susan Preston**

General Partner, CalCEF Clean Energy Angel Fund

#### **Peter Shannon**

Principal, Atlas Venture

5:00 PM

Congress Adjourned



October 28 from 12:00 PM - 1:30 PM; 5:30 PM - 7:00 PM

**New approaches for fabrication of 2D magnetophotonic crystals: structural and optical properties**

S.M. Baek<sup>1</sup>, M.E. Dokukin<sup>1</sup>, A.V. Baryshev<sup>1</sup>, K. Yayoi<sup>2</sup>, J. Kim<sup>1</sup>, H. Uchida<sup>1</sup>, M. Inoue<sup>1</sup>

<sup>1</sup> Toyohashi University of Technology, Toyohashi, Japan

<sup>2</sup> Ibaraki National College of Technology, Hitachinaka, Japan

**Molecular Level Description of Thermodynamics Properties of Hydrogen Clathrate Hydrate: Theoretical Aspects of Hydrogen Storage Application**  
Rodion Belosludov

Institute for Materials Research, Tohoku University, Sendai, Japan

**Hardness enhancement of Aluminum Nitride thin films by Nickel incorporation**

D. Cardona<sup>1</sup>, S. E. Rodil<sup>1</sup>, S. Muhl<sup>1</sup>, E. Camps<sup>2</sup>

<sup>1</sup>Instituto de Investigaciones en Materiales, Universidad Nacional Autónoma de México. Ciudad Universitaria, México D. F. México.

<sup>2</sup>Instituto Nacional de Investigaciones Nucleares, México D. F., México.

**In Vitro Studies Concerning the Use of Elastic Vesicles for Drospirenone Transdermal Delivery**

Cristina Dinu - Pirvu<sup>1</sup>, Alina Ortan<sup>2</sup>, Cristina Hlevca<sup>3</sup>

<sup>1</sup> University of Medicine and Pharmacy, "Carol Davila," Bucharest, Romania

<sup>2</sup> University of Agricultural Sciences and Veterinary Medicine, Bucharest, Romania

<sup>3</sup> National Institute for Chemical Pharmaceutical Research and Development, Bucharest, Romania

**Water-soluble ZnO nanoparticles**

Rubio Garcia Javier<sup>1,2</sup>, Kahn Myrtil<sup>1</sup>, Chaudret Bruno<sup>1</sup>, Mingotaud Christophe<sup>2</sup>, Gauffre Fabienne<sup>2</sup>

<sup>1</sup>Laboratoire de Chimie de Coordination, Toulouse, France

<sup>2</sup>Laboratoire des IMRCP, Université de Toulouse, Toulouse, France

**Tamm states at interfaces in one-dimensional magnetophotonic structures**

T. Goto<sup>1</sup>, A.V. Dorofeenko<sup>2</sup>, A.M. Merzlikin<sup>2</sup>, A.V. Baryshev<sup>1</sup>, A.P. Vinogradov<sup>2</sup>, M. Inoue<sup>1</sup>, A.A. Lisyansky<sup>3</sup>, A.B. Granovsky<sup>4</sup>

<sup>1</sup> Toyohashi University of Technology, Toyohashi, Japan

<sup>2</sup> Institute for Theoretical and Applied Electromagnetics, Moscow, Russia

<sup>3</sup> Queens College of the City University of New York, NY, USA

<sup>4</sup> Moscow State University, Moscow, Russia

**Electro-optical Effect in Polymer Dispersed Liquid Crystal Based on Liquid Crystal-Montmorillonite-Clay Nanocomposite**

Eun Hwa Jung<sup>2</sup>, Ju Yeon Woo<sup>1</sup>, Young Keun Jeong<sup>2</sup>, Byung Kyu Kim<sup>1,x</sup>

<sup>1,3</sup> Department of Polymer Science and Engineering, Pusan National University, Busan, Korea

<sup>2</sup> National Core Research Center for Hybrid Materials Solution, Pusan National University, Busan, Korea

**Analysis of a Carbon Nanotube-based Nano-electromechanical Vibration Sensor Using Finite Element Modeling**

Farbod Khoshnoud<sup>1,2</sup> and Clarence W. de Silva<sup>1</sup>

<sup>1</sup> Industrial Automation Laboratory, Department of Mechanical Engineering, The University of British Columbia, Vancouver, BC, Canada

<sup>2</sup> SOFTEK Services Ltd., Richmond, BC, Canada

**Comparing the Influence of Additives on Reaction Sintering, Microstructure and Properties of solid- state and Sol\_Gel-Driven Aluminum Titanate in Aqueous Solution**

Maryam Khosravi Saghezchi, Mahila Biazar Markie, Reza Ajami,

Hossein Sarpoolaky

K.n.Toosi University of Thechnology, Zanjan, Iran

**Oxidation behavior of oxynitrided Ti-6Al-4V alloys between 400 and 800°C in air**

Chan-Woo Kim, & Dong-Bok LEE

School of Advanced Materials Science & Engineering, Sungkyunkwan University, South Korea

**Study on the Photocatalytic Behavior for the Hetero-junction of Nanocrystalline TiO<sub>2</sub>-Phosphors**

Jin-Ho Yoon, Chang-Woo Ham and Jung-Sik Kim

Department of Materials Science and Engineering, The University of Seoul, Seoul, Korea

**Application of Ultrasound to the Biodiesel Production from Jatropha Seed Oil (Jatropha Curcas)**

Le Viet Hai, Nguyen Mong Hoang, Nguyen Thanh Tien, Tran Thi

Phuong Thao, Nguyen Thi Phuong Thoa

Vietnam National University, Ho Chi Minh City, Vietnam

**Current Research and Development of Biodiesel in Vietnam**

Le Viet Hai, Nguyen Thi Phuong Thoa

Vietnam National University, Ho Chi Minh City, Vietnam

**Nanotechnology Based Antimicrobial Surfaces**

Sang Beom Lee, Joseph DiMauro Jr, Alan Rae

NanoDynamics Life Sciences, Pittsburgh, PA, USA

**Fabrication and tribological behavior of metal nanohoneycomb structure**

Sangmin Lee<sup>1</sup>, Seonghan Kim<sup>2</sup>, Woonbong Hwang<sup>3</sup>

<sup>1</sup> Dept. of Mechanical Engineering, POSTECH, Republic of Korea

<sup>2</sup> Electrophotography System R&D Group, Samsung Electronics, Republic of Korea

<sup>3</sup> Dept. of Mechanical Engineering, POSTECH, Republic of Korea

**Measurement-layer Separation of Nanorod Assembly Multi-layer Structure for Easy Nanorod-Characteristic Measurement Method, Simulation And Application Possibility**

Myoung-Kun Leem<sup>1</sup>, Chang-Man Kim<sup>1</sup>, Jin-Uk Park<sup>1</sup>, Kyu-Jin Kim<sup>1</sup> and Shin-Won Kang<sup>2</sup>

<sup>1</sup>Department of Electronic Engineering, Kyungpook National University, Daegu, Korea

<sup>2</sup>School of Electrical Engineering and Computer Science, Kyungpook National University, Daegu, Korea

**Size tunable multifunctional polymeric nano-carriers for targeted drug delivery and imaging**

Yuanpei Li, Juntao Luo, Kai Xiao, Sheng Liang, Joyce Lee and Kit S Lam

University of California Davis Cancer Center, Division of Hematology and Oncology, Department of Internal Medicine, University of California Davis, Sacramento, CA

**A novel nanocarrier formed by telodendritic polymer for drug delivery**

Juntao Luo<sup>1</sup>, Kai Xiao<sup>1,2</sup>, Yuanpei Li<sup>1,3</sup>, Joyce Lee<sup>1</sup>, Li Xing<sup>4</sup>, Holland Cheng<sup>4</sup>, Kit S. Lam<sup>1</sup>

<sup>1</sup>Hematology & Oncology, Cancer Center, UC Davis, Medical Center, Sacramento, CA U.S.A.

<sup>2</sup> West China Hospital, Sicuan University, Chengdu, China

<sup>3</sup> The First Affiliated Hospital, Sun Yat-Sen University, GuangZhou, China

<sup>4</sup> Department of Molecular and Cellular Biology, University of California, Davis, CA U.S.A

# nanobioelectronics Poster Presentation

CONGRESS 2008

October 28 from 12:00 PM - 1:30 PM; 5:30 PM - 7:00 PM

## **Disordered nanocrystalline zinc ferrite appearing as magnetic semiconductor and magneto-optical material**

Shinichiro Mito, Jooyoung Kim, Hironaga Uchida, Mitsuteru Inoue  
Toyohashi University of Technology, Tempaku, Toyohashi, Aichi, Japan

## **Bus Moved by Ethanol- BEST Project**

José Roberto Moreira<sup>1</sup>, Sílvia Velázquez<sup>1,2</sup>, Sandra Apolinario<sup>1</sup>, Euler Hoffmann Melo<sup>1,2</sup>, Paulo Henrique Elmadjian<sup>1,2</sup>

<sup>1</sup> CENBIO – Brazilian Reference Center on Biobass, Av. Prof. Luciano Gualberto, São Paulo, Brazil

<sup>2</sup> Mackenzie Presbyterian University, São Paulo, Brazil

## **Survey on Sugarcane Biomass Residues Aiming the Production of Ethanol via Enzymatic Hydrolysis Technology**

Suani T. Coelho, Patrícia Guardabassi, Beatriz A. Lora, Alia Rached, M Beatriz Monteiro, Renata Grisoli, Jose Moreira  
Brazilian Reference Center on Biomass - CENBIO, Avenida Prof. Luciano Gualberto, São Paulo, Brazil

## **Effects of Electrolyte Additives on the Open-circuit Voltage of Dye-Sensitized Solar Cells**

Nguyen Thai Hoang<sup>1</sup>, Nguyen Thi Phuong Thoa<sup>1</sup>, Torben Lund<sup>2</sup>

<sup>1</sup>Vietnam National University – Ho Chi Minh City, Vietnam

<sup>2</sup>Roskilde University, Denmark

## **Actuation and Inherent-Sensing of Modified Carbon Nanomaterials (CNMs)/ Conductive Polymer Nanocomposites by Electro-Micromechanical Techniques**

Jung-Hoon Jang<sup>1</sup>, Zuo-Jia Wang<sup>1</sup>, Sung-Ju Kim<sup>1</sup>, Joung-Man Park<sup>1,2</sup>, K. Lawrence DeVries<sup>2</sup>

<sup>1</sup>School of Materials Science and Engineering, Engineering Research Institute

Gyeongsang National University, Jinju, KOREA

<sup>2</sup>Department of Mechanical Engineering, University of Utah, Salt Lake City, Utah, USA

## **Statistical Approach in Drug Discovery and Development**

Krishna Patel

Shri Sarvajanic Pharmacy College, INDIA

## **Stakeholder Perceptions of the Benefits, Risk, and Potential Regulation of Nanoscale Technologies**

Mark Philbrick

University of California, Berkeley, CA, USA

## **Polymorphous silicon thin films for applications in photovoltaic devices, obtained by plasma enhanced chemical vapor deposition**

A. Remolina<sup>1</sup>, G. Santana<sup>1</sup>, B. M. Monroy<sup>1</sup>, A. López-Suárez<sup>2</sup>, M. F. García-Sánchez<sup>1</sup>, A. Ponce<sup>3</sup> and A. Ortiz<sup>1</sup>.

<sup>1</sup> Instituto de Investigaciones en Materiales, Universidad Nacional Autónoma de México., México, D.F.

<sup>2</sup> Instituto de Física, Universidad Nacional Autónoma de México, México, D.F.

<sup>3</sup> Centro de Investigación en Química Aplicada, Saltillo, Coahuila, México.

## **Development of a biocompatible semiconductor nanocrystal for biomedical application**

Sarwat B. Rizvi<sup>1</sup>, M. Green<sup>2</sup>, A. Darbyshire<sup>1</sup>, S. Yang<sup>1</sup>, M. Keshtgar<sup>3</sup>, and A. Seifalian<sup>1</sup>

Centre of Nanotechnology, Biomaterial & Tissue Engineering, UCL Division of Surgery and Interventional Science, University College London<sup>1</sup>, Department of Physics, King's College London<sup>2</sup> and Breast Unit, Royal Free Hamstead NHS Trust Hospital, London<sup>3</sup>

## **Size and Shape-Dependent Uptake of Polymeric Nanoparticles by Macrophages**

Gaurav Sharma, David T. Valenta, Hui Xie, Sheryl Harvey and Jeffrey W. Smith

Program for Excellence in Nanotechnology, Burnham Institute for Medical Research, La Jolla, CA, USA

## **Effects of Silica on Multiplexed Holographic Polymer Dispersed Liquid Crystal**

Ka Ram Sun, Joo Yeon Woo, Byung Kyu Kim

Department of Polymer Science and Engineering, Pusan National University, Busan, Korea

## **Magnetic Nanoparticles for Fighting Infected Implants**

Erik Taylor and Thomas J. Webster

Division of Engineering, Brown University, Providence, RI, USA

## **Mechanisms of Nanostructures Synthesis in the Polymeric Matrix Nanoreactors Using Wastes of Metallurgical and Polymeric Composites Plants**

Vera Trineeva

Institute of Applied Mechanics, Ural Division, Russia Academy of Sciences, RUSSIA

## **Nanobio computing – Synthesis of a nanonio computer using DNA and nanorobots**

G. Vaidyanathan<sup>1</sup> and T. Annamalai<sup>2</sup> and B. Ravi Kiran<sup>3</sup>

<sup>1</sup>UG Student 3rd Electronics and Communication Engineering

<sup>2,3</sup>UG Student 3rd Information Technology

<sup>1</sup>Vickram College of Engineering, Tamil Nadu, India

<sup>2,3</sup>Velammal Engineering College, Tamil Nadu, India.

## **Optical Responsive Nanoparticles for Controlled Drug Release**

Guohui Wu, Ph.D<sup>1</sup>, Alexander Mikhailovsky, Ph.D<sup>2</sup>, Htet A. Khant<sup>1,3</sup>, Caroline Fu<sup>3</sup>, Wah Chiu, Ph.D<sup>3</sup>, and Joseph A. Zasadzinski, Ph.D<sup>1</sup>.

<sup>1</sup> Department of Chemical Engineering, <sup>2</sup> Department of Chemistry, University of California, Santa Barbara, CA & <sup>3</sup> National Center for Macromolecular Imaging, Verna and Marrs McLean Department of Biochemistry and Molecular Biology, Baylor College of Medicine, Houston, Texas

## **OA02 peptide conjugated nanoparticle for targeted drug delivery to ovarian cancer**

Kai Xiao, Juntao Luo, Yuanpei Li, Kit S. Lam

UC Davis Cancer Center, Sacramento, USA

## **Poly(aryl ester)/ poly(benzyl ether) dendrimers with fullerene C60 as the core: structure-properties relations**

Natalia Yevlampieva<sup>1</sup>, Nikolai Beljaev<sup>1</sup>, and Robert Deschenaux<sup>2</sup>

<sup>1</sup>V.A. Fock Institute of Physics, St. Petersburg State University, St. Petersburg, Russia

<sup>2</sup>Institut de Chimie, Université de Neuchâtel, Switzerland

## **Ultra-high-resolution characterisation of nanostructured magnetic materials and magnetic nanoparticles by High-Vacuum Magnetic Force Microscopy with External Magnetic Field: challenges, hopes and limitations.**

Peter Zhdan & Niyaz Nurgazizov

Faculty of Engineering and Physical Sciences, University of Surrey, Guildford, Surrey, United Kingdom

# nanobio clean tech

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**Nanotec NI** is a world-class centre for the design, fabrication, characterisation and commercial exploitation of nanotechnology processes, devices and systems. It involves the University of Ulster and Queen's University Belfast, together with Invest Northern Ireland, in a unique strategic partnership. The universities' leading edge research facilities and strong interdisciplinary ethos are also supported by both multinational and indigenous industries already internationally marketing nanotechnology-based products

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**National Research Council Canada** The National Research Council (NRC) is Canada's leading federally funded resource for S&T development and commercialization. Research on Nanotechnology is underway in several NRC labs across the country in Nano-materials, -particles, -electronic, -fabrication, -devices and sensors, renewable energy, biofuels, photovoltaics, standards and more. NRC leverages its multi-disciplinary expertise and resources in nanotechnology to contribute to national priorities in energy, environment and health and wellness.

<http://www.nrc-cnrc.go.ca>

**Georgia Tech**



**Georgia Institute of Technology**, National Nanotechnology Infrastructure Network The National Nanotechnology Infrastructure Network (NNIN) is an integrated networked partnership of user facilities, supported by the National Science Foundation, serving the needs of nanoscale science, engineering and technology. The mission of NNIN is to enable rapid advancements in science, engineering and technology at the nano-scale by efficient access to nanotechnology infrastructure. We provide shared, open, geographically diverse laboratories, each with specific areas of technical excellence, and provide fabrication, synthesis, characterization, and integration resources to build structures, devices, and systems from atomic to complex large-scales. Users can perform research on-site using facility equipment, training and staff support. Remote usage is also feasible.

<http://grover.mirc.gatech.edu>



**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.

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**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.

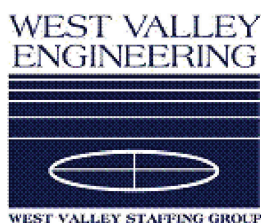
<http://www.cleantechinstitute.org>



**nanoTox®** NanoTox assures strategic advantages by early safety and risk assessment of nano-products. nanoTox® identifies rapidly, cost-effectively and confidentially potential safety/health risks in any stage of the product lifecycle. nanoTox® studies biological, physical and environmental properties to create maximum understanding of the nanoproducts, beyond the purpose it was designed for and supports the responsible development and usage of nanotechnologies.

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**San Jose BioCenter** The BioCenter is an incubator providing a new generation of facilities, specialized equipment, world class laboratory and business support services. Our mission is to provide entrepreneurs with that "Big Company Advantage" through facilities, equipment, resources, contacts and expertise they need to commercialize their technology. The recent addition of over \$5M in state of the art Core Lab - including a Chemistry Analytics Lab, a Biology Lab, and three Tissue Culture Rooms - has completed our evolution as the destination location for Bioconvergence companies and research scientists alike.

<http://www.SJBioCenter.com>



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# nanotechnology Supporting Organizations

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**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/>



**California Environmental Protection Agency Department of Toxic Substances Control**

The Department of Toxic Substances Control (DTSC) regulates hazardous waste, cleans-up existing contamination, and looks for ways to reduce the hazardous waste produced in California. Approximately 1,000 scientists, engineers, and specialized support staff make sure that companies and individuals handle, transport, store, treat, dispose of, and clean-up hazardous wastes appropriately. Through these measures, DTSC contributes to greater safety for all Californians, and less hazardous waste reaches the environment. <http://www.dtsc.ca.gov>



**The Center for Nanoscale Science and Engineering (CNSE)-University of California Riverside**

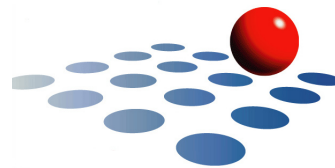
The Center brings together scientists from the disciplines of chemistry, physics, biology, engineering and medicine. Initially the Center is focusing on carbon, silicon and biology as these three areas already make compelling arguments for the power of the nanoscale world. The focus for CNSE is predicated on the idea that biology is the theater in which nanotechnology will have its first successful applications. This follows from the fact that biology is the premier example of nanoscale science and engineering, and also because biology is currently the most important driver of the research enterprise. <http://www.engr.ucr.edu/cnse/>



**ELORET** was founded in 1979 with the objective to offer progressive research and engineering contract and consulting services to clients in government, industry, and academia. ELORET has markedly contributed to numerous key NASA and NASA-Industry programs. ELORET currently provides Science and Engineering support in the Space Technology Division (Code AS), the Aerospace Information Division (Code AI), and other offices at NASA/Ames Research Center at Moffett Field, California. We also provide research at NASA-Ames in Nanotechnology for the University of California under the UARC contract. [www.eloret.com](http://www.eloret.com)



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# Nano-Safety Consortium

## MISSION

The primary goal of the consortium is to optimize the beneficial applications of nanotechnology by expanding the knowledge of the health and environmental implications of nanoparticles.

The Consortium will foster communication between a number of regional, national and international initiatives, and facilitate collaboration amongst stakeholders worldwide.

coordinated by

**International Association of Nanotechnology**

1290 Parkmoor Ave, San Jose, CA 95126

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## OBJECTIVES

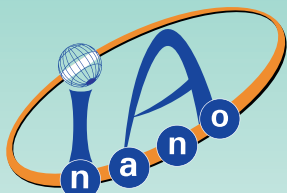
- Review latest scientific research on the potential risk of nanoparticle exposure to human health and the environment
- Disseminate and facilitate collaboration through knowledge transfer workshops and conferences
- Serve as a coordinating body for the development of international standards
- Create and enhance good communication amongst stakeholders and to provide leadership in developing sound public policy
- Provide expert recommendations and consulting services to industry members and funding bodies

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## International Congress of Nano-Bio Clean Tech 2009

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