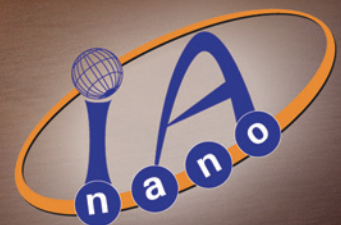
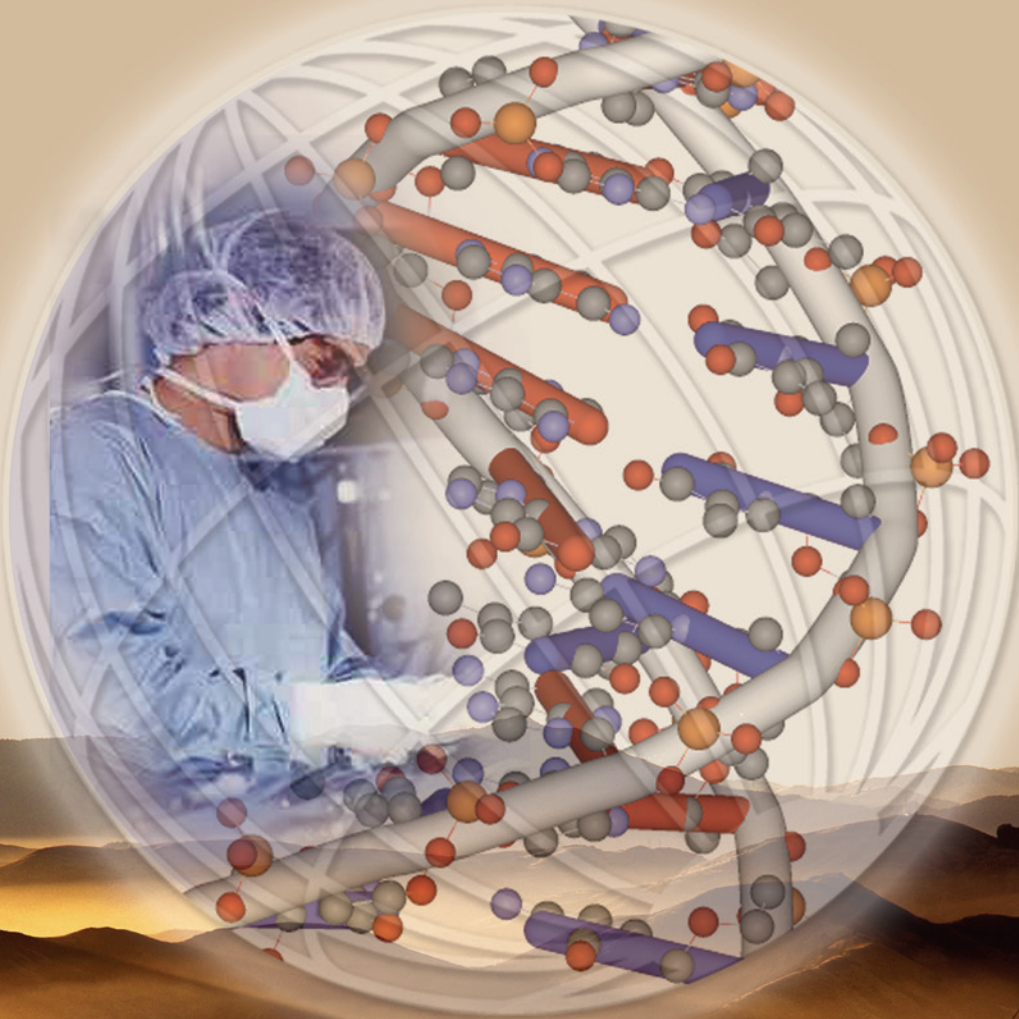


# International Congress of Nanobiotechnology & Nanomedicine

June 19-21 2006  
San Francisco Airport  
Crowne Plaza



"Science & Business of Nano Bio"

<http://www.nanobio2006.com>

# WELCOME



## The International Congress of Nanobiotechnology & Nanomedicine 2006

June 19-June 22, 2006

San Francisco Airport Crowne Plaza

San Francisco, California, USA

<http://www.nanobio2006.com>

The 2006 Conference Theme:

### **Science and Business of Nanobiotechnology**

The NanoBio 2006 conference will feature the state-of-the-art scientific development, as well as business and investment opportunities in the emerging Nanomedicine industry.

#### CONFERENCE TOPICS

- Targeted nano delivery systems for drugs & genes
- Minimally invasive diagnostic methods
- Nano Bio Structural Modeling
- Regenerative Nanomedicine
- Nanobiological assemblies
- In vivo medical imaging
- Bio-detection and biodefense
- Nanopatterning
- Nanotoxicology
- Commercialization in Nano Bio technologies
- Workforce education & training for the new industry
- and other related topics



Dear colleague,

I am pleased to welcome you to the first International Congress of Nanobiotechnology & Nanomedicine 2006 (NanoBio 2006).

Nanobiotechnology 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.

NanoBio 2006 offers nanotechnologists and business executives from around the world the opportunity to interact, network and exchange ideas for the advancement of the emerging industry. Your contribution to the program and your participation has helped us to achieve our mission.

The program has been designed to help you expand your knowledge and gain insights into some of the latest scientific breakthroughs and exciting business opportunities, as well as to present to you challenging projects which require international collaboration. In spite of advanced technological accomplishments, the fields of Nanobiotechnology and Nanomedicine are still in the early stages of development. This emerging industry will need the support of a new workforce generation that can transform conceptual ideas in the laboratory into products and services to meet the critical needs of the biomedical market place.

I would like to thank our scientific advisors, volunteers, and many of our colleagues who have done so much to make this year's conference successful. The program committee and I welcome your suggestions for future meetings.

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

With warmest regards,

Lloyd L. Tran  
Program Chair  
NanoBio 2006



# PROGRAM AT A GLANCE



## Sunday June 18, 2006

8:00 AM-4:00 PM Registration  
9:30 AM-12:00 PM Workshops  
12:00 PM-1:00 PM Lunch on your own  
1:00 PM-3:30 PM Workshop  
4:00 PM -6:00 PM Bay Cruise in San Francisco Bay

## Monday June 19, 2006

7:30 AM-4:00 PM Registration  
7:30 AM-8:30 AM Breakfast  
8:30 AM-12:00 PM **General Sessions**  
Opening and Welcoming Remarks  
Keynote and Invited Speakers  
Lunch  
12:00 PM-1:30 PM **Breakout Sessions**  
1:30 PM-4:45 PM Track A  
Track B  
Track C  
4:45 PM-5:30 PM Round Table Discussion  
5:30 PM-7:00 PM Posters/Reception

## Tuesday June 20, 2006

7:30 AM-4:00 PM Registration  
7:30 AM-8:30 AM Breakfast  
8:30 AM-12:00 PM **General Sessions**  
Opening Remarks  
Keynote and Invited Speakers  
Nano Commercialization Panel Discussion  
Lunch  
12:00 PM-1:30 PM **Breakout Sessions**  
1:30 PM-4:45 PM Track A  
Track B  
Track C: Workforce Education & Training  
4:45 PM-5:30 PM Round Table Discussion

## Wednesday June 21, 2006

7:30 AM-12:00 PM Registration  
7:30 AM-8:30 AM Breakfast  
8:30 AM-12:00 PM **General Sessions**  
Keynote and Invited Speakers  
Lunch  
12:15 PM-2:00 PM **Breakout Sessions**  
2:00 PM-4:45 PM Track A  
Track B: Young Investigators  
Track C: Young Investigators  
4:45 PM-5:30 PM Congress Review  
Conference Conclusion

## Thursday June 22, 2006

8:30 AM-11:30 AM Committee Meeting  
8:30 AM - 1:00 PM **Tour visits:**  
Molecular Foundry, Lawrence Berkeley  
National Laboratory  
Stanford Nanofabrication Laboratory



## INVITED SPEAKERS

### The Honorable Victoria Bradshaw

Secretary of the State of California Labor & Workforce Development Agency, Sacramento, USA  
*"Nanotechnology: Building a Workforce Prepared for the Global Economy"*

### Prof. Stephen Y. Chou

Professor, Princeton University, Princeton, USA  
*"Nanoimprint Lithography for Protein/DNA Analysis"*

### Prof. Tuan Vo-Dinh

Director, Biophotonics, Duke University, North Carolina USA  
*"Nanobiosensors and Nanoprobes: Frontiers and Potential in Nanomedicine"*

### Dr. John Howard

Director, National Institute for Occupational Safety and Health Washington DC, USA  
*"Nanotechnology and Risk: The NIOSH Perspective"*

### Prof. Byung Kyu Kim

Pusan National University, Pusan, South Korea  
*"Thermosensitive Poly (NIPAAm)/Polyurethane IPN Hydrogel for Drug Delivery"*

### Dr. Amit Kumar

President and CEO, Combimatrix Mukilteo, WA, USA

### Prof. Amarnath Maitra

University of Delhi, Delhi, India  
*"New Challenges In Gene Delivery"*

### Dr. Avijit Roy

Immunicon Corporation, Huntingdon Valley, PA USA

### The Honorable Ira Ruskin

Assembly Member, Chairman Select Committee on Nanotechnology and Emerging Technologies, State of California, Sacramento, CA, USA  
*"Nanotechnology and the Golden State"*

### Edward Tefft

Associate Director, Elan Drug Delivery, Inc., King of Prussia, PA, USA  
*"Commercial Applications of NanoCrystal Drug Delivery Technology"*

### Prof. Takehiko Wada

Osaka University, Osaka, Japan  
*"Peptide Ribonucleic Acids (PRNAs): Novel Strategy for Active Control of DNA Recognition by External Factors"*

# CONFERENCE SCHEDULE



Sunday, June 18, 2006

The Conference Schedule may be subject to changes

8:30 AM - 10:00 AM	Workshop Registration
10:00 AM - 4:00 PM	Conference Registration
9:30 AM - 12:00 PM	<b>Workshop 1: “Fundamentals &amp; Applications of Nanobiotechnology”</b> - Prof. Thomas Webster, Division of Engineering, Brown University, and Division of Orthopedic Surgery, Brown University Medical School, USA; Editor-in Chief, Journal of International Nanomedicine. USA (Part 1)
12:00 AM - 1:00 PM	Lunch on Your Own
1:00 PM - 3:30 PM	<b>Workshop 1: “Fundamentals &amp; Applications of Nanobiotechnology”</b> - Prof. Thomas Webster, Brown University, USA (Part 2)
1:00 PM -	<b>Workshop 2: “Fundamentals and Applications of</b>

3:30 PM	<b>Carbon Nanotubes”</b> - Dr. Cat-Tien Nguyen, Senior Research Scientist, NASA Ames Research Center, Moffett Field, CA, USA
4:00 PM	Bus departs from the Crowne Plaza to Fisherman’s Wharf
5:00 PM - 6:00 PM	<b>Bay Cruise</b> in San Francisco
7:30 PM - 8:00 PM	Bus returns to Crowne Plaza



Monday, June 19, 2006

The Conference Schedule may be subject to changes

Please note the abbreviations: M: Monday June 19; T: Tuesday June 20; W: Wednesday June 21; Th: Thursday June 22; G: General Session; A, B, C: Concurrent tracks in the afternoon.

7:30 AM - 4:00 PM	Registration
7:30 AM - 8:30 AM	Breakfast
8:30 AM - 9:00 AM M-G-1	Opening Remarks by <b>Lloyd L. Tran</b> Program Chair. “ <i>The State of Nano Bio 2006: Building Infrastructures for the Next Frontier</i> ”
9:00 AM - 9:25 AM M-G-2	Welcoming Remarks: <b>Yolanda Benson</b> , Deputy Secretary, Business, Transportation & Housing Agency, State of California, USA
9:25 AM - 10:00 AM M-G-3	<b>T. Vo-Dinh</b> , Director, Biophotonics Duke University, Durham, NC, USA “ <i>Nanobiosensors and Nanoprobes: Frontiers and Potential in Nanomedicine</i> ”
10:00 AM - 10:20 AM	Coffee Break
10:20 AM - 11:00 AM M-G-4	<b>Lynn Hudson</b> , Director Office of Science Policy Analysis, Office of the Director, National Institute of Health (NIH), Washington DC, USA
11:00 AM - 11:30 AM M-G-5	<b>Mathur RN Murthy, Sangita V, Anju P, Lokesh GL, Subash C, Satheshkumar PS, Vijay CS, Saravanan V, Savithri HS</b> , Dept of Biochemistry, Indian Institute of Science, Bangalore, INDIA. “ <i>Recombinant capsids of Sesbania mosaic virus as model nano particles</i> ”

11:30 AM - 12:00 PM M-G-6	<b>Byung Kyu Kim &amp; Sung Man Cho</b> Pusan National University, Pusan, SOUTH KOREA “ <i>Thermosensitive Poly (NIPAAm)/Polyurethane IPN Hydrogel for Drug Delivery</i> ”
12:00 PM - 1:30 PM	Lunch
	<b>Monday PM TRACK A</b>
1:30 PM - 2:00 PM M-A-1	<b>Esther Chang</b> , Prof. of Oncology and Otolaryngology Lombardi Comprehensive Cancer Center, Georgetown University Medical Center, Washington DC, USA “ <i>Tumor-Targeting Nanodelivery Systems: Materializing the Potential of Nanomedicine for Cancer Diagnosis &amp; Treatment</i> ”
2:00 PM - 2:30 PM M-A-2	<b>Brian W. Smith and Gregory P. Adams</b> Fox Chase Cancer Center, Philadelphia, USA “ <i>25 KiloDalton Radioactive Nanoparticles for Targeted Radiotherapy of Solid Tumors</i> ”
2:30 PM - 3:00 PM M-A-3	<b>Sylvia Keller, Dorit Ulbricht, Albert Härtl, Michael Türk, Gerhard Jahreis</b> Friedrich Schiller University, Institute of Nutrition, Jena, GERMANY; Leibniz Institute for Natural Product Research and Infection Biology, Jena, GERMANY; University of Karlsruhe, Institute of Technical Thermodynamics and Refrigeration, Karlsruhe, GERMANY “ <i>Nanoscale and customary non-esterified sitosterol particles equally enriched in different body compartments of the guinea pig</i> ”
3:00 PM - 3:15 PM	Coffee Break

# CONFERENCE SCHEDULE



## Monday (continued)

The Conference Schedule may be subject to changes

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

**Peixuan Guo**, Director of Purdue Bionanotechnology Graduate Program (BNTP), Purdue University, West Lafayette, IN, USA  
*"Construction of phi29 nanomotor and motor pRNA hexamer for applications in nanotechnology & gene therapy"*

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

**Jayesh R. Bellare, M. A. Arunagirinathan, and Giddi Hema Sagar**, Department of Chemical and School of Biosciences and Bioengineering, IIT, Bombay, Powai, Mumbai, INDIA  
*"Nano & Microstructures In Dynamical Surfactant Systems"*

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

**Leela Rakesh, Carla Slominski, Mark Kujawski, and Minghui Chai**  
Central Michigan University, Mt. Pleasant, MI, USA  
*"Molecular Dynamics SIMULATION of Single-Stranded DNA (ssDNA) with Single-Walled Carbon Nanotubes C60, and capped SWCNTs"*

4:45 PM -  
5:30 PM

**Round Table Discussion**

5:30 PM -  
7:00 PM

**Poster Presentation - Reception**

### TRACK B

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

**Kenneth L. Watkin & S L Gosangari**  
University of Illinois, Champaign, IL, USA  
*"Nanoparticle Delivery of siRNA for Cancer Treatment"*

2:00 PM -  
2:30 PM  
M-B-2

**M. Everts, V. Saini, R.J. Kok, C.L. Millican, H.G. Bagaria, S. Edwards-Jones, D.E. Nikles, D.T. Johnson, D.T. Curiel and V.P. Zharov**  
Division of Human Gene Therapy, Depts. of Medicine, Surgery, Pathology and the Gene Therapy Center, High Resolution Imaging Facility and Department of Physiology and Biophysics, University of Alabama at Birmingham, Birmingham AL, USA; Dept. of Pharmacokinetics and Drug Delivery, University Center for Pharmacy, Groningen University, Institute for Drug Exploration (GUIDE), the NETHERLANDS; Center for Materials for Information Technology (MINT), University of Alabama, Tuscaloosa, AL, USA; Philips Classic Laser Laboratories, University of Arkansas for Medical Sciences, Little Rock, AK, USA  
*"Self-assembled gold nanoclusters as a non-linear amplifier of combined adenoviral-based photothermal and gene cancer therapy"*

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

**Ahsan Ali, Mansharipova Alma, Ablaev Zh. A. Gilmanov M.K., Bolshakova S.V.**  
Scientific Research Institute of Cardiology, Almaty, KAZAKHSTAN  
*"Liposomal Form Of Insulin For Diabetes Mellitus Therapy"*

3:00 PM -  
3:15 PM

Coffee Break

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

**Damon C. Smith, F. Ravenelle, D. Lessard, D. Le Garrec, L. Luo, S. Gori, D. Palusova**  
Labopharm Inc., Laval, CANADA  
*"Polymeric NanoDelivery Systems: A Propofol Solution"*

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

**Clemens Heitzinger and Gerhard Klimeck**  
Network for Computational Nanotechnology, School of Electrical and Computer Engineering, Purdue University, West Lafayette, IN, USA  
*"A Simulation Study of Silicon-Nanowire Field-Effect DNA-Sensors"*

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

**Anup Sharma, J. M. Taguenang, A. Kassu**  
Dept of Physics, A&M University, Normal, AL, USA  
*"Nanoscale patterning of phospholipid membranes with interferometric UV lithography"*

4:45 PM -  
5:30 PM

**Round Table Discussion**

5:30 PM -  
7:00 PM

**Poster Presentation - Reception**

### TRACK C

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

**John T. McDevitt, Christodoulides, Nicolaos; Floriano, Pierre N.**  
Dept. of Chemistry and Biochemistry  
University of Texas at Austin, TX, USA  
*"Integrated Lab-on-a-Chip Devices as Nano-Bio Sensor Systems"*

2:00 PM -  
2:30 PM  
M-C-2

**Swapna Banerjee, P. Mandal, S.S. Das**  
E&ECE Dept., I.I.T Kharagpur, INDIA  
*"An Approach To Noninvasive Blood Glucose Detection"*

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

**Caroline Bernard, Sandra Maurin, Michel El-Abras, Christian Pellerin, Martin Menard, Jean Pierre Halle, L'Hocine Yahia and Gregory De Crescenzo**  
Ecole Polytechnique, Montreal, CANADA  
*"A surface plasmon resonance-based biosensor study to define adhesion processus between alginate biotinylate and PLL for micro encapsulation applications"*

3:00 PM -  
3:15 PM

Coffee Break

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

**Jae-Young Jung, Min-Deul Kwon and Woo-Kul Lee**  
Laboratory of Biomaterials and Biointerface  
Department of Chemical Engineering, Dankook University, Hannam-dong, Yongsan-gu, Seoul 140-714, South Korea  
*"Effect of Immobilized Drug within Calcium Phosphate Matrix on the Differentiation of Osteoblastic HOS Cells"*



# CONFERENCE SCHEDULE



## Monday (continued)

3:15 PM - **Paul Rice, Tammy Oreskovic, and Natalia Varaksa**  
3:45 PM National Institute of Standards and Technology,  
M-C-5 Materials Reliability Division and University of  
Colorado, Mechanical Engineering Dept., Boulder, USA  
*"Viability Of Vascular Smooth Muscle Cells Exposed To  
Multiwalled Carbon Nanotubes"*

3:45 PM - **Kevin C. Weng, Charles O. Noble, Brigitte**  
4:15 PM **Papahadjopoulos-Sternberg, Fanqing F. Chen, and**  
M-C-6 **John W. Park**  
Division of Hematology and Oncology, Department  
of Medicine, University of California at San Francisco,  
CA, USA; UCSF Comprehensive Cancer Center, San  
Francisco, CA, USA; Nano Analytical Laboratory,  
San Francisco, CA, USA; Life Sciences Division,  
Lawrence Berkeley National Laboratory, Berkeley, USA  
*"Quantum Dot-Conjugated Immunoliposome  
Nanocomplexes for Cancer Diagnostics and Targeted  
Therapeutics"*

4:45 PM - **Round Table Discussion**  
5:30 PM

5:30 PM - **Poster Presentation - Reception**  
7:00 PM

## Tuesday (continued)

10:25 AM - **Christopher A. Mills, Elena Martinez, Elisabeth Engel,**  
10:55 AM **Mateu Pla, Christel Martin, Josep A. Planell, and Josep**  
T-G-5 **Samitier**  
Laboratory of Nanobioengineering (CREBEC),  
Barcelona Science Park, Barcelona, SPAIN  
*"Nanobiotechnology applied to cell differentiation and  
tissue engineering: the CellPROM European integrated  
project"*

### **NanoBio Commercialization Panel Discussion**

10:55 AM - **James Hurd - Moderator**  
12:15 PM Director, NanoScience Exchange, San Francisco, CA, USA  
T-G-6 *"Business Realities of NanoBio Commercialization"*

**Mark Büniger**  
Senior Analyst, LUX Research, San Francisco, CA, USA  
*"Product development roadmaps for nanobio drugs,  
devices, and diagnostics"*

**Craig W. Fellenstein**  
Chief Architect, IBM Global Services  
Information Technology Services, Brookfield, CT, USA  
*"Inventor's Guide to Trademarks, Patents and Intellectual  
Property"*

**Amit Kumar**  
President and CEO, Combimatrix  
Mukilteo, WA, USA

**Bruce Scott**  
President, Intellectual Licensing Group, Menlo Park, CA,  
USA

**Andrew Wahl**  
President, IG Partners, Inc., Redwood Shores, CA, USA  
*"Is an IPO for Everyone?"*

### **Tuesday PM TRACK A**

1:30 PM - **Alex Li**  
2:00 PM Department of Chemistry, Washington State University,  
T-A-1 Pullman, WA, USA  
*"Optically Switchable Nanoparticles For Biological  
Imaging"*

2:00 PM - **Carolyn I. Pearce, V.S. Coker, R.A.D. Patrick, G. van**  
2:30 PM **der Laan, J.M. Charnock, J.F.W. Mosselmans and**  
T-A-2 **J.R. Lloyd**, School of Earth, Atmospheric, & Environ.  
Sciences, University of Manchester, Manchester, UK  
*"Bio-synthesis of Magnetic and Semiconducting nano-  
materials"*

## Tuesday, June 20, 2006

7:30 AM - Registration  
4:00 PM

7:30 AM - Breakfast  
8:30 AM

### **Tuesday AM General Sessions**

8:30 AM - **Senator (retired) Richard Polanco**  
8:45 AM Former Senate Majority Leader, State of California, USA  
T-G-1

8:45 AM - **The Honorable Victoria Bradshaw**  
9:10 AM Secretary of the State of California Labor & Workforce  
T-G-2 Development Agency, Sacramento, USA  
*"Nanotechnology: Building a Workforce Prepared for  
the Global Economy"*

9:10 AM - **C. M. Venkatachalam, Reinier Akkermans, Steffen**  
9:40 AM **Wilke, Deepak Singh**  
T-G-3 Accelrys Inc, San Diego, CA, USA  
*"Self Assembly of Peptide Nanostructures"*

9:40 AM - **John Howard**  
10:10 AM Director, National Institute for Occupational Safety and  
T-G-4 Health, Washington D.C., USA  
*"Nanotechnology and Risk: The NIOSH Perspective"*

10:10 AM - Coffee Break  
10:25 AM

# CONFERENCE SCHEDULE



## Tuesday (continued)

The Conference Schedule may be subject to changes

2:30 PM - 3:30 PM T-A-3	<b>Andrea M. Rossi, Lili Wang, Vytas Reipa, and Thomas M. Murphy</b> Dept. of Electrical and Computer Engineering, University of Maryland, College Park, MD, USA Biochemical Science Division, National Institute of Standards and Technology, Gaithersburg, MD, USA, Nanotechnology Dept., Istituto Nazionale di Ricerca Metrologica, Torino, ITALY <i>“Strad Comparative study of Porous Silicon – Biomolecule conjugation procedures”</i>	3:45 PM - 4:15 PM T-B-4	<b>Lawrence S. Moy and Robert M. L. Baker</b> GRAVWAVE LLC, Playa del Rey, USA <i>“Nano-mechanism HFGW delivery systems for dermatological applications”</i>
3:00 PM - 3:15 PM	Coffee Break	3:45 PM - 4:15 PM T-B-5	<b>Cynthia C. Bamdad</b> CEO, Minerva Biotechnologies Corp., Waltham, MA, USA <i>“Modular NanoParticles for Drug Discovery”</i>
3:15 PM - 3:45 PM T-A-4	<b>B. Papahadjopoulos-Sternberg, K. C. Weng, and J. W. Park</b> NanoAnalytical Laboratory, San Francisco, CA, USA Hematology/Oncology, UCSF Cancer Center, San Francisco, CA, USA <i>“Visualization of Quantum Dots by Freeze-fracture Electron Microscopy”</i>	4:15 PM - 4:45 PM T-B-6	<b>Amit Kumar</b> President and CEO, Combimatrix, Mukilteo, WA, USA <i>“Semiconductor Based BioDefense Detection Technology”</i>
3:45 PM - 4:15 PM T-A-5	<b>Elizabeth Singer &amp; Steven S. Smith</b> Kaplan Clinical Research Laboratory City of Hope National Medical Center and Beckman Research Institute, Duarte, CA USA <i>“Nanoscale Nucleoprotein Assemblies”</i>	4:45 PM - 5:30 PM	<b>Round Table Discussion</b>
4:15 PM - 4:45 PM T-A-6	<b>Vladimir Mironov, Vladimir Kasyanov, Jason Hodde, S. Bart Halkes, Roland J. Pieters, Roger R. Markwald,</b> Medical University of South Carolina, Charleston, SC, USA; Riga Stradins University, Riga, LATVIA, Cook Biotech Inc., West Lafayette, IN, USA; Utrecht University, Utrecht, THE NETHERLANDS <i>“Tannic acid mimicking dendrimers as stabilizing nanomordant for decellularized scaffolds”</i>		<b>TRACK C</b> <b>Workforce Education and Training for the New NanoBio Industry</b>
4:45 PM - 5:30 PM	<b>Round Table Discussion</b>	1:30 PM - 3:30 PM T-C-1	<b>Robert D. Cormia - Moderator</b> Professor, Foothill College Los Altos Hills, CA, USA
1:30 PM - 2:00 PM T-B-1	<b>Edward Tefft</b> Associate Director, Process Technology Elan Drug Delivery, Inc., King of Prussia, USA <i>“Commercial Applications of NanoCrystal™ Drug Delivery Technology”</i>		<b>Edythe Abdullah</b> Campus President, Florida Community College Jacksonville, FL, USA
2:00 PM - 2:30 PM T-B-2	<b>Avijit Roy</b> Vice President, Immunicon Corporation, Huntingdon Valley, PA, USA		<b>Bob Cumming</b> Statewide Director, Workplace Learning Resources Economic Work Force Development Program California Community College
2:30PM - 3:00PM T-B-3	<b>Michael Weiner</b> CEO, Biophan Technologies, Inc, West Henrietta, USA <i>“Novel Nanomaterials for Next Generation Drug Delivery”</i>		<b>Rob Gamble</b> Executive Director, BayBio Institute San Francisco, CA, USA
3:00 PM - 3:15 PM	Coffee Break	3:00 PM - 3:15 PM	<b>Charles Lundberg</b> Economic Development Director Employment Training Panel State of California
		3:15 PM - 4:45 PM T-C-2	Coffee Break
		4:45 PM - 5:30 PM	<b>Workforce Education and Training for The New NanoBio Industry (continued)</b>
			<b>Round Table Discussion</b>

# CONFERENCE SCHEDULE



Wednesday, June 21, 2006

The Conference Schedule may be subject to changes

7:30 AM -  
12:00 AM

Registration

7:30 AM -  
8:30 AM

Breakfast

## General Session

8:30 AM -  
9:00 AM  
W-G-1

### The Honorable Ira Ruskin

Assembly Member, Chairman, Select Committee on  
Nanotechnology and Emerging Technologies, State of  
California, Sacramento, CA, USA  
*"Nanotechnology and the Golden State"*

9:00 AM -  
9:30 AM  
W-G-2

### Stephen Y. Chou

Professor, Department of Electrical Engineering,  
Princeton University, Princeton, USA  
*"Nanoimprint Lithography for Protein/DNA Analysis"*

9:30 AM -  
10:00 PM  
W-G-3

### Israel Rubinstein

Department of Medicine, University of Illinois at  
Chicago, Chicago, USA  
*"A Novel, Biocompatible, Biodegradable, Long  
Circulating, Actively-Targeted Disease-Modifying  
Nanomedicine for Rheumatoid Arthritis"*

10:00 AM -  
10:15 AM

Morning Break

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

### Amarnath Maitra

Professor, Department of Chemistry, University of Delhi,  
Delhi, INDIA  
*"New Challenges In Gene Delivery"*

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

### Takehiko Wada

Professor, Department of Applied Chemistry, Osaka  
University, Osaka, JAPAN  
*"Peptide Ribonucleic Acids (PRNAs): Novel Strategy for  
Active Control of DNA Recognition by External Factors"*

11:15 PM -  
11:45 PM  
W-G-6

**Michael T. Tseng, Uschi M. Graham, Alan Dozier,  
Gabino R. Fernandez-Botran and J.C. Hower  
and Stefano Heun Fontana**

Departments of Anatomical Sciences & Neurobiology,  
Pathology & Laboratory Sciences, University of  
Louisville, Louisville, KY, USA; Center for Applied  
Energy Research; Center for Electron Microscopy,  
University of Kentucky, KY, USA  
*"Localization of Coal-Combustion-Derived  
Nanoparticles (CDNPs) in Mouse Skin by HRTEM/  
STEM"*

11:45 AM -  
12:15 AM  
W-G-5

### Michael Gertner

Surgeon, Stanford University, Menlo Park, CA, USA  
*"Application of nanotechnology to treat surgical  
diseases"*

12:15 PM -  
2:00 PM

Lunch

## Wednesday PM TRACK A

### Z.M. Xiao and B.J. Chen

School of Mechanical and Production Engineering,  
Nanyang Technological University, SINGAPORE  
*"An Atomistic-Based Continuum Theory for Fracture  
Nucleation Analysis in Carbon Nanotubes"*

### Vladimir Sinyayev, J.Griggs, E.S.Shustikova, D.V.Dorofeyev, L.M.Mitina, & G.A.Tokseitova

Institute of Chemical Sciences, Ministry of Education and  
Science of Kazakhstan, KAZAKHSTAN  
*"Amorphous Calcium Phosphates As Potential Objects For  
Dentistry Application"*

### C.H. Stephan, M. Laffleur, M. Fournier, and S. Sauvé

Department of Chemistry, Université de Montréal,  
Montréal, CANADA; INRS-Institut Armand-Frappier,  
Pointe-Claire, CANADA  
*"Nitrilotripropionic acid, nitrilotriacetic acid and Tiron as  
sequestering agents for beryllium toxicity"*

Coffee Break

**K. Meehan, N. Tracy, Y. Xu, R. A. Kraft & C. L. Wyatt**  
Bradley Department of Electrical & Computer Engineering,  
Virginia Tech, Blacksburg, VA, USA; Wake Forest  
University School of Medicine, Winston-Salem, NC, USA  
*"Synthesis and Characterization of Magnetic II-VI  
Nanoparticles as MRI Contrast Agents"*

### Cat-Tien Nguyen

NASA Ames Research Center, Moffett Field, CA, USA  
*"In Vivo Medical Imaging"*

Congress Review and Conclusion

## TRACK B Young Investigators

**M. Pla-Roca, G. Gomila, A. Errachid, I. Casuso,  
O. Ruiz, J. Samitier, E. Pajot-Augy, J. Minic Vidic, J.  
Grosclaude, M.A. Persuy, R. Salessec, J. Bausellsd,  
G. Villanuevad, Y. Houe, N. Jaffrezice, C. Pennettaf,  
V. Akimov f., E. Alfinitof., L. Reggianif., G. Ferrarig,  
L. Fumagallig, M. Sampietro**  
Laboratory of NanoBioEngineering CREBEC, Barcelona,  
SPAIN; Institut National de la Recherche Agronomique,  
NOPA-RCC, and INRA, VIM, Jouy-en-Josas, FRANCE;  
IMB-Centro Nacional de Microelectrónica (CSIC), Campus  
UAB, Bellaterra, SPAIN; CEGELY, Ecole Centrale de  
Lyon, Ecully, FRANCE; Università di Lecce, ITALY;  
Politecnico di Milano, ITALY  
*"Olfactory biosensors based on the response of  
immobilized olfactory receptors"*



# CONFERENCE SCHEDULE



## Wednesday (continued)

The Conference Schedule may be subject to changes

2:25 PM -  
2:50 PM  
W-B-2

**Bernhard Gleich, Thomas Weyh, Christoph Alexiou, and Bernhard Wolf**

Heinz Nixdorf Lehrstuhl für medizinische Elektronik  
Department of Electrical Engineering, Technische  
Universität München, München, GERMANY  
*"Magnetic Drug Targeting – a technical approach"*

2:50 PM -  
3:15 PM  
W-B-3

**Charlie Yu-Ming Hsu, Cezary Kucharski, and Hasan Uludag**

Department of Biomedical Engineering, Faculty of  
Medicine and Dentistry, Faculty of Pharmacy &  
Pharmaceutical Sciences, Department of Chemical and  
Materials Engineering, Faculty of Engineering,  
University of Alberta, Edmonton, AB, CANADA  
*"The effects DNA molecular weight and conformation  
on cell uptake and the binding interaction to cationic  
polymers used for gene delivery"*

3:15 PM -  
3:30 PM

Coffee Break

3:30 PM -  
3:55 PM  
W-B-4

**G. L. Liu, J. W. Gray, L. P. Lee, and F. F. Chen**

Department of Bioengineering, University of California,  
Berkeley, CA, USA; Life Science Division, Lawrence  
Berkeley National Lab, Berkeley, CA, USA  
*"Nanoplasmonic Biomolecular Ruler for Measurements  
of Position-specific DNA-Protein Reactions"*

3:55 PM -  
4:20 PM  
W-B-5

**Paichun Chang, Hsiang-Yu Chen, Zhiyong Fan, Prof. Jia Grace Lu**

Departments of Chemical Engineering & Materials  
Science, and Electrical Engineering & Computer  
Science, University of California, Irvine, CA, USA  
*"Antimony Nanowire as pH Sensor"*

3:20 PM -  
4:45 PM  
W-B-6

**Edward de Asis, Wai-Kin Wong, Lei Wang, Adam Seger, Karen Kagoo, Jeremy Hieb, Michael S. Isaacson, Cary Y. Yang**

Center for Nanostructures, Santa Clara University, Santa  
Clara, CA, USA; Department of Electrical & Computer  
Engineering, National University of Singapore,  
SINGAPORE, Department of Electrical Engineering,  
UC Santa Cruz, CA, USA  
*"Characterizing Neuronal Networks Using Carbon  
Nanotube Microelectrode Array"*

4:45 PM -  
5:30 PM

Congress Review and Conclusion

### TRACK C

2:00 PM -  
2:25 PM  
W-C-1

**Katharina Porazik, M. Niebert, G.Q. Lu, P. Gray, and Z.P. Xu**

ARC Centre for Functional Nanomaterials, University of  
Queensland, St Lucia, AUSTRALIA  
*"Optimization of DNA-LDH-nanocomplexes and their  
application as DNA delivery carrier to mammalian cell  
lines"*

2:25 PM -  
2:50 PM  
W-C-2

**L. Chonco, D. Shcharbin, J. F. Bermejo, E. Pedziwiatr, P. Ortega, B. Klajnert, M. J. Serramía, E. de Jesus, F. J. de la Mata, J. C. Flores, M. Bryszewska1, R. Gómez and MA. Muñoz-Fernandez**

Department of General Biophysics, University of Lodz,  
POLAND; Department of Inorganic Chemistry,  
University of Alcalá de Henares, Madrid, SPAIN;  
Immunomolecular Biology Laboratory, Gregorio  
Marañón General Hospital, Madrid, SPAIN  
*"Novel water carbosilane dendrimers as antisense  
oligodeoxynucleotides and siRNA delivery: biomedical  
application"*

(continued)

2:50 PM -  
3:15 PM  
W-C-3

**Ching-Li Tseng, Steven Yueh-Hsiu Wu, Feng-Huei Lin**

Institute of Biomedical Engineering, College of Medicine,  
National Taiwan University, TAIWAN  
*"Aerosol delivery of Ligands Mediated Gelatin  
nanoparticles for Lung Cancer Therapy"*

3:15 PM -  
3:30 PM

Coffee Break

3:30 PM -  
3:55 PM  
W-C-4

**I. Casuso, L. Fumagalli, G Ferrari, M Sampietro, E. Padrós, E. Pajot-Augy, J. Minic Vidic, J. Grosclaude, M. A. Persuy, R. Salesse, L. Reggiani, V. Akimov, J Samitier, and G. Gomila**

Dept. of Electronics, Universitat de Barcelona and Lab.  
Nanobioengineering, Barcelona Science Park, Barcelona,  
SPAIN; Dept. di Elettronica ed Informazione, Politecnico  
di Milano, Milano, ITALY; Dept. Bioquímica i Biologia  
MOLECULAR, Universitat Autònoma de Barcelona, Barcelona  
SPAIN; Institut National de la Recherche Agronomique,  
NOPA-RCC, and INRA, VIM, Jouy-en-Josas, FRANCE;  
Dip. di Ingegneria dell'Innovazione, Università di Lecce,  
Lecce ITALY  
*"AC and DC electrical imaging of biosamples at the  
nanoscale by Atomic Force Microscopy"*

3:55 PM -  
4:20 PM  
W-C-5

**V. Saini, R.J. Kok, C.L. Millican, D.E. Nikles, D.T. Johnson, D.T. Curiel, & M. Everts**

Division of Human Gene Therapy, Departments of  
Medicine, Surgery, Pathology and the Gene Therapy  
Center, Department of Physiology and Biophysics and  
High Resolution Imaging Facility University of Alabama  
at Birmingham, Birmingham, AL, USA; Department of  
Pharmacokinetics and Drug Delivery, University Center  
for Pharmacy, Groningen University, Institute for Drug  
Exploration, THE NETHERLANDS; University of  
Alabama, Tuscaloosa, AL, USA  
*"Adenovirus as a Platform for Targeted Delivery of  
Magnetic Nanoparticles"*

4:20 PM -  
4:45 PM  
W-C-6

**Kristopher Barbee and Xiaohua Huang**

Department of Bioengineering, University of California,  
San Diego, La Jolla, CA, USA  
*"A Novel Technique for Fabricating Biomolecular  
Nano-Arrays"*

4:45 PM -  
5:30 PM

Congress Review and Conclusion

# CONFERENCE SCHEDULE



Thursday, June 22, 2006

The Conference Schedule may be subject to changes

8:30 AM -  
11:00 AM

Visit to **Molecular Foundry, Lawrence Berkeley National Laboratory and Nanofabrication Laboratory, Stanford University**

Bus departs to visit the Molecular Foundry, Lawrence Berkeley National Laboratory

Bus departs to the Nanofabrication Laboratory, Stanford University

1:00 PM

Bus returns to Crowne Plaza

## Selected Poster Presentations (June 19)

**G.A. Mansoori, L. Assoufid, H. Ramezani, T.F. George, & G.P. Zhang**

Depts. of Bio and Chemical Engineering, University of Illinois at Chicago, Chicago, IL, USA; Advanced Photon Source, Argonne National Laboratory, Argonne, IL, USA; Office of the Chancellor and Center for Molecular Electronics, Depts. of Chemistry & Biochemistry, Physics, & Astronomy, University of Missouri, St. Louis, MO, USA; Dept. of Physics, Indiana State University, Terre Haute, IN, USA  
*"Diamondoids as Molecular Building Blocks for Nanotechnology, Drug Targeting, and Gene Delivery"*

**Jeffrey Bokor & James M. Bustillo**

Molecular Foundry-Lawrence Berkeley National Laboratory  
Lawrence Berkeley National Laboratory, Berkeley, CA USA  
*"Molecular Foundry-User Program"*

**Craig Fellenstein, Jaclyn Vassallo, and Rachel Ralston**

Houghton College Inventions Team, Houghton College, Business Department, Houghton, NY, USA  
*"Inventor's Guide to Trademarks and Patents"*

**Hefeng Wang and Sabre Kais**

Department of Chemistry, Purdue University  
West Lafayette, IN, USA  
*"Quantum Teleportation in One-Dimensional Quantum Dots"*

**Charles Lundberg**

Director, Economic Development Director  
Employment Training Panel, State of California, CA, USA  
*"Employment Training Panel Program and the emerging Nanotechnology industry"*

**Il Hoon Kim, Si-Nae Park, Yoo Hong Min and Hwal Suh**

Dept. of Medical Engineering, Dept. of Hematology and Oncology, Yonsei University College of Medicine, Seoul, KOREA  
*"Efficient Gene Delivery Into Primary Cells Using HA2 Peptide Conjugated PLGA Nanoparticles"*

**Weiming Ruan, Scott Eastman, Gianfranco de Feo, Jennifer Park, Julia Chu, Patrick Cook, Joe W. Gray, Song Li, Fanqing Frank Chen**

Children's Hospital, Oakland Research Institute, Oakland, CA, USA  
*"Nanobarcode Microbead Platform for Monitoring Gene Expression"*

**Brandon L. Seal, Tong Chai, Zhibing Hu, Sanjay Ramakumar, Antonio A. Garcia, and Manuel M. Marquez**

Harrington Dept. of Bioengineering, Arizona State University, Tempe, AZ, USA; INEST Group, Research Center, Philip Morris USA, Richmond, VA, USA; Depts. of Physics and Chemistry, University of North Texas, Denton, TX, USA; Dept. of Surgery, University of Arizona Health Sciences Center, Tucson, AZ, USA

*"Stimuli-responsive poly (N-isopropylacrylamide) nanogels as gene delivery vehicles"*

**V.A.Sinyayev, J.Griggs, E.S.Shustikova, D.V.Dorofeyev, L.M.Mitina, G.A.Tokseitova**

Institute of Chemical Sciences, Ministry of Education and Science of Kazakhstan, Lab. Inorg. Mater. Chem, Almaty, KAZAKHSTAN  
*"Porous and dense calcium phosphate bioceramics"*

**Mi-Young Park, Kyoung Eun Baek, Seung Chul Choi, Jong Tae Kim, Dae Kwang Kim Jong Seok Lim, Hee Gu Lee, Jae Wha Kim, Eun Young Song**

Cellomics Research Center, Korea Research Institute of Bioscience and Biotechnology, Yusong, Daejeon, KOREA

*"Production of monoclonal antibody to N-myc downstream regulated gene 2 & determination of NDRG2 in human tissues and cell lines by protein chip"*

**Diego Ghezzi, Alessandra Pedrocchi, Andrea Menegon, Sara Mantero, Flavia Valtorta, and Giancarlo Ferrigno**

Dept of Bioengineering, Politecnico di Milano, Milano, Italy; Dept of Neuroscience, San Raffaele Scientific Institute and Vita-Salute University, Milano, ITALY

*"PhotoMEA: a new biosensor for the study of the functional properties of neuronal networks"*

**Pengfei Qi, Guangyu Zhang, Xinran Wang, Yuerui Lu, David Mann, Xiaolin Li and Hongjie Dai**

Department of Chemistry and Laboratory for Advanced Materials, Stanford University, Palo Alto, CA, USA

*"Hydrogenation and Hydro-Carbonation and Etching of Single-Walled Carbon Nanotubes"*

**D. Verdes, T. Ruckstuhl, and S. Seeger**

Physikalisch-Chemisches Institut, Universität Zürich, Zürich, SWITZERLAND  
*"Attoliter Detection Volume for Single Molecule Detection at Surfaces"*

**Petr Klouček**

Marie Curie Chair and Professor  
Institut de Mathématiques, SWITZERLAND; Dept. of Computational and Applied Mathematics, Rice University, Houston, Texas, USA  
*"Martensitic Nano-Devices"*

### The International Association of Nanotechnology

As the leading organization in the emerging industry, IANano is working on the roadmap and the framework for nanotechnology worldwide.

We are working with various partners via a global network of chapters around the world. To make an inquiry about forming a new chapter in your area, please contact us at [chapters@ianano.org](mailto:chapters@ianano.org). To become a member of IANano, please visit <http://www.ianano.org>.



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# The California Nanotech Initiative

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## *Creating A World-Class Nanotechnology Workforce in California*

The California Nanotechnology Initiative (CNI) is a Private/Public partnership program designed to help California create jobs and stimulate the economy by expediting the development, manufacturing and commercialization of nanotechnology products.

The California Nanotechnology Initiative (CNI) will converge the impressive engineering, electronics, and biotechnology assets in California.

Elements of the Initiative might include:

- Funds the California Institute of Nanotechnology
- Early-stage investment in startups Nanotech companies
- Incubator facilities to provide management and lab support for startups
- Nano-manufacturing facilities to commercialize proven technologies
- Industry tax breaks for companies establishing their operations in California
- Workforce training programs for entry and mid-career professionals
- Educational programs in high schools, colleges, and universities

The California Nanotechnology Initiative has established the California Institute of Nanotechnology to train a new generation of nanotechnologists and technicians for the emerging nanotechnology industry.

### **California Institute of Nanotechnology**

Nanotechnology Curriculum:

- Provide understanding, characterization and measurements of nanomaterials
- Synthesis, processing and manufacturing of nanocomponents and nanosystems
- Design, analysis and simulation of nanostructures and nanodevices
- Hand-on training in clean-room techniques and safety standard operating procedures
- Practical training in nanofabrication, nano-manufacturing and quality control program
- Holistic approach in dealing with environmental, societal, health & safety issues

*For additional information, please contact:*

### **California Institute of Nanotechnology**

(a partner of the International Association of Nanotechnology)

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Email: [info@californiananotech.com](mailto:info@californiananotech.com)

<http://www.californiananotech.com>



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