NanoBio 2007™

THE 2ND INTERNATIONAL CONGRESS OF NANOBIOTECHNOLOGY & NANOMEDICINE

June 18-21 2007, San Francisco Airport Crowne Plaza

California Institute of Nanotechnology

"Science & Business of Nano Bio"

www.nanobio2007.com

International Association of Nanotechnology

WELCOME

The 2nd International Congress of Nanobiotechnology & Nanomedicine 2007

June 18-June 21, 2007
San Francisco Airport Crowne Plaza
San Francisco, California, USA
http://www.ianano.org
http://www.nanobio2007.com

The NanoBio 2007™ Conference Theme:
"Science and Business of Nanobiotechnology"

Nanobiotechnology is a specialized field of nanotechnology, focusing on the improved and novel physical, chemical, and biological properties of materials at the nanoscale.

Nanomedicine has potential impact on the prevention, early and reliable diagnosis and treatment of diseases. Scientists have developed analytical tools to examine the biological cells in great detail. We now understand how biological structures function in the general intracellular level. However, we still do not know how to build nanostructures or "nano" biomachines that are compatible with living tissues, so that they safely operate inside the body. Once these questions are answered, we will be able to design better diagnostic tools and engineer structures for better treatment of diseases.

The Nanomedicine 2007 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 medicial imaging
- Bio-detection and biodefense
- Nanopatterning
- Nanotoxicology
- Investment in Nano Bio emerging companies
- Workforce education & training for the new industry
- and other related topics

Dear Colleague,

I am pleased to welcome you to the Second International Congress of Nanobiotechnology & Nanomedicine 2007 (NanoBio 2007).

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 2007 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 phases of commercial 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 marketplace.

I would like to thank our program committee, volunteers, and many of our colleagues who have done so much to make this year's conference successful. I hope all of you who are participating in the conference will find the NanoBio 2007 an enriching experience. 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, papers, and workshops stimulating and valuable.

With warmest regards,

Lloyd L. Tran
Program Chair, NanoBio 2007
President, International Association of Nanotechnology

INTERNATIONAL ASSOCIATION OF NANOTECHNOLOGY

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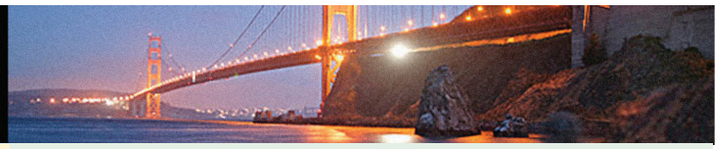
We are a non-profit organization with the goals to foster scientific research and business development in the areas of Nanoscience and Nanotechnology for the benefit of society.

PROGRAM AT A GLANCE



Monday June 18, 2007

8:00 AM - 5:00 PM	Registration
9:00 AM - 12:00 PM	**Track A** Advanced NanoBio Workshops **Track B** Professional Development Training: Business Re-Engineering **Track C** Professional Development Training: "Train the Trainer"
12:00 PM - 1:00 PM	Lunch on your own
1:00 PM - 5:30 PM	**Track A** Advanced NanoBio Workshops **Track B** Professional Development Training: Business Re-Engineering **Track C** Professional Development Training: "Train the Trainer"

Tuesday June 19, 2007

7:30 AM - 4:00 PM	Registration
7:30 AM - 8:30 AM	Breakfast
8:30 AM - 12:00 PM	General Sessions Welcoming Remarks from the Program Chair Keynote: Welcome from Honorable Senator Alex Padilla Invited Lectures: Advances in Nanobiotechnology & Nanomedicine
12:15 PM - 1:30 PM	Lunch in Reception Area Poster Presentations
1:30 PM - 5:15 PM	**Breakout Sessions** **Track A:** Advanced Scientific Research **Track B:** Advanced Scientific Research **Track C:** Professional Development Training: Business Re-Engineering **Track D:** Professional Development Training: "Train the Trainer" **Track E:** Education & Workforce Development in Nanotechnology
5:15 PM - 6:30PM	Poster Presentations / RECEPTION

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CALIFORNIA INSTITUTE OF NANOTECHNOLOGY

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

http://www.cinano.com

Wednesday June 20, 2007

7:30 AM - 4:00 PM	Registration
7:30 AM - 8:30 AM	Breakfast
8:30 AM - 12:00 PM	General Sessions Welcoming Remarks from the Program Chair **Invited Lectures:** Advances in Nanobiotechnology & Nanomedicine
12:15 PM - 1:30 PM	Lunch in Reception Area Poster Presentation
1:30 PM - 5:15 PM	**Breakout Sessions** **Track A:** Advanced Scientific Research **Track B:** Advanced Scientific Research **Track C:** Professional Development Training: Business Re-Engineering **Track D:** Professional Development Training: "Train the Trainer" **Track E:** Emerging Technology Presentation & Inventor's Contest

Thursday June 21, 2007

8:30 AM - 12:00 PM	General Session Congress Discussion and Conclusion
8:30 AM - 12:30 PM	Tour Visit The Molecular Foundry, Lawrence Berkeley National Laboratory
8:30 AM - 12:00 PM	Nanotech 525TT: Nanotechnology Teaching Project - Part I Taught by Faculty Members of California Institute of Nanotechnology (8:30 AM to 10:00 PM)
1:00 PM - 5:00 PM	Field Trip: Workshop on How to Use AFM and SEM for Nanoscale Characterization (1:30PM - 5:00 PM) Stanford University Nano Characterization Laboratory

Molecular Foundry

CONFERENCE SCHEDULE

Monday, June 18, 2007

The Conference Schedule may be subject to changes

Monday June 18, 2007

REGISTRATION

8:00 AM - 10:00 AM	Workshop Registration
10:00 PM - 5:00 PM	Exhibitor Registration
10:00 PM - 5:00 PM	Conference Registration

TRACK A: ADVANCED NANOBIO WORKSHOPS

9:00 AM - 12:00 PM	**Advanced Workshop 1: Fundamentals & Applications of Carbon Nanotubes** ***M. Meyyappan*** Chief Scientist for Exploration Technology, Center for Nanotechnology NASA Ames Research Center
12:00 PM - 1:00 PM	Lunch on your own
2:00 PM - 5:00 PM	**Advanced Workshop 2 : Fundamentals & Application of Nanobiotechnology** ***Thomas Webster*** Division of Engineering, Brown University, Division of Orthopedic Surgery, Brown University Medical School, USA, Editor-in Chief, Journal of International Nanomedicine. USA
3:45 PM - 5:30 PM	**Nanotech 240BE: Technology Licensing & Corporate Strategic Alliance** ***Craig Fellenstein*** Former Patent Counsel at IBM ***Joel Ackerman*** Of counsel Townsend & Townsend ***Dennis Fernandez*** Managing Partner Fernandez & Associates

TRACK B: BUSINESS RE-ENGINEERING CERTIFICATE IN NANOTECHNOLOGY (JUNE 18-20)

COURSE SCHEDULE:	Day 1: Monday- June 18, 2007
9:00 AM - 10:30 AM	**Nanotech 100BE: Introduction to Nanotechnology** ***Héctor J. De Los Santos*** President & CTO NanoMEMS Research, LLC
10:45 AM - 12:00 PM	**Nanotech 120BE: Nanotech Business Market: an Overview of the Landscape** Presented by faculty members of the California Institute of Nanotechnology
1:00 PM - 2:30 PM	**Nanotech 140BE: Environmental Health & Safety Implications of Nanotechnology** ***Jeff Wong*** Deputy Director, Deparment of Toxic Substances Control, CAL EPA
2:45 PM - 3:45 PM	**Nanotech 220BE: Essentials of Patent & Intellectual Property**
3:45 PM - 5:30 PM	**Nanotech 240BE: Technology Licensing & Corporate Strategic Alliance** ***Craig Fellenstein*** Former Patent Counsel at IBM ***Joel Ackerman*** Of counsel Townsend & Townsend ***Dennis Fernandez*** Managing Partner Fernandez & Associates

Additional Coursework for Day 2 to Day 4: Please see below.

TRACK C: "TRAIN THE TRAINER" CERTIFICATE IN NANOTECHNOLOGY (JUNE 18-21)

COURSE SCHEDULE:	Day 1: Monday - June 18, 2007
9:00 AM - 10:30 AM	**Nanotech 125TT: Introduction to Nanotechnology** ***Héctor J. De Los Santos*** President & CTO NanoMEMS Research, LLC
10:45 AM - 12:00 PM	**Nanotech 245 TT: Nanotech Business Market: an Overview of the Landscape** Presented by faculty members of the California Institute of Nanotechnology
1:00 PM - 2:30 PM	**Nanotech 145TT: Environmental Health & Safety Implications of Nanotechnology** ***Jeff Wong*** Deputy Director, Deparment of Toxic Substances Control, CAL EPA
2:45 - 5:45 PM	**Nanotech 425TT: Nanobiotechnology & Nanomedicine: Fundamentals & Applications of Tissue Engineering** ***Thomas J. Webster*** Associate Professor Division of Engineering, Brown University

CONFERENCE SCHEDULE

Tuesday June 19, 2007

The Conference Schedule may be subject to changes

Tuesday June 19, 2007

7:30 AM - 4:00 PM	Registration		
7:30 AM - 8:30 AM	Breakfast		
Tuesday	**General Session**	**Tuesday**	**Track A: Advances in scientific research**
8:30 AM - 8:50 AM T-G-1	Opening Remark from ***Lloyd L. Tran,*** *Program Chair* International Association of Nanotechnology; California Institute of Nanotechnology. *"The State of Nano Bio 2007: Building Infrastructures for the Next Frontier"*	**Track A**	Session Chair: ***Prof. Michael T Tseng***
8:50 AM - 9:00 AM T-G-2	Welcome Remarks from ***Honorable Senator Richard Polanco*** (retired) Former Senate Majority Leader State of California	1:30 PM - 2:00 PM T-A-1	***Thomas J. Webster*** Divisions of Engineering and Orthopedics, Brown University. Providence, RI, USA *"Nanotechnology for Regenerating Tissues: Is it Hype or Reality?"*
9:00 AM - 9:15 AM T-G-3	Welcome Remarks from ***Honorable Senator Alex Padilla*** Member, 20th Senate District, State of California	2:00 PM - 2:30 PM T-A-2	***A. Graff[1], S. Kaba[2], S.K. Raman[1], U. Aebi[1] , D. Lanar[2], and P. Burkhard[3]*** [1] M.E. Müller Institute for Structural Biology, Biozentrum, University of Basel, Switzerland. [2] Walter Reed Army Institute of Research, Silver Spring, MD, USA. [3] The Institute of Materials Science, University of Connecticut, CT, USA. *"Peptide Nanoparticles for Bio-Medical Applications: Novel Drug Targeting/ Delivery and Vaccination Strategies"*
9:15 AM - 9:45 AM T-G-4	***Philippe M. Fauchet*** Department of Electrical and Computer Engineering and Department of Biomedical Engineering University of Rochester, NY, USA *"Charge-and size-based separation of macromolecules using novel ultrathin silicon membranes"*	2:30 PM - 3:00 PM T-A-3	***C.C. Chin, J. M. Miao*** *and* ***Z. M. Xiao*** School of Mechanical & Aerospace Engineering, Nanyang Technological University, Republic of Singapore *"Design Analysis and Fabrication of a MEMS Lateral Microactuator with Nano Delivery Applications"*
9:45 AM - 10:15 AM T-G-5	***Patrick C. Case, I. Papageorgiou, C. Brown, R. Schins, S. Singh, R. Newson, S. Davis, J. Fisher, E. Ingham*** Bristol Implant Research Centre, Avon Orthopaedic Centre, Southmead Hospital, Bristol, UK. *"The effect of nano- and micron-sized particles of cobalt-chromium alloy on human fibroblasts in vitro"*	3:00 PM - 3:15PM	Coffee Break at the Exhibit Area
3:00 PM - 3:15PM	Coffee Break	3:15 PM - 3:45 PM T-A-4	***Steven Chamow*** Intradigm Corporation, Palo Alto, CA, USA *"Combining siRNA and Nanoparticles: Tissue- selective and gene-targeted therapeutic candidates"*
10:30 AM - 11:00 AM T-G-6	***M. Giersig, I. Firkowska, S. Giannona, J.A Rojas-Chapana*** Research Center CAESAR, Division Nanoparticle Technology, Bonn, Germany *"Nano-engineered films based on multiwalled carbon nanotubes intended to promote neural growth"*	3:45 PM - 4:15 PM T-A-5	***Ahsan A., Mansharipova A.T., Gilmanov M.K., Djusipov A.K., Grinevich E.E*** Scientific Research Institute of Cardiology and Internal Diseases. Almaty, Kazakhstan. KazNanoMed. Almaty, Kazakhstan. *"Nano capsular transdermal Isosorbide Dinitrate"*
11:00 AM - 11:30 AM T-G-7	***Frederick Hall*** Epeius Biotechnologies Corporation, San Marino, CA, USA *"Targeted Gene Delivery Systems for Cancer Therapy"*	4:15 PM - 4:45 PM T-A-6	***C. Z. Dinu, G. Zhu, S. S. Bale, J. Dordick*** Department of Chemical and Biological Engineering, Rensselaer Nanotechnology Center, Rensselaer Polytechnic Institute, NY, USA *"Tubulin self-assembly encapsulates and interconnects carbon nanotubes"*
11:30 AM - 12:00 PM T-G-8	***Robert Sinclair*** Department of Materials Science and Engineering, Stanford University, Palo Alto, CA, USA *"Nanocharacterization of Nanomaterials for possible Medical Applications"*	4:45 PM - 5:15 PM T-A-7	***Sripriya Seetharaman*** *and* ***Michael Sponsler*** Department of Chemistry, Lawrence University, Appleton, WI, USA Department of Chemistry, Syracuse University, Syracuse, NY, USA *"New Advance of Basic and Clinical Nanomedicine"*
		5:15 PM - 6:30 PM	Poster Presentation - Reception

CONFERENCE SCHEDULE

Tuesday June 19, 2007

The Conference Schedule may be subject to changes

Tuesday — **Track B: Advances in scientific research**

Track B — Session Chair: ***Prof. Ban-an Khaw***

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

Stephen Craig Lee [1,2,3,4]
Mark Elias [1,4,5], ***Samit Gupta*** [1,4]
John Shapiro [1,4], ***Edward Eteshola*** [1,4]
Xuejin Wen [5], ***Wu Lu*** [5] and
Leonard J. Brillson[5]
[1] Department of Biomedical Engineering
[2] Department of Chemical Engineering
[3] Department of Cellular and Molecular Biochemistry
[4] Davis Heart and Lung Research Institute
[5] Department of Electrical and Computer Engineering, The Ohio State University, OH, USA
"Challenges in optimization of nanobiotechnological devices illustrated by partial optimization of a protein sensor"

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

J.A. Rojas-Chapana,
Klaus Lücke *and* ***M. Giersig***
GILUPI Nanotechnologies / Research Center Caesar, Golm, Germany
"Biosensing using arrays of periodic metallic nanoparticles"

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

Y.Q. Fu[1], ***X.Y. Du***[1], ***S.C. Tan***[1],
J.K. Luo[1,2], ***A.J. Flewitt***[1],
S.Y. Maeng[3], ***S.H. Kim***[3], ***Y.J. Choi***[3]
D.S. Lee[3], ***R.M. Park***[3], ***W.I. Milne***[1]
[1] Centre for Advanced Photonics and Electronics, Department of Engineering, University of Cambridge, UK
[2] CMRI, Bolton University, Bolton, UK
[3] Electronics and Telecommunications Research institute (ETRI), Daejeon, KOREA
"ZnO surface acoustic wave micromixer and micropump"

3:00 PM - 3:15PM — Coffee Break

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

Ling Ma
Insert Therapeutics, Inc.
Pasadena, CA, USA
"Polymeric Nanoparticles for Cancer Therapy: Fundamentals and Practical Applications"

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

Stefano Corni
INFM-CNR National Research Center S3 - nanoStructures and bioSystems at Surfaces Modena, Italy
"Simulating the interaction between proteins and inorganic surfaces"

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

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

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

A.C. Neal[1], ***W.H. Suh***[2], ***R.E. Mielke***[3], ***G.D. Stucky***[2], and ***P.A. Holden***[1]
[1] Donald Bren School of Environmental Science & Management, University of California, Santa Barbara, CA, USA
[2] Department of Chemistry and Biochemistry, University of California, Santa Barbara, CA, USA
[3] Center for Life Detection, Jet Propulsion Laboratory, California Institute of Technology, CA, USA
"Biological Effects of Industrial Metal Oxide Nanoparticles on Pseudomonasaeruginosa"

5:15PM - 6:30 PM — Poster Presentation - Reception

Tuesday — **Track C: Professional Development Training**

Track C — **Business Re-Engineering**

1:30 PM - 3:15 PM
T-C-1-W

Nanotech 320BE:
Financing a Start-up Enterprise in Emerging Technology

Nanotech 340BE:
Initial Public Offering Options for a High Growth Enterprise

Andrew D. Wahl
IG Partners

3:15 PM - 3:30 PM — Coffee Break

3:30 PM - 5:15 PM
T-C-2-W

Nanotech 440BE:
Nanotech Re-Engineering proyect
Taught by Faculty members of the California Institute of Nanotechnology

5:15 PM – 6:30 PM — Poster Presentation - Reception

Tuesday — **Track D: Professional Development Training**

Track D — **"Training the Trainers" Workshops**

1:30 PM - 3:15 PM
T-D-1-W

Nanotech 225TT:
Nanomaterials Characterization

Robert Sinclair
Chair, Materials Science and Engineering Stanford University- Nano Characterization Laboratory

3:15 PM - 3:30 PM — Coffee Break

3:30 PM - 5:15 PM
T-D-2-W

Nanotech 225TT:
Nanostructured Thin Films

Mahmudur Rahman
Professor of Electrical Engineering
Santa clara University

5:15 PM - 6:30 PM — Poster Presentation - Reception

CONFERENCE SCHEDULE

Tuesday June 19, 2007

The Conference Schedule may be subject to changes

Tuesday Track E: Education & Workforce Development in Nanotechnology

Track E	
1:30 PM - 1:45 PM T-E-1	Introduction by ***Gus Koehler*** (moderator) Times Structures, Sacramento, CA, USA
1:45 PM - 2:15 PM T-E-2	Keynote: ***Jose Milan*** Vice Chancellor, Economic & Workforce Development California Community Colleges
2:15 PM - 3:15 PM	Panel discussion
T-E-3	***Jose Milan*** Economic & Workforce Development California Community Colleges ***Charles Lunberg*** Employment Training Panel State of California ***Frank Gomez*** Partnership for Research and Education in Materials (PREM) California State University of Los Angeles ***Tracy Furutani*** Division of Math, Science & Social Sciences, North Seattle Community College ***Carol Coen*** Institute for Business Performance San Jose / Evergreen Community College District
3:15 PM - 3:30 PM	Coffee Break at the Exhibit Area
3:30 PM - 5:15 PM T-E-4	Case Study & Panel Discussion
5:15 PM-7:00 PM	Poster Presentation – Reception

Wednesday June 20, 2007

7:30 AM - 12:00 PM	Registration
7:30 AM - 8:30 AM	Breakfast
1:00 PM - 4:00 PM	Registration

Wednesday — General Session

8:30 AM - 8:45 AM W-G-1	Opening Remarks from Program Chair
8:45 AM - 9:15 AM W-G-2	***Chiming Wei*** American Academy of Nanomedicine, Elliott City, MD, USA *"New Advance of Basic and Clinical Nanomedicine"*
9:15 AM - 9:45 AM W-G-3	***Jeremy Warren*** NanoSight Ltd, Salisbury, United Kingdom *"Nanoparticle detection and analysis – tracking nanoparticles directly and individually for high resolution particle size distributions"*
9:45 AM - 10:15 AM W-G-4	***Kazushi Kinbara*** and ***Takuzo Aida*** School of Engineering, The University of Tokyo, Tokyo, Japan *"Development of Molecular Devices by Chemical Modification of Chaperonins"*
10:15 AM - 10:30 AM	Coffee break
10:30 AM - 11:00 AM	***MT Tseng***[1], ***RL Florence***[2], ***UM Graham***[2], ***R Sultana***[2], ***DA Butterfield***[2], ***V Calabrese***[3], ***P Wu***[2], ***EA W-G-Grulke***[2], ***RA Yokel***[2], [1]University of Louisville, USA [2]University of Kentucky, USA [3]University of Catania, Italy *"Toxicological Assessment of Vascular Infused Ceria Nanoparticle in Rat"*
11:00 AM - 11:30 AM W-G-6	***Fabrice Jotterand*** University of Texas at Dallas, Richardson, TX, USA *"Is the Singularity Near? Reflections on our Techno-Biological Future"*
11:30 AM - 12:15 AM W-G-7	Panel Discussion: ***Intellectual Property in Nanomedicine*** ***Dennis Fernandez***, Managing Partner Fernandez & Associates LLP, CA, USA *"Intellectual Property Strategy in Bioinformatics and Biochips"* ***Craig Fellenstein, CEO*** Intelligent Operations Group, LLC ***Antoinette Konski,*** Partner Foley & Lardner LLP, DC, USA *"Strategic Alignment of Patent Portfolios with Nanotech Company Business Objectives"*

Wednesday — Track A: Advances in NanoBio Research

Track A	
	Session Chair: ***Prof. Peter Burkhard***
1:30 PM - 2:00 PM W-A-1	***Gregory Rorrer*** Department of Chemical Engineering, Oregon State University, OR, USA *"Cell Culture Process for the Supramolecular Assembly of Nanostructured Silicon-Germanium Oxide Semiconductor Materials"*
2:00 PM - 2:30 PM W-A-2	***Liviu Movileanu*** Syracuse University, NY, USA *"Single-molecule stochastic sensing using nanopores"*

CONFERENCE SCHEDULE

Wednesday June 20, 2007

The Conference Schedule may be subject to changes

2:30 PM - 3:00 PM W-A-3	***Yuri Glukhoy*[1], *Lloyd Tran*[1] and *Gary Friedman*[2]** Research and Development Department 1California Institute of Nantechnology San Jose, CA 95126 USA 2Electrical & Computer Engineering, Drexel University, Philadelphia, PA 19104 *"Magnetic nanoparticles for a magnetically targeted treatment of nail fungus"*	**Wednesday**	**Track B: Advances in NanoBio Research**
3:00 PM - 3:15PM	Coffee Break	**Track B**	Session Chair: ***Prof. Stephen Lee***
3:15 PM - 3:45 PM W-A-4	***Saber Hussain*** The US Air Force Research Laboratory, Dayton, OH, USA *"Biological Interaction of Nanomaterials: Toxicity Issues"*	1:30 PM - 2:00 PM W-B-1	***A. Gilmore*, *S. Mamedov*, *F. Adar*, *J. Mattheis*, and *A. Whitely*** HORIBA JobinYvon, NJ, USA *"Comprehensive Characterization of Nanostructure by High Spatial Resolution Molecular Spectroscopy for Simultaneous Investigation of Molecular and Physical Structure"*
3:45 PM - 4:15 PM W-A-5	***Peng Zhang*** New Mexico Tech, Socorro, NM USA *"Versatile photosensitizers based on photon upconverting nanoparticles for photodynamic therapy"*	2:00 PM - 2:30 PM W-B-2	***Srinivasa R. Raghavan*** Department of Chemical & Biomolecular Engineering, University of Maryland, College Park, MD *"Stimuli-Sensitive Nanoassemblies of Amphiphilic (Bio)molecules"*
4:15 PM - 4:45 PM W-A-6	***M.Veiseh*[1], *S-B. Bahrami*[1], *P. Gabikian*[3], *M. Zhang*[2], *R. G. Ellenbogen*[3], *J.M. Olson*[1]** [1] Clinical Research Division, Fred Hutchinson Cancer Research Center, Seattle, WA, USA [2] Department of Materials Science and Engineering, University of Washington, WA, USA [3] Department of Neurosurgery, University of Washington, WA, USA *"Serial real-time biophotonic imaging of cancer foci using targeted chlorotoxin-based probes"*	2:30 PM - 3:00 PM W-B-3	***Sam Shefer*** Salvona Technologies Inc. Dayton, NJ, USA *"Multicomponents delivery systems: nanospheres within microsphers, for dermatological and beauty applications"*
		3:00 PM - 3:15PM	Afternoon Coffee Breaks
		3:15 PM - 3:45 PM W-B-4	***Seung R. Paik*, *Ghibom Bhak*, *Jung-Ho Lee*, *In-Hwan Lee*** School of Chemical and Biological Engineering, Seoul National University, Seoul, Korea *"Enhanced Amyloid Formation of α Synuclein with Periodic Ultrasonication Treatment"*
4:45 PM - 5:15 PM W-A-7	***O.I. Dacenko*[1], *O.O. Grygor'jeva*[2], *V.V. Serebrjakov*[2], *O.V. Vakulenko*[1]** [1] Taras Shevchenko Kyiv National University, Optics Department, Kyiv, Ukraine [2] Taras Shevchenko Kyiv National University, Dept. of Zoology and Ecology, Kyiv, Ukraine *"Optical diagnostics of nanoparticles in Culex pipiens molestus Forskal"*	3:45 PM - 4:15 PM W-B-5	***Ban-An Khaw*** Northeastern University *"Nano-Cytoskeletal-antigen specific immunoliposomes (Nano-CSIL) as Cellular Nano-Band-Aid"*
		4:15 PM - 4:45 PM W-B-6	***Laura Stolle*** The US Air Force Research Laboratory, Dayton, OH, USA *"The Effect of Titanium Dioxide Nanoparticles Mouse Keratinocytes (HEL-30 cells)"*
5:15 PM - 5:45 PM W-A-8	***December S.K. Ikah*[1], *C.V.Howard*[2], *Ian Prior*[3], *Mathias Brust*[4] and *J.A. Gallagher1*** [1]Human Anatomy and cell Biology, University of Liverpool, Liverpool, UK [2]Bioimaging Research group, Centre for Molecular Biosciences, University of Ulster at Coleraine, Coleraine, UK [3]The Electron microscopy Unit, University of Liverpool, Liverpool, UK [4]Centre for Nanoscale Science, Department of Chemistry, University of Liverpool, Liverpool, UK *"Surface Modification Affects Uptake and Aggregation But Not Cellular Fate of Gold Nanoparticles in a Neuronal Cell Line"*	4:45 PM - 5:15 PM W-B-7	***Veronica Dudu*** & ***Maribel Vazquez*** Department of Biomedical Engineering, City College of New York, NY, USA *"Monitoring EGF Downstream Proteins Through Nanoprobe Labeling During Medulloblastoma Dispersal"*
		Wednesday	**Track C: Professional Development Training**
		Track C 1:30 PM - 3:00 PM W-C-1-BE	***Business Re-Engineering-Workshop*** ***Nanotech 440BE:*** ***Nanotech Re-Engineering*** ***Project Development*** Preparation of Project Proposal Lead by faculty members of the California Institute of Nanotechnology

CONFERENCE SCHEDULE

Wednesday June 20, 2007

The Conference Schedule may be subject to changes

3:00 PM - 3:15 PM — Coffee Break

3:15 PM - 5:00 PM
W-C-2-BE

Nanotech 440BE: Nanotech Re-Engineering - Project Development - Part 2
Preparation of Project Proposal
Lead by faculty members of the California Institute of Nanotechnology

Wednesday — **Track D: Professional Development Training**

Track D — **"Train the Trainer" -Workshop**

1:30 PM - 3:00 PM
W-D-1-TT

Nanotech 235TT: Surfaces & Thin Films: Applications in Nanotechnology
Bruce Clemens
Materials Science & Engineering,
Stanford University, CA, USA

3:00 PM - 3:15 PM — Coffee Break

3:15 PM - 5:00 PM
W-D-2-TT

Nanotech 315TT: Introduction to Carbon Nanotubes
Cat-Tien Nguyen
Senior Scientist
NASA Ames Research Center

Wednesday Track E: NanoBio Emerging Technologies

Track E

1:30 PM - 3:00 PM
W-E-1

Panel Discussion
Paul Grand,
Director RCT BioVenturesLLC
Los Angeles, CA, USA
"Venture Capital for Early Stage NanoBio Companies"

Mark Broderick,
President and CEO Discovery Technology International Sarasota, FL, USA
"Novel Tools for Biodetection & Nanorobotics"

Siva Angappan,
President and CEO
Sweet Power, Inc. Victoria, BC, Canada
"MEMS Fuel Cell Using Glucose in Human Blood to Power Implantable Medical Devices"

John Collins,
President and CEO
VeruTek Technologies Inc.
Glastonbury, CT, USA
"Green Nano Remediation Technology"

3:00 PM - 3:15 PM — Coffee Break

3:15 PM - 5:15 PM
W-E-2

Inventor's Workshop
Moderator by ***Craig Fellenstein***,
CEO Intelligent Operations Group, LLC

Thursday June 21, 2007

Thursday — **Track A: Molecular Foundry Trip**

8:30 AM - 12:30 PM — Visit Molecular Foundry , Lawrence Berkeley National Laboratory

Bus departs from Crowne Plaza at 8:30 AM. Participants of the NanoBio 2007 are invited to visit the Molecular Foundry, a newly established $85 Million User Facility for Nanoscale Materials, dedicated to supporting research in nanoscience at institutions around the world. The tour is limited to 20 participants of the NanoBio conference.

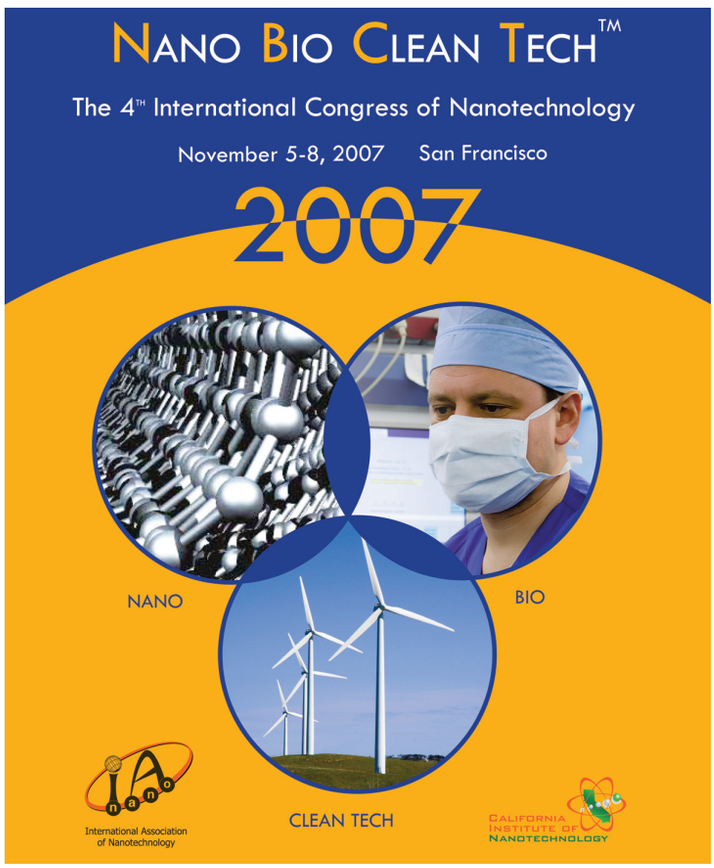
Thursday — **Track B: "Training the Trainers" Workshop**

8:30 AM - 11:30 AM — ***Nanotech 525TT: Nanotechnology: Teaching Project***
Taught by faculty members of the California Institute of Nanotechnology

11:30 AM - 12:30 PM — Lunch on your own

12:30 PM - 5:00 PM — Field Trip: Workshop on How to Use AFM and SEM for Nanoscale Characterization
BUS DEPARTS 12:30 PM

Stanford University Nano Characterization Laboratory
Robert Sinclair
Director, Nano Characterization Laboratory Stanford University



POSTER PRESENTATIONS

Poster Presenters

Tuesday June 19, 2007 from 12:00 PM - 1:00 PM and 5:00 PM - 6:00 PM

B.M. Cerruti, S. Fissolo, S-H. Lim, D. Raorane, J. Jaworski, S-W. Lee, A. Majumdar
Department of Chemical Engineering, Department of Mechanical Engineering University of California, Berkeley, USA.
"Cantilever Microarrays for Gas Sensing"

Bin-Wha Chang[1], Richie L. C. Chen[2], David Chan-Hen Chen[3]
[1] Department of Healthcare Administration, Hungkuang University, Taichung 433, Taiwan, ROC
[2] Department of Bio-Industrial Mechatronics Engineering, National Taiwan University, Taipei, Taiwan, ROC
[3] Institute of Veterinary Microbiology, National Chung-Hsing University, Taichung 402, Taiwan, ROC
"Appling of carbon nanotube for miniaturized NO2 gas sensor development by electrical impedance analysis"

B. Cherif, C. L. Villiers, R. Calmeczuk, B. Horvat, P. Marche, T. Livache, M-B. Villiers
INSERM U 548/CEA, Grenoble, France
"Peptide/protein chip for immuno-monitoring: application on clinical purposes"

Rosa María Ferraz[1,3], Anna Arís[2], Rafael Cubarsí[3], Miguel Angel Martínez[4], Antonio Villaverde[1] and Neus Ferrer-Miralles[1]
[1] Instituto de Biotecnologia y Biomedicina, CIBER en Bioingeniería, Biomateriales y Nanomedicina y el Departamento de Genética y Microbiologia, Universidad Autónoma de Barcelona, Bellaterra. 08193 Barcelona, España.
[2] Animal Nutrition, Management, and Welfare Group, Unitat de Remugants-IRTA, 08193 Barcelona, España.
[3] Departamento de Matemáticas Aplicada a la Telemática, Universidad Politécnica de Cataluña, 08034 Barcelona, España.
[4] Fundación irsiCaixa, Hospital Universitario Germans Trias y Pujol, 08916 Barcelona, España.
"Functional screening of the anti-HIV-1 humoral response by an enzymatic biosensor"

S.P. Ge
Department of Applied Physics, China Agricultural University, Beijing, China
"The absorption of amino acids on Cu(111) surface studied with STM"

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

Umesh Gupta
Sagar Institute of Pharmaceutical Sciences, Sagar, India
"Dendrimers as polymeric nanoarchitectures in drug delivery and solubilization"

Ji Yun Han, Sang-Myung Lee, Kyeong Nam Yu, Hyunmi Park, Minah Woo, Misuk Noh, Yong-Kwon Kim, Myung-Haing Cho, Yoon-Sik Lee, Dae Hong Jeong
Seoul National University, Seoul, South Korea
"Nanoparticle Probes using Fluorescence and SERS for Sensitive Detection and Encoding-Diversity Applied in Detecting Apoptosis in Cells"

I Hauge, C Carlson, J J Schlager, S M Hussain
Applied Biotechnology Branch, Human Effectiveness Directorate, AFRL/HEPB, Wright-Patterson AFB,OH, USA
"In vitro toxicity assessment of silver nanoparticles in rat alveolar macrophages"

Albert Tsung-Hsi Hsieh[1], Jen-Hao Pan[1], Abraham P. Lee[1,2]
[1] Biomedical Engineering
[2] Mechanical and Aerospace Engineering,
University of California, Irvine, CA , USA.
"Photobleaching Free DNA Hybridization Kinetics Evaluation Using Chemically Identical Repeating Microdroplet"

Allison M. Horst and Patricia A. Holden
University of California, Santa Barbara, CA, USA
"Toxicity and interactions of TiO2 nanoparticles in planktonic Pseudomonas putida"

Shin Hur & Wan-doo Kim
Korea Institute of Machinery & Materials Daejeon, KOREA
"The Response of Cantilever-based Biosensor for the Patterns of Surface Stress"

Irshad Hussain, Asma Rehman, Ayesha Ihsan and Asim Jilani
National Institute for Biotechnology and Genetic Engineering (NIBGE), Faisalabad, Pakistan
"Synthesis and Applications of Metal Nanoparticles to Improve PCR Technique"

Alina C. Ion, I. Ion, A. Ficai, D.N. Stefan
University Politehnica of Bucharest, Bucharest, Romania
"Chemically modified electrode for NO2- determination in environmental applications"

A.L. Koh and R. Sinclair
Materials Science and Engineering Department
Stanford University. Stanford, CA 94305 USA
"TEM Studies of Iron Oxide Nanoparticles for Cell Labeling and Magnetic Separation"

T.S. Sampath Kumar
Department of Metallurgical and Materials Engineering, Indian Institute of Technology Madras, Chennai, India
"Nanotech Approaches to Antibiotic Therapy for Bone Infections"

Pradeep Kumar
Central Drug Research Institute, Lucknow, India
"Nanotechnology: The Technology of the future"

Andrea Laird & Craig Fellenstein
Houghton College, Houghton, NY, USA
"Bio-Toxin Screening Using Nanotechnology"

Thomas T. Lee, Ofer Levi, James S. Harris, Krishna V. Shenoy, Stephen J Smith
Stanford University, Stanford, CA USA
"Progress Toward Integrated Semiconductor Optical Sensors for Minimally-Invasive Functional Brain Imaging"

Guangyong Li[1], Ning Xi[2], Donna H. Wang[3]
[1] Department of Electrical and Computer Engineering, University of Pittsburgh, PA, USA
[2] Department of Electrical and Computer Engineering, Michigan State University, MI, USA
[3] Department of Medicine, Michigan State University, MI, USA
"An Atomic Force Microscopy Method to in situ Recognize Receptors"

Mansurov Z.A., Zhubanova A.A., Savickaya I.S.
al-Farabi Kazakh National university, Almaty, Kazakhstan
"The nanoparticles from carbonized sorbents for immobilization of probiotics"

Nidhi Mathur, Anamika Aneja, P.K. Bhatnagar and P.C. Mathur
Department of Electronic Science, University of Delhi South Campus, New Delhi, INDIA
"A New FRET based sensitive DNA sensor for medical diagnostics using PNA probe and water soluble blue light emitting polymer."

Richiro Ohta, You Li, Alex Austin, Joseph Leung, Cattien V. Nguyen
ELORET Corporation NASA Ames Research Cennter, M/S 229-1, Moffett Field, CA, USA
"Investigation of the Primary Forces Acting on a Multi-Walled Carbon Nanotube Tip for AFM in Liquid."

Poster Presenters (continued)

Tuesday June 19, 2007 from 12:00 PM - 1:00 PM and 5:00 PM - 6:00 PM

N.S. Osin
State Research Center State R&D Institute of Bioengineering, Moscow, Russia
"Micro- and Nanoparticles Based Biochips with Spatial, Temporal and Spectral Resolution of Luminescence"

H.K. Patra, S. Banerjee, U. Chaudhuri, P. lahiri & A.K. Dasgupta
Department of Biochemistry, University of Calcutta, Kolkata, India
"Gold Nanoparticle induced death response in human lung carcinoma cells"

V.G. Pomelova and **N.S. Osin**
State Research Center State R&D Institute of Bioengineering, Moscow, Russia
"New Approach to Disease Diagnosis Using NanoSize Phosphorescent Markers"

Ketul C. Popat[1], Craig A. Grimes[2], Tejal A. Desai1
[1] Department of Physiology/Bioengineering, University of California, San Francisco CA, USA
[2] Department of Electrical Engineering, Pennsylvania State University, State College, PA, USA
"Biomimetic Nanostructured Surfaces for Enhanced Osseointegration"

John H. Priester[1], Peter K. Stoimenov[2], Galen D. Stucky[2], Randall E. Mielke[3], Patricia A. Holden[1]
[1] Donald Bren School of Environmental Science & Management, University of California,
Santa Barbara, CA, USA
[2] Department of Chemistry and Biochemistry, University of California, Santa Barbara, CA, USA
[3] Center for Life Detection, Jet Propulsion Laboratory, California Institute of Technology, CA, USA
"Toxicity and Fate of CdSe Quantum Dots in Unsaturated Pseudomonas aeruginosa Biofilms"

R I.H. El-Sayed,[1] H.M. Saleh.[1,2], X. Huang.[3]
[1] University of California at San Francisco, Department of Otolaryngology-Head and Neck Surgery.
[2] Otorhinolaryngology, National Institute of Laser Enhanced Sciences (NILES), Cairo University, Guiza, Egypt
[3] Laser Dynamics Laboratory, Georgia Institute of Technology.
"Size and Shape Related Effect on Plasmonic Gold Absorption: Applications in Molecular Imaging and Cancer Therapy."

Reza Mohammadzadegan & **Mohammad Hossein Sheikhi**
Nanotechnology Research Institute, Shiraz University, Shiraz, Iran
"A Special Nano-sensor for HIV-1"

M. I. Shukoor, F. Natalio, H. J. Schild, H.-C. Schröder, W. E. G. Müller, W. Tremel
Johannes Gutenberg Universität, Institute for Inorganic and Analytical Chemistry, Mainz, Germany
"dsRNA Functionalized Magnetic Nanoparticles : A Multifunctional Tool Used in Receptor-Specific Cell Binding and Protein Separation"

Ahjeong Son[1], Amy Dhirapong [3], Dosi Dosev[2], Ian M. Kennedy[2], Robert H. Weiss[3], and Krassimira R. Hristova[1]
[1] Department of Land, Air, and Water Resources,
[2] Department of Mechanical and Aeronautical Engineering,
[3] Department of Internal Medicine,
University of California Davis, Davis, CA
"Rapid and quantitative DNA analysis of SNPs mutations using magnetic/luminescent nanoparticles"

Anatoly V. Stepanov
National Ozone Monitoring Research and Educational Center, Byelorussian State University, Minsk, Republic of Belarus
"Simulation of Folding and Insertion for the b-Barrel Outer Membrane Protein A (OmpA) of Escherchia coli Into DOPC Bilayers"

Anatoly V. Stepanov
National Ozone Monitoring Research & Educational Centre, Byelorussian State University, Minsk, Republic of Belarus
"Why Is Rhodopsin a Fastest Biosensor for Visible Light?"

Imtiyaz A. Ahmed1 & Mohammed S. Sayeed2
1 Department of Electrical and Electronics Engineering,
2 Department of Mechanical Engineering,
C. Abdul Hakeem College of Engineering & Technology, Tamil nadu, India
"Improving the efficiency of solar cells using nano sized TiO2 particles linked with DNA – Oligonucleotide"

Sarah Tao[1], Conan Young[2], Stephen Redenti[3], Yiqin Zhang[4], Henry Klassen[5], Michael J. Young[3], Tejal Desai[1]
[1] Department of Physiology, Division of Bioengineering, University of California at San Francisco,
[2] Biomimetics, Franklin, TN;
[3] Schepens Eye Research Institute, Department of Ophthalmology, Harvard Medical School, Boston, MA,
[4] Novartis, Cambridge, MA; Department of Ophthalmology, University of California, Irvine, CA
"Thin films of free-standing polymer nanowires for potential applications in retinal stem cell delivery"

Dong Wang and **Gang Sun**
Fiber and Polymer Science, University of California, Davis, CA
"Controllable Biotinylated Poly(ethylene-co-glycidyl methacrylate) (PE-co-GMA) Nanofibers to Bind Streptavidin-Horseradish Peroxidase (HRP) for Potential Biosensor Applications"

H. Wang, Y, Li, and **M.F Slavik**
Poultry Science Department, University of Arkansas, Fayetteville, AR, USA
"Quantum Dot Fluorescence Immunosensor for Simultaneous Detection of Multiple Pathogens"

Yang Xiaotun, Su Xiangyong, Lee Vee Sin Peter
DSO National Laboratories, Singapore
"Detection of chemical vapor using modified porous silicon"

CONFERENCE SCHEDULE

Sponsors & Exhibitors

June 19, 10:00AM - 6:00 PM & June 20, 10:00 AM - 2:00 PM

1) **Estapor Microspheres** is a leading manufacturer of critical raw material used in diagnostic, biotech and life science applications. Estapor Microspheres supplies superparamagnetic, white, colored, fluo and bioactivated microspheres to the world's largest IVD manufacturers. Our microspheres are used in a large choice of applications: Immunoassays, immunoturbidimetry, cell separation, bacteria detection, nucleic acid purification, agglutination & membrane based assays, biosensor and microfluidics. Please visit our web site: **www.merck.fr**

2) **HORIBA Jobin Yvon, Inc.'s Molecular and Microanalysis Division**, a part of HORIBA Scientific, combines the existing product lines and spectroscopic techniques of steady-state and time-resolved Fluorescence, Raman, FT-IR Photoluminescence, Cathodoluminescence, and EDXRF instruments. We are proud to be leaders in the applications of biology, nanotechnology, pharmaceuticals, chemistry and semiconductors. We are committed to concentrating our efforts and extensive technical and scientific expertise on the conception and creation of new, innovative, high performance instruments for the field of molecular spectroscopy, micro-analysis and spectroscopic imaging. Please visit our web site: **http://www.jobinyvon.com**

3) **NanoSPR Company** was founded in 1997 to represent manufacturers of Surface Plasmon Resonance (SPR) and Electrochemical Surface Plasmon Resonance (ESPR) equipment. We are an independent sales representative focusing on the sale of SPR and ESPR apparatus, materials, and tools as well as products used to instrument, control, build and communicate with SPR & ESPR systems. We also provide engineering services that include training, project engineering, installation and maintenance of the equipment we sell. For over 10 years our instruments have served successfully in nanotechnology, biological and chemical sensing, researching the wide range of thin films, medicine and scientific investigations in Universities and research labs across the globe. Please visit our web site: **http://www.nanospr.com**

4) **Novelx** has miniaturized and driven the cost out of the core technology inside scanning electron microscopes (SEMs). Novelx is introducing the mySEM and delivering research-grade SEM imaging capabilities directly to the desktops of researchers and developers who need to view nanoscale objects and characterize nanoscale materials. In a compact design that installs easily, the mySEM delivers performance previously only available in high-end field emission SEMs. Optimized for low-voltage operation and with no need to coat non-conductive samples, the mySEM is an ideal choice for non-destructive imaging of energy sensitive samples, biomaterials and thin films. Please visit our web site: **http://www.novelx.com**

5) **Antibodies Inc.** Our company is striving to satisfy the need for purified antibodies, monoclonal antibodies and immunochemical derivatives and conjugates of those 'nanofine' tools for the 'Nanotechnician'. We are involved in contract research and services to help biotechnology entrepreneurs to succeed. In addition to making tools, we develop assays and perform critical testing functions for measuring immune system parameters after introduction of new pharmaceutical candidates. Our company's quality system has ISO 13485 accreditation and we hold FDA and USDA registrations for the animal work and manufacture and performance of cGLP/GMP work. Please visit our web site: **http://www.antibodiesinc.com**

6) **SDC Materials, Inc.** Founded in 2004, our primary business centers on the development and manufacture of low-cost alternatives to precious metals in the catalyst industry. Within the catalysts industry our focus is on automotive and fine chemicals catalysts. Our secondary business focus is in high-strength supercomposites, i.e. ceramic tiles with improved fracture toughness and hardness as well as nanoenhanced fibers for composites, targeting the armor industry. SDC is in the process of expanding our high volume production capacity, with facilities in Germany. Please visit our web site: **http://www.sdcmaterials.com**

7) **Epeius Biotechnologies Corp.** is a private biopharmaceutical company dedicated to the advancement of genetic medicine with the development and commercialization of its proprietary targeted delivery systems. Credited with innovations ranging from oncogene discovery, to designer therapeutic genes, to pathotropic (disease-seeking) targeting, to high-performance vector engineering, to advanced biopharmaceutical manufacturing and bioprocess development. Epeius Biotechnologies is well positioned to "launch" its enabling platform technologies for the benefit of cancer patients worldwide. To learn more about Rexin-G and Epeius' pipeline of proprietary compounds currently available for partnership or clinical trials, please visit us at **http://www.epeiusbiotech.com**

8) **IBP**. Since 1988 IBP has responded to the immediate needs of the business community by providing a full range of services to improve employee performance. We design competency-based, training and education programs that are directly linked to the strategic goals of your organization. Your employees will learn skills that can be immediately transferred on the job, improve performance, and get results. IBP offers a full range of community college degrees, certificate courses and workforce development workshops customized to meet specific needs. Please visit our web site: **http://www.ibptraining.com**

9) **The Employment Training Panel ETP** is a State of California funding agency that will develop up to $120 million in job training contracts this coming year with employers throughout California. ETP was founded in 1983 and has invested a billion dollars to train California workers since its inception. Businesses apply for funding to train current and new employees. ETP's number one target is manufacturing firms and companies introducing new technologies. These new technologies require substantial training for current as well as new employees. For specific program or application information, visit the ETP website at **http://www.etp.ca.gov**

10) **San Jose BioCenter** supports early stage ventures to move quickly from concept to commercialization. Our companies have raised over $75M in 2 years. Our state of the art facility is equipped with a cold room, tissue culture rooms, service alcoves, equipment rooms, a Biology Lab (with a flow cytometer, a microplate reader, and a florescence microscope), a Chemistry Analytics Lab, and a full suite of individual wet and dry labs and office space. Our services are tailored to fit the needs of emerging technology companies. The BioCenter gives high potential startups a "big company advantage" enabling them to grow into a successful business. Our ultimate goal is to advance technology for societal benefit, and to catalyze economic development for community growth. To read more about the BioCenter, visit: **www.sjbiocenter.com**.