

## ICBN 2007 CONFERENCE PROGRAM

**Sunday, 12 August 2007**

**Venue: Balmoral Hall, Royal Plaza on Scotts**

<b>Time</b>	<b>Program</b>
<b>6:00pm to 7:30pm</b>	<b>ICBN 2007 Registration and Cocktail Reception</b>

**Monday, 13 August 2007**

**Venue: Breakthrough Theatre, Level 4, Matrix, Biopolis**

<b>Time</b>	<b>Program</b>
<b>9:30am to 9:35am</b>	<b>Welcome Address by ICBN 2007 Conference Chair</b> <i>IBN Executive Director Jackie Y. Ying</i>
<b>9:35am to 9:45am</b>	<b>Opening Speech by Guest-of-Honor</b> <i>Minister for Foreign Affairs Mr George Yeo</i>
<b>9:45am to 10:15am</b>	<b>Keynote Lecture I: Designing Nanocrystal Quantum Dots for Biological Imaging</b> <i>Moungi Bawendi, Massachusetts Institute of Technology</i>
<b>10:15am to 10:45am</b>	<b>Keynote Lecture II: NanoSystems Biology and New Technologies for <i>In Vitro</i> and <i>In Vivo</i> Diagnostics of Cancer</b> <i>James R. Heath, California Institute of Technology</i>
<b>10:45am to 11:15am</b>	<b>Tea Reception</b>

(Cont'd)

Time	Program
<p><b>11:15am to 12:30pm</b></p> <p>11:15am to 11:45am</p> <p>11:45am to 12:00pm</p> <p>12:00pm to 12:15pm</p> <p>12:15pm to 12:30pm</p>	<p><b>Drug Screening and Pharmaceuticals Synthesis / Biocatalysis, Organocatalysis and Nanobiotechnology</b> <i>Chair: Yugen Zhang</i></p> <p>New Concepts for Organocatalysis <i>Invited Speaker: Benjamin D. List, Max-Planck Institut für Kohlenforschung</i></p> <p>N-Heterocyclic Carbene (NHC) Catalyzed Synthesis of Isoxazolidin-5-Ones and One-Pot Synthesis of <math>\beta</math>-Amino Acid Esters <i>Jayasree Seayad, Institute of Bioengineering and Nanotechnology</i></p> <p>A Novel Self-Assembled Protein Nanostructure as Multifunctional Catalyst for Xylan Hydrolysis <i>Rachel Chen, Georgia Institute of Technology</i></p> <p>Shaped Hydrogel Monoliths for Recyclable Chemoenzymatic Synthesis <i>Amira Y. Moreno, The Scripps Research Institute</i></p>
<p><b>12:30pm to 1:30pm</b></p>	<p><b>Lunch</b></p>
<p><b>1:30pm to 3:30pm</b></p> <p>1:30pm to 2:00pm</p> <p>2:00pm to 2:15pm</p> <p>2:15pm to 2:45pm</p> <p>2:45pm to 3:00pm</p> <p>3:00pm to 3:30pm</p>	<p><b>Cell and Tissue Engineering I</b> <i>Chair: Harry Yu</i></p> <p>Cell Sheet Technology for Tissues with Micro-Capillary <i>Invited Speaker: Teruo Okano, Tokyo Women's Medical University</i></p> <p>Three-Dimensional Micro-Well Array for Single Cell Analysis <i>Mirjam Ochsner, ETH Zürich</i></p> <p>The Tissue Engineering of Muscular Organs: Heart and Esophagus <i>Invited Speaker: Buddy D. Ratner, University of Washington</i></p> <p>New Tubular Scaffold Structures as Tools for Kidney Tissue Engineering <i>Karl Schumacher, Institute of Bioengineering and Nanotechnology</i></p> <p>Cell and Tissue Engineering <i>Invited Speaker: Vladimir Mironov, Medical University of South Carolina</i></p>
<p><b>3:30pm to 4:00pm</b></p>	<p><b>Coffee/Tea Break</b></p>

(Cont'd)

Time	Program
<p><b>4:00pm to 5:00pm</b></p> <p>4:00pm to 4:30pm</p> <p>4:30pm to 4:45pm</p> <p>4:45pm to 5:00pm</p>	<p><b>Drug Delivery Systems and Devices</b> <i>Chair: Yi-Yan Yang</i></p> <p>Engineered Supra-Macromolecular Assemblies as Nanocarriers for Gene and Drug Delivery <i>Invited Speaker: Kazunori Kataoka, The University of Tokyo</i></p> <p>Chromatographic Separation Behavior of PEGylated Proteins in Relation to Their Physical and Biochemical Properties as a Drug Delivery System <i>Shuichi Yamamoto, Yamaguchi University</i></p> <p>Enzyme-Mediated Injectable Hydrogels Composed of Hyaluronic Acid-Green Tea Catechin Conjugates <i>Motoichi Kurisawa, Institute of Bioengineering and Nanotechnology</i></p>
<p><b>5:00pm to 6:00pm</b></p>	<p><b>Poster Session I</b> <i>Chair: S. Tamil Selvan</i></p> <p>Drug Screening and Pharmaceuticals Synthesis / Biocatalysis, Organocatalysis and Nanobiotechnology Artificial Organs and Implants Drug Delivery Systems and Devices Nanoparticles, Nanocomposites and Nanoporous Materials for Bio-Applications Protein and Gene Delivery Systems</p>
<p>6:00pm</p>	<p><b>Evening Tour Program (Optional)</b></p>

**Tuesday, 14 August 2007**

**Venue: Breakthrough Theatre, Level 4, Matrix, Biopolis**

<b>Time</b>	<b>Program</b>
<b>9:30am to 11:00am</b>	<p><b>Nanoparticles, Nanocomposites and Nanoporous Materials for Bio-Applications I</b> <i>Chair: Su Seong Lee</i></p> <p>9:30am to 10:00am Smart Polymer-Biomolecule Conjugates and Nanoparticles <i>Invited Speaker: Allan S. Hoffman, University of Washington</i></p> <p>10:00am to 10:15am Inorganic-Biodegradable Polymer Composite Spheres as a Controlled Vaccine Delivery Platform <i>Jenny Ho, Monash University</i></p> <p>10:15am to 10:45am Improvement of Hydrothermal Stability for Mesoporous Materials and "Fish-in-Net" Encapsulation of Enzymes in Mesoporous Materials <i>Invited Speaker: Feng-Shou Xiao, Jilin University</i></p> <p>10:45am to 11:00am Entropy-Driven Helical Mesostructure Formation with Achiral Cationic Surfactant Template <i>Yu Han, Institute of Bioengineering and Nanotechnology</i></p>
<b>11:00am to 11:30am</b>	<b>Coffee/Tea Break</b>
<b>11:30am to 1:00pm</b>	<p><b>Nanoparticles, Nanocomposites and Nanoporous Materials for Bio-Applications II</b> <i>Chair: Hsiao-hua (Bruce) Yu</i></p> <p>11:30am to 12:00pm Microsystems for Accelerating Chemical Synthesis and Biological Studies <i>Invited Speaker: Klavs F. Jensen, Massachusetts Institute of Technology</i></p> <p>12:00pm to 12:15pm Self-Assembling Peptide Nanogels for Drug Delivery <i>Weiping Wang, Hong Kong University of Science and Technology</i></p> <p>12:15pm to 12:45pm Nanostructured Organic Conductors – Bridging the Bionic Interface <i>Invited Speaker: Gordon G. Wallace, University of Wollongong</i></p> <p>12:45pm to 1:00pm Live Cell Imaging with Semiconductor and Magnetic Quantum Dots <i>S. Tamil Selvan, Institute of Bioengineering and Nanotechnology</i></p>
<b>1:00pm to 2:15pm</b>	<b>Lunch</b> <b>ICBN 2007/2008 Organizers' Meeting</b>

(Cont'd)

<b>Time</b>	<b>Program</b>
<b>2:15pm to 3:45pm</b>  2:15pm to 2:45pm  2:45pm to 3:15pm  3:15pm to 3:45pm	<b>Protein and Gene Delivery Systems</b> <i>Chair: Shu Wang</i>  BacMAM Viruses: A Versatile Gene Delivery Technology for Mammalian Cells <i>Invited Speaker: Thomas A. Kost, GlaxoSmithKline</i>  Biomaterials that Biologically Prevent Infection <i>Invited Speaker: James D. Bryers, University of Washington</i>  Baculovirus as a New Gene Delivery Vector for Cartilage Tissue Engineering <i>Invited Speaker: Yu-Chen Hu, National Tsing Hua University</i>
<b>3:45pm to 4:15pm</b>	<b>Coffee/Tea Break</b>
<b>4:15pm to 6:00pm</b>  4:15pm to 4:45pm  4:45pm to 5:00pm  5:00pm to 5:30pm  5:30pm to 6:00pm	<b>Bio-MEMS and Microbioreactors / Medical and Biological Devices</b> <i>Chair: Francis Tay</i>  A Si-based Microdevice Utilizing Electrochemistry and Nanoparticles for Point-of-Care Applications <i>Invited Speaker: I-Ming Hsing, Hong Kong University of Science and Technology</i>  Miniaturized Microtiter Plates for ELISA and Cell-based Assays <i>Namyong Kim, Institute of Bioengineering and Nanotechnology</i>  Droplet-Based Microfluidics for High-Throughput Screening <i>Invited Speaker: David A. Weitz, Harvard University</i>  Understanding Why Forces Matter: From Molecules to Tissue Engineering <i>Invited Speaker: Viola Vogel, ETH Zürich</i>
<b>6:00pm to 6:30pm</b>	<b>Proceed to Conference Dinner Venue</b> <i>One-Way Transport Provided from Biopolis</i>
<b>6:30pm to 9:30pm</b>	<b>Conference Dinner at Carousel, Royal Plaza on Scotts</b>

**Wednesday, 15 August 2007**

**Venue: Breakthrough Theatre, Level 4, Matrix, Biopolis**

<b>Time</b>	<b>Program</b>
<b>9:30am to 11:00am</b>	<b>Bioimimetic and Self-Assembled Materials I</b> <i>Chair: Andrew Wan</i>
9:30am to 10:00am	The 2-D and 3-D Cooperative Assembly of Transmembrane Proteins <i>Invited Speaker: Galen D. Stucky, University of California Santa Barbara</i>
10:00am to 10:30am	Designer Self-Assembling Peptide Scaffolds for Nanobiotechnology <i>Invited Speaker: Shuguang Zhang, Massachusetts Institute of Technology</i>
10:30am to 11:00am	Development of Bio-Inspired Molecular Machines <i>Invited Speaker: Takuzo Aida, The University of Tokyo</i>
<b>11:00am to 11:30am</b>	<b>Coffee/Tea Break</b>
<b>11:30am to 1:00pm</b>	<b>Biomimetic and Self-Assembled Materials II</b> <i>Chair: Motoichi Kurisawa</i>
11:30am to 12:00pm	Symbiotic Assembly of Bio/Nano Interfaces and Architectures <i>Invited Speaker: C. Jeffrey Brinker, Sandia National Laboratory, and The University of New Mexico</i>
12:00pm to 12:30pm	Encapsulated Polymers: Creating Unique Microenvironments <i>Invited Speaker: D. Tyler McQuade, Cornell University</i>
12:30pm to 1:00pm	Polymer Biomaterials with Artificial Cell Membrane Surface <i>Invited Speaker: Kazuhiko Ishihara, The University of Tokyo</i>
<b>1:00pm to 2:15pm</b>	<b>Lunch / Poster Session II</b> <i>Chair: Namyong Kim</i>
	Bio-MEMS and Microbioreactors / Medical and Biological Devices Biomimetic and Self-Assembled Materials Cell and Tissue Engineering Biosensors and Molecular Diagnostics Biological and Biomedical Imaging

(Cont'd)

Time	Program
<p><b>2:15pm to 4:00pm</b></p> <p>2:15pm to 2:45pm</p> <p>2:45pm to 3:00pm</p> <p>3:00pm to 3:15pm</p> <p>3:15pm to 3:45pm</p> <p>3:45pm to 4:00pm</p>	<p><b>Cell and Tissue Engineering II</b> <i>Chairs: Rachel Kraut and Zhuo Lang</i></p> <p>Effects of Scaffold Stiffness and Degradation Rate on Tissue Engineering <i>Invited Speaker: Myron Spector, Harvard Medical School</i></p> <p>Investigation of Chemical Cues Involved in Corneal Regeneration Using a Membrane-based Microfluidic Gradient Generator <i>Winnette McIntosh Ambrose, Johns Hopkins University</i></p> <p>Presentation of Biological Signals for Tissue Engineering <i>Andrew C. A. Wan, Institute of Bioengineering and Nanotechnology</i></p> <p>Delivering Biochemical and Topographical Cues by Continuous Nanostructures <i>Invited Speaker: Kam W. Leong, Duke University</i></p> <p>A Sphingolipid-Binding Fluorescent Probe Traces Specific Membrane Microdomain-Derived Trafficking Pathways in Living Cells <i>Rachel Kraut, Institute of Bioengineering and Nanotechnology</i></p>
<p><b>4:00pm to 4:30pm</b></p>	<p><b>Coffee/Tea Break</b></p>
<p><b>4:30pm to 5:30pm</b></p> <p>4:30pm to 5:00pm</p> <p>5:00pm to 5:15pm</p> <p>5:15pm to 5:30pm</p>	<p><b>Biosensors and Molecular Diagnostics</b> <i>Chair: Zhiqiang Gao</i></p> <p>Emerging Application of Magnetic Tweezers: From Single Molecules to High-Throughput Screening <i>Invited Speaker: Gil U. Lee, Purdue University</i></p> <p>Polyethylenedioxythiophene (PEDOT) Nanobiointerfaces <i>Hsiao-hua (Bruce) Yu, Institute of Bioengineering and Nanotechnology</i></p> <p>3-D Micro- and Nanostructures for Proteomics <i>Andreas M. Binkert, ETH Zürich</i></p>
<p><b>5:30pm to 5:40pm</b></p>	<p><b>Closing Address by ICBN 2007 Conference Chair</b> <i>Jackie Y. Ying</i></p>