

ICBN Conference Program

Tuesday, September 5 – Supramolecular and Self-Assembly

Morning	Buses will be provided from the Fess Parker DoubleTree Resort at 7:40am and 8:30am to the University of California, Santa Barbara	
8:00-9:00	BREAKFAST	Corwin Pavilion at the University Center, UCSB at the University Center
	<i>Session Chair: Matthew Tirrell</i>	
9:00 – 9:10	Welcome	Matthew Tirrell and Gil Lee
9:10 – 9:50	Angela Belcher	Genetic Control of the Synthesis and Assembly of Materials for Electronics and Energy
9:50 – 10:30	Erkki Ruoslahti	Vascular Zip Codes in Nanoparticle Targeting
10:30 – 10:45	BREAK	Corwin Pavilion at the University Center
	<i>Session Chair: Craig Hawker</i>	
10:45 – 11:25	Karen Wooley	The Development of Shell Crosslinked Nanoparticles for Biomedical Applications <i>in vivo</i>
11:25 – 11:40	Mark Borden	Engineering the Microbubble Shell for Molecular Imaging and Targeted Drug Delivery
11:40 – 11:55	Praveen Kumar Vemula	Smart Amphiphiles: Hydro/Organogelators for In Situ Reduction of Gold
11:55 – 12:10	Rutledge Ellis-Behnke	Nano Neuro Knitting: Peptide Nanofiber Scaffold for Brain Repair and Axon Regeneration with Functional Return of Vision
	LUNCH	Storke Plaza
12:10-1:30	POSTER SESSION	Lagoon Plaza
	<i>Session Chair: Daniel Morse</i>	
1:30 – 2:10	Annelise Barron	Helical, Self-Assembling Peptoid Analogs of Antimicrobial Peptides
2:10 – 2:50	Peidong Yang	Inorganic Nanotubes, Nanofluidic Transistors and DNA Translocation
2:50 – 3:05	Debra Auguste	Ph-triggered, Polymer-coated Liposomes for RNAi Delivery
3:05 – 3:20	Stephanie Bryant	Chondrocyte Metabolism and Nitric Oxide Production in Mechanically Stimulated PEG Hydrogel Constructs
3:20 – 3:35	Noah Malmstadt	Lipid Bilayer Membrane Fabrication by Solvent Extraction in a Microfluidic Channel
3:35 – 3:50	BREAK	Corwin Pavilion at the University Center
	<i>Session Chair: Samir Mitragotri</i>	
3:50 – 4:05	Maria Hassou	Nanocapsules's modeling: Diffusion Induced Phase Separation
4:05 – 4:15	Anand Asthagiri	Molecular and Cellular Crosstalk Underpinning Multicellular Pattern Formation
4:15 – 4:30	Cecil Malardier-Jugroot	Dynamics of Surface Water Molecules Around Hydrophilic and Hydrophobic Parts of a Model Protein
4:30 – 4:45	Marcus Niebert	Controlled Assembly of Virus-like Particles Allows Incorporation of Gold Nanoparticles for Formation of Hybrid
4:45 – 5:00	Michael Heller	Rapid Parallel Directed Assembly of 100 Layer BioNanoparticle Structures Using an Electronic Array Device
5:00 – 5:15	Kerem Unal	Molecular Sorting And Delivery by AFM
5:15 – 5:30	Gregory Rorrer	Two-Stage Diatom Cell Culture for the Fabrication of Optoelectronic Materials Ordered at the Submicron and Nanoscale
5:30 – 5:45	Rudolph Magyar	Magnetism in Gold Nano-Clusters
5:45 – 6:00	Scott Grayson	The Synthesis of Amphiphilic Polymer Nanoparticles for Drug Delivery Applications
6:00 – 7:30	Evening Reception	Storke Plaza
	Buses will be provided back to the Fess Parker DoubleTree Resort following the reception	

Wednesday, September 6 -- Nanotechnology

Morning	Buses will be provided from the Fess Parker DoubleTree Resort at 7:40am and 8:30am to the University of California, Santa Barbara	
8:00-9:00	BREAKFAST	Corwin Pavilion at the University Center, UCSB, University Center
	<i>Session Chair: Gil Lee</i>	
9:00 – 9:40	Suzi Jarvis	Nanoscale Mechanical Characterisation of Amyloid Fibrils Discovered in Natural Adhesives
9:40 – 10:20	Carlos Bustamante	Direct Observation of the Tree-state Folding of Single Molecules of RNase H Using Optical Tweezers
10:20 – 10:35	BREAK	Corwin Pavilion at the University Center
	<i>Session Chair: Jackie Ying</i>	
10:35 – 11:15	Carlo D. Montemagno	Engineering and Fabricating a Hybrid Biotic/Abiotic Biological Computer
11:15 – 11:30	Jackie Ying	Nanostructure Processing of Advanced Biomaterials
11:30 – 11:45	Rajesh Naik	Biologically Programmed Synthesis and Assembly of Hybrid Nanomaterials
11:45 – 12:00	V. Jo Davissou	Drug Mediated Delivery of Coated Nanoparticles
	LUNCH	Storke Plaza
12:10-1:30	POSTER SESSION	Lagoon Plaza
	<i>Session Chair: Evelyn Hu</i>	
1:30 – 2:10	Christopher B. Murray	Magnetic Nanocrystals and Semiconductor Quantum Dots as Building Blocks for Bio-tags and Devices
2:10 – 2:50	Morinobu Endo	Bio/Medical Application of Carbon Nanotubes based on their Systematic Biological Evaluation
2:50 – 3:05	BREAK	Corwin Pavilion at the University Center
	<i>Session Chair: Arup Chakraborty</i>	
3:05 – 3:45	Jong-Duk Kim	Self-Assembled Nanoparticles for Effective Intracellular Delivery and Tumor Targeting
3:45 – 4:00	Alireza Sarvestani	The Role of Polymer-surface Interactions on the Viscoelastic Properties of the Polymer-based Nanocomposites
4:00 – 4:15	Bruce Hinds	Aligned Carbon Nanotube Membranes for Transdermal Nicotine Delivery
4:15 – 4:30	Marco Mena	Engineering of Blue Fluorescent Protein by Coupling Computational Design and Combinatorial Screening
4:30 – 5:00	Mattheos Koffas	Metabolic Engineering of Flavonoid Biosynthesis in Microorganisms
4:45 – 5:00	Claudiu Giurumescu	Intercellular Crosstalk Potentiates Cell Fate Patterning During Development
5:00 – 10:00	Evening Reception and Dinner	Fess Parker DoubleTree, Santa Barbara
	Buses will be provided to and from the Fess Parker DoubleTree Resort	

ICBN Conference Program (Continued)

Thursday, September 7 -- Bioengineering

Morning	Buses will be provided from the Fess Parker DoubleTree Resort at 7:40am and 8:30am to the University of California, Santa Barbara	
8:00-9:00	BREAKFAST	Corwin Pavilion at the University Center, UCSB, University Center
	<i>Session Chair: Raymond Tu</i>	
9:00 – 9:40	Arup Chakraborty	How T Cells “See” Antigen
9:40 – 10:20	Daniel Hammer	Multifunctional Polymer Vesicles
10:20 – 10:35	BREAK	Corwin Pavilion at the University Center
	<i>Session Chair: Carlo Montemagno</i>	
10:35 – 11:15	Janos Vörös	Nanopatterned Interfaces with Electronic Control for Bioengineering
11:15 – 11:55	H.T. (Tom) Soh	High Throughput Cell Sorting in Microfluidic Systems
11:55-12:10	Matthew Tirrell	Worm-Like Micelle Formation in Peptide Amphiphiles Driven by Helix-Sheet Transition of the Headgroups
	Lunch	Storke Plaza
12:10-1:30	Poster Session	Lagoon Plaza
	<i>Session Chair: Jacob Israelachvili</i>	
1:30 – 2:10	Joachim Spatz	Molecular Engineering of Cellular Environments: Cell Adhesion to Nano-Digital Surfaces
2:10 – 2:50	Deborah Leckband	Chemistry of Biological Adhesion
2:50 – 3:05	BREAK	Corwin Pavilion at the University Center at the University Center
	<i>Session Chair: Anand Asthagiri</i>	
3:05 – 3:20	Yiannis N. Kaznessis	Mathematics of Biomolecular Engineering
3:20 – 3:35	Nicholas Graham	Parsing the Crosstalk between Prominent Oncogenic Signaling Pathways
3:35 – 3:50	Richard Long	Transient Dynamics of a Four State Actomyosin Model for Muscle Contraction with Comparison to Macro Scale Dynamic Results
3:50 – 4:05	Ravi Radhakrishnan	Ubiquitous Coupling of Fast and Slow Dynamical Modes in Biomolecular Dynamics: Implications for Enzyme Catalysis
4:05 – 4:20	Chistina Othon	In Vitro Directed Growth of Rat Cortical Cells via Printed 3D Patterns of Olfactory Ensheathing Cells
4:20 – 4:35	Cagri Savran	Signal Enhancement in Label-free Biosensors Using Aptazymes
4:35 – 4:50	Ralu Divan	A Sensitive Viral Pathogen Screening Assay Based on Fluorescence Correlation Spectroscopy and Microfabricated Structures
4:50 – 5:05	Ashutosh Shastri	Droplet Microfluidics on Textured Surfaces
5:05 -- 5:20	Daniel Burkey	Fabrication and Characterization of Flourinated Polymeric Surfaces via Chemical Vapor Deposition for Bacterial Adhesion in a Whole Cell Biosensor
5:20 -- 5:35	Y. Y. Yang	Novel Chitosan-Based Non-Viral Vectors for Gene Delivery
5:35 -- 5:50	Hsiao-hua (Bruce) Yu	Nanomaterials for Luminescent and Electrochemical Biosensors
5:50 – 6:00	Closing Comments	Matthew Tirrell and Gil Lee
	Buses will be provided to the Fess Parker DoubleTree Resort following the end of the program	