Session 42 - Nanoscale Systems II: Frontiers in Nanoscience and Technology (invited talks)
Chair: Lev Gelb
Vice Chair: Janna K Maranas

Session 47 - Molecular Modeling Methods I: Recent advances in Molecular Dynamics
Chair: Jonathan Moore
Vice Chair: Jeffrey R Errington

47h Replica Exchange Molecular Dynamics Modeling of Foldamers
Bamidele Adisa, David Bruce and Jay McAliley

Session 48 - Nanoscale Systems I: Water in Heterogeneous Environments
Chair: Bernhardt L Trout
Vice Chair: J. Ilja Siepmann

48a Molecular Dynamics Simulation of Methane Hydrate Dissociation
Niall J. English

48e Pressure Denaturation of Proteins in Water: Revisiting a Heteropolymer Collapse Model
Pooja Shah, Thomas M. Truskett

Session 53 - Molecular Modeling Methods III: Developments in intermolecular potential models
Chair: Marcus Martin
Vice Chair: Matthew Neurock

53e Transferable Step Potentials for Amines, Primary Amides, Ketones, Thiophenes, Phosphates, and Chlorinated Hydrocarbons

Session 59 - Advances in Biomaterials, Bionanotechnology, Biomimetic Systems and Tissue Engineering: Plenary Session I *
Chair: Nicholas A Peppas
Vice Chair: Angela K Dillow

Session 60 - Advances in Biomaterials, Bionanotechnology, Biomimetic Systems and Tissue Engineering: Plenary Session II *
Chair: Christine E Schmidt
Vice Chair: Angela K Dillow

Session 62 - Intracellular Trafficking of Biomaterials/Bionanotech Devices
Chair: Justin Hanes
Vice Chair: Julia Babensee

62d Real-time Correlation of Intracellular Gene Vector Transport Rates with Biological Location in Live Mesenchymal Stem Cells
J. Suh, Y. An, B. Tang, J.S. Suk and J. Hanes

62e Cellular Uptake and Intracellular Transport of Viral and Non-viral Gene Vectors in Differentiated Neurons Affected in Parkinson's Disease
J.S. Suk, J. Suh and J. Hanes
Session 64 - Nanotechnology for Drug Delivery and Imaging  
Chair: Lisa Brannon-Peppas  
Vice Chair: Samir Mitragotri

64d Tracking the Intracellular Path of Fluorescently Labeled DNA Delivered by PEI Nanocomplexes in Live Cells  
Y. An, J. Suh and J. Hanes

64g Paclitaxel-loaded biodegradable nanoparticles developed by direct dialysis and electrospray atomization methods  
Jingwei Xie and Chi-Hwa Wang

Session 65 - Nanostructured Biomaterials  
Chair: Jeffrey D Carbeck  
Vice Chair: Krishnendu Roy

65e Carbohydrate-Centered PAMAM Dendrimers for Growing Liver Cells  
Jeremy D. Lease and Tong Yen Wah

65f More Efficient Capture of Bacteria on Nanophase Materials  
Z. Zhong, and Margaret K. Banks and Thomas J. Webster

Session 66 - Nanofabrication of Biosensing Devices  
Chair: Mark E Byrne  
Vice Chair: J. Zach Hilt

66b A Rapid Antigen Detection Assay Using Photografted Whole Antibodies  
Sebra, R.P., Masters, K.S., Bowman, C.N., Anseth, K.S.

66d Biomimetic Polymers in Drug Delivery and Sensing Applications: Effect of Network Molecular Structure on Recognition Properties  
J. Zach Hilt, Nicholas A. Peppas and Mark E. Byrne

Session 67 - Bionanotechnology in Cancer and Cardiovascular Disease  
Chair: Justin Hanes  
Vice Chair: Douglas J Goetz

67g A new mutation affecting the ATP pocket of kit receptor in patients with GIST showing acquired resistance to Imatinib: a coupled experimental and modeling investigation  
S. Pricl, A. Coslanich, M. Fermeglia, M. Ferrone, M.S. Paneni, E. Tamborini, S. Pilotti, M.A. Pierotti

Session 70 - Advances in Biomaterials, Bionanotechnology, Biomimetic Systems and Tissue Engineering: Tutorial Session I  
Chair: Surya K Mallapragada  
Vice Chair: Christopher S Brazel

70a Manipulating Cellular Response Through Polymer Chemistry and Morphology  
Molly S. Shoichet, Paul Dalton, Jeffrey M. Karp, Ying Luo and Tina Yu

70d Theory and Applications of Intelligent Biomaterials  
Nicholas A Peppas

Session 73 - Advances in Biomaterials, Bionanotechnology, Biomimetic Systems and Tissue Engineering: Tutorial Session II  
Chair: Antonios G Mikos  
Vice Chair: Thomas J Webster

73a The future of intelligent therapeutics  
Nicholas A Peppas, Nicole M Bergmann and E. Hunter Lauten
Session 76 - Nanotechnology in Bioengineering
Chair: Christina Chan
Vice Chair: Krishnendu Roy

76c Functionalized ZnSe Quantum Dots as Luminescent Tags in High-Throughput Biological Assays
Jun Wang, Stelios Andreadis and T.J. Mountziaris

76e Self-assembly of Pure Nanotubes from a Single-Chain Diacetylene Amine Salt
Sang Beom Lee, Richard Koepsel, Donna B. Stolz, Heidi E. Warriner and Alan J. Russell

76f Selective Primary Hepatocyte Adhesion on Polyelectrolyte Multilayer: Template for Patterned Cell Co-Culture
Srivatsan Kidambi, Ilsoon Lee, Christina Chan

76g Towards Single-Walled Carbon Nanotubes as an Integrated Component of Conductive Biomaterials: The Effect of Production Contaminants on in vitro Cell Viability and Metabolic Activity
Aditya Nimmagadda and Peter S. McFetridge

Session 80 - Biological Materials for Patterning and Assembly of Nanomaterials
Chair: J. Zach Hilt
Vice Chair: Mark E Byrne

80b Topography of self-assembled zein structures on hydrophilic and hydrophobic surfaces
Qin Wang and Graciela W. Padua

80c E. coli Biosynthesis of Cadmium Sulfide Nanocrystals
Rozamond Y. Sweeney, Chuanbin Mao, Angela M. Belcher, Brent L. Iverson and George Georgiou

Session 81 - Nanotechnology for the Development of Biomaterials, SAMs, Wires and Nanotubes
Chair: Thomas J Webser
Vice Chair: Balaji Narasimhan

81a Osteoblasts Alignment on Nanophase Materials
Dongwoo Khang and Thomas J. Webster

81b Inverted Colloidal Crystals as Tissue Engineering Scaffolds
Jungwoo Lee and Nicholas Kotov

81f Self-assembly of phage semiconductor nanowires
Rozamond Y. Sweeney, Angela M. Belcher, Brent L. Iverson and George Georgiou

81g CdTe and Au quantum-dot bioconjugated super-molecules: light emission and energy transport
Jaebeom Lee, Alexander O. Govorov, John Dulka and Nicholas A. Kotov

Session 154 - Thermodynamics on the Nanoscale I *
Chair: Mikhail A Anisimov
Vice Chair: Hank Ashbaugh

Session 157 - Thermodynamics on the Nanoscale II *
Chair: Hank Ashbaugh
Vice Chair: Mikhail A Anisimov

Session 171 - Nanoparticle Synthesis and Stabilization I
Chair: Darrell Velegol
Vice Chair: Nickolas Kotov

171a Facile Synthesis and Colloidal Stabilization of Metal Nanoparticles in Aqueous Amphiphilic Block Copolymer Solutions
Toshio Sakai and Paschalis Alexandridis
Session 174 - Nanoparticle Synthesis and Stabilization II *
Chair: Darrell Velegol
Vice Chair: Nickolas Kotov

Session 176 - Applications of Nanostructured Fluids
Chair: Raj Wallajapet
Vice Chair: Paschalis Alexandridis

176g Removal of Arsenic from Water Using Amphiphilic Molecules and Ultrafiltration Membranes
Erdogan Ergican and Hatice Gecol

Session 197 - Current Trends in Nanoscience in Chemical Engineering: Making the Transition From Materials and Phenomena to New Technologies
Chair: Brian A Korgel
Vice Chair: Lynn Loo

197g Batch and continuous hydrothermal synthesis of LiFePO4 micro- and nanoparticles
Jaewon Lee, Chunbao Xu and Amyn S. Teja

Session 201 - Transport Processes in Nanophase and Nanoscale Systems *
Chair: Marc-Olivier Coppens
Vice Chair: Joel Plawsky

Session 281 - Nano Energetic Materials
Chair: Jan A Puszynski
Vice Chair: Hendrik J Viljoen

281b Effect of Aluminum Nanopowder Characteristics on Preparation and Performance of Al-Metal Oxide Nanoenergetic Mixtures
Christopher J Bulian, Tyler T Kerr, Jacek J Swiatkiewicz, Jan A Puszynski

281d A Study in Mechano-Chemistry: Pressure Induced Reactions and Nonequilibrium Phenomenon
Alexander Gordopolov, Hendrik J. Viljoen

281e In-Situ Polymer Grafting on Ultrafine Metal Powders
Charles DUBOIS, Patrick BROUSSEAU, Cedric ROY, Pierre LAFLEUR

281f Nanofuel/Oxidizers For Energetic Compositions
Randall J. Cramer

Session 286 - Gas Phase Synthesis of Nano-particles I
Chair: George Fotou
Vice Chair: Karsten Wegner

286f Generation of Aluminum Nanoparticles Using an Atmospheric Pressure Plasma Torch

Session 290 - Multicomponent Structured Particles
Chair: Sotiris Pratsinis
Vice Chair: George Fotou

290b Radiopaque flame-made Ta2O5/SiO2 nanoparticles with controlled refractive index and transparency
Heiko Schulza (speaker), Lutz Mädlera, Sotiris E. Pratsinisa, Peter Burtscherb, Norbert Mosznerb

290c Fluidization Behavior and Conformal Coating of Nanoparticles in Fluidized Beds by ALD
Luis F. Hakim, Julie L. Portman, Michelle D. Casper, Alan W. Weimer
Session 291 - Gas Phase Synthesis of Nano-particles II
Chair: George Fotou
Vice Chair: Karsten Wegner

291e Formation of Nanoparticles in Flames Measurement by Particle Mass Spectrometry and Numerical Simulation
H.-R. Paur, H. Mätzing, H. Seifert

291g Effect of Annealing on the Mechanical Properties of Porous Titania Nanoparticle Agglomerate Films
O. A. Ogunsola, S. H. Ehrman

Session 360 - Nanoparticle Assemblies and Superlattices *
Chair: Yangchuan Xing
Vice Chair: Michael Z Hu

Session 365 - Liquid-Phase Synthesis of Nanoparticles *
Chair: Michael T Harris
Vice Chair: Michael S Wong

Session 430 - Operation of Micro-and Nano-systems
Chair: Vipin Gopal
Vice Chair: Claire Adjiman

430b Optimal Design and Operation of Micro Power Generation Processes
Benoit Chachuat, Alexander Mitsos and Paul I. Barton

430d Thermo-fluid Design Approach to Microreactors with Uniform Temperature and Residence Time Distribution
Osamu Tonomura, Masaru Noda, Manabu Kano and Shinji Hasebe

430g Evaluation of operational process parameters for nanoparticle precipitation in microemulsions using a Monte-Carlo Simulation approach
Andreas Voigt, Dendy Adityawarman and Kai Sundmacher

Session 558 - Synthesis and Characterization of Nanostructured Catalytic Materials: Experiment and Simulation
Chair: Christopher T Williams
Vice Chair: Alexander Katz

558g Preparation of High Surface Area VOHPO4·0.5H2O with the Alkoxide Method
Juan M. Salazar, Keith L. Hohn

Session 566 - Nanoscale Science and Engineering Plenary Lectures I
Chair: Sharon C Glotzer
Vice Chair: Michael S Strano

566a Nanotechnology for the Enhancement of Human Health
James R. Baker, Jr. M.D.

566b Virus-Based Genetic Toolkit for the Directed Synthesis of Magnetic and Semiconducting Nanowires
Angela M. Belcher, Chuanbin Mao, Daniel J. Solis, Brian D. Reiss, Stephen T. Kottmann, Rozamond Y. Sweeney, George Georgiou, Brent Iverson

566c Functionalization of Carbon Nanotubes
James M. Tour

566d Evolution of Bio-assisted Molecular Electronics In Dupont
Timothy Gierke
Session 567 - Nanoscale Science and Engineering Plenary Lectures II: The National Nanotechnology Initiative *
Chair: Peter T Cummings
Vice Chair: Gil U Lee

Session 568 - Nanotechnology for Biotechnology and Pharmaceuticals Industries
Chair: Henry Y Wang
Vice Chair: Shuichi Takayama

568f Highly Stable Core-Surface-Crosslinked Micelles as Drug Carriers for Cancer Chemotherapy

Session 569 - Nanofabrication and Nanoscale Processing I
Chair: Hank Foley
Vice Chair: Sharon C Glotzer

569a Fluidic Self-Assembly of Nanowires
Zhiyong Gu, Yiming Chen, David H. Gracias

Session 570 - Nanostructured Hybrid Organic/Inorganic Materials *
Chair: Sharon C Glotzer
Vice Chair: Clare McCabe

Session 571 - Issues in Carbon Nanotubes I: Synthesis of Carbon Nanotubes and Nanotube-based Materials
Chair: Daniel E Resasco
Vice Chair: Michael S Strano

571f Synthesis, Characterization and Stability of Fe-MCM-41 for Production of Carbon Nanotubes by Acetylene Pyrolysis
Placidus Amama, Sangyun Lim, Dragos Ciuparu, Yanhui Yang, Lisa Pfefferle, Gary Haller

Session 572 - Nanofabrication and Nanoscale Processing II
Chair: Hank Foley
Vice Chair: Sharon C Glotzer

572b Sub-50 nm Imprint Lithography for Wafer-Scale Nano-Manufacturing

572f Conductive Copper Patterns by an Additive, Solventless, Contact Printing Technique
Kimberly Felmet, Yangming Sun, Yueh-Lin Loo

Session 573 - Issues in Carbon Nanotubes II: Characterization, Functionalization and Applications *
Chair: Michael S Strano
Vice Chair: Karl Johnson

Session 574 - Nanoscale Structure in Polymers I: Self-organization of Polymers at Surfaces and Interfaces *
Chair: Carson Meredith
Vice Chair: Sanat Kumar

Session 575 - Self and Directed Assembly at the Nanoscale I *
Chair: Hank Ashbaugh
Vice Chair: Kristen A Fichthorn
Session 576 - Issues in Carbon Nanotubes III: Adsorption and Transport
Chair: Karl Johnson
Vice Chair: Daniel E Resasco

576h Characterization of Single-Walled Carbon Nanotubes for Environmental Implications
Sandeep Agnihotri, Massoud Rostam-Abadi, Mark. J. Rood

Session 577 - Nanoscale Structure in Polymers II: Nanostructured Polymeric Materials
Chair: Rangaramanujam M Kannan
Vice Chair: Yossef A Elabd

577b Texture Formation in Multiphase Polymer-Liquid Crystal Materials
Susanta K. Das, Alejandro D. Rey

577f Preparation of Poly(vinyl alcohol)/TiO2 Nanofibers by Electrospinning
Yu-Hsun Nien, Po-Jung Lin, Lih-Yun Wu, Tzy-Harn Liou, Pey -l Wey

Session 578 - Poster Session: Nanoscale Science and Engineering
Chair: Sharon C Glotzer
Vice Chair: Daniel C Coy

578ai Patterned films of ITO nanoparticles fabricated by Ink-jet method
Kaori Eguchi, Hideshi Sasakura and Yukio Yamaguchi

578aq Melting and Structural Evolution of Palladium and Graphite-supported Palladium Nanoclusters: A Molecular Dynamics Simulation Study
Ling Miao, Venkat R. Bhethanabotla and Babu Joseph

578b Computer simulation of polymer-organoclay nanocomposites for packaging applications: from binding energy to interlayer spacing predictions
S. Pricl, A. Coslanich, M. Fermeglia, M. Ferrone, M.S. Paneni, G. Scocchi, L. Incarnato and G. Russo

578c Molecular modeling of hydrogen storage in carbon nanotubes: a combined molecular dynamics/ab initio orbital study
S. Pricl, A. Coslanich, M. Fermeglia, M. Ferrone, M.S. Paneni and F. Romanel

578g Selective growth of RuO2 nanorods and influence of thermal heating on their field emission properties
Dah-Shyang Tsai, Chih-Sung Hsieh and Ginny Wang

578k Composite Nanoparticles for Defectivity Reduction during CMP
Silvia Armini, Valentina Terzieva and Karen Maex

578s Surface modification of titania nanoparticles by an evaporation-condensation process in a flow chamber
Seonmin Kim and Sheryl Ehrman

Session 579 - Nanoelectronic Materials
Chair: Brett A Cruden
Vice Chair: Michael Z Hu

579b Understanding the Assembly of Conjugated Dithiol Molecules on GaAs
Dmitry Krapchetov, Hong Ma, Daniel A. Fischer, Alex Jen and Yueh-Lin (Lynn) Loo

Session 580 - Nanoscale Structure in Polymers III: Polymer Nanocomposites
Chair: Robb M Winter
Vice Chair: Russell E Gorga

580d Nucleation Effects of Nanoparticles on Microcellular Polystyrene Foams
Jiong Shen, Changchun Zeng and L. James Lee
Session 581 - Self and Directed Assembly at the Nanoscale II
Chair: Hank Ashbaugh
Vice Chair: Kristen A Fichthorn

581f Equilibrium Microstructure of Complex Fluids
YoChan Kim, Charles A. Petty and André Bénard

Session 582 - Issues in Carbon Nanotubes IV
Chair: Daniel E Resasco
Vice Chair: Michael S Strano

582g Direct Synthesis of Carbon Nanotubes on Organic Polymer Substrates
Eun-Hwa Hong, Beom-Jin Yoon, Dae-Sup Shim and Kun-Hong Lee

Session 583 - Nanotechnology and Nanobiotechnology for Sensors I *
Chair: Mark W Vaughn
Vice Chair: Venkat R Bhethanabotia

Session 584 - Self and Directed Assembly at the Nanoscale III
Chair: Hank Ashbaugh
Vice Chair: Kristen A Fichthorn

584f Permanently Linked Rigid Superparamagnetic Chains
Harpreet Singh, Paul E. Laibinis and T. Alan Hatton

Session 585 - Issues in Carbon Nanotubes V *
Chair: Karl Johnson
Vice Chair: Daniel E Resasco

Session 586 - Nanoscale Structure in Polymers IV *
Chair: Carson Meredith
Vice Chair: Sanat Kumar

Session 587 - Nanomaterials and Devices for Energy Applications
Chair: Levi T Thompson
Vice Chair: Hank Foley

587b Hydrogen Production from Simulated Gasoline using Nickel-Based Catalysts
Andrew Tadd, Ben Gould and Johannes Schwank

Session 589 - Nanoscale Structure in Polymers V
Chair: Rangaramanujam M Kannan
Vice Chair: Yossef A Elabd

589d Molecular dynamics simulation of thermal and mechanical properties of polyimide-carbon-nanotube composites
Dewei Qi and Jeffrey Hinkley

Session 590 - Synthesis of Nanostructured Hybrid Organic/Inorganic Materials
Chair: Sharon C Glotzer
Vice Chair:

590d Self-Organization of Monolayer of Polystyrene Spheres Assisted with Silica Nanoparticles by Wet Coating
Hideshi Sasakura, Masahiro Fujita and Yukio Yamaguchi

590f Continuous hydrothermal synthesis of polymer-coated Fe2O3 and CoFe2O4 nanoparticles
Chunbao Xu and Amyn S. Teja
Session 591 - Carbon Nanotubes VI
Chair: Daniel E Resasco
Vice Chair: Michael S Strano

591a Carbon Nanotubes As A Premium Catalyst Support Material
Jun Ma

Session 592 - Self-assembly of Templated Inorganic Materials I *
Chair: Michael S Wong
Vice Chair: Hugh W Hillhouse

Session 593 - Nanowires I
Chair: Mahendra K Sunkara
Vice Chair: Eray S Aydil

593f Direct synthesis, characterization and modification of SiC nanowires
Kijung Yong, Yonghwan Ryu and Youngjo Tak

593g Bioconjugation between CdTe nanowires and Au nanoparticles: Fluorescence enhancement
J. B. Lee, A. O. Govorov, J. Dulka and N. A. Kotov

Session 594 - Nanotribology
Chair: Peter T Cummings
Vice Chair: Shaoyi Jiang

594f Lateral Force Microscopy Study of the Friction between Silica Surfaces in Electrolyte Solutions
Bogdan C. Donose, Ivan U. Vakarelski and Ko Higashitani

Session 595 - Manipulation of Nanophases by External Fields
Chair: Michael T Harris
Vice Chair: Michael Z Hu

595h Small-Scale Pattern Size Control during Metal Electropolishing
Weidong Guo and Duane T. Johnson

Session 596 - Nanobiotechnology
Chair: Nicholas A Peppas
Vice Chair: Joerg Lahann

596b A Microfluidic Chip for Bio-Bar-Code-Based Detection of Proteins
Edgar D. Goluch, Jwa-Min Nam, Thomas N. Chiesl, Kashan A. Shaikh, Kee Suk Ryu, Annelise E. Barron, Chad A. Mirkin, and Chang Liu

Session 597 - Nanotemplating of Polymers
Chair: Seong H Kim
Vice Chair: Allan Guymon

597b Nano-templated Silsesquioxanes for Electrical/Optical Applications
Sue Ann Bidstrup Allen, Jaseem Abdallah and Paul A. Kohl

597e Monitoring sintering of nanoparticle clusters by X-ray microtomography
O Gundogdua, U Tuzuna and P M Jennesonb

597f Intermediate Processing of Polymer-Silica Hybrid Nanoparticles using X-ray Microtomography
U Tüzün, O Gundogdu, P M Jenneson

Session 598 - Self-assembly of Templated Inorganic Materials II *
Chair: Michael S Wong
Vice Chair: Hugh W Hillhouse
Session 599 - Nanowires II
Chair: Mahendra K Sunkara
Vice Chair: Eray S Aydil

599a  Metal Cluster Deposition on Genetically Engineered Tobacco Mosaic Virus Biotemplates
      Sang-Yup Lee, Elizabeth Royston, Jaewon Choi, David B. Janes, James N. Culver, and Michael T. Harris

599b  A Novel Route to Fabricate Au-Te Nanocables
      Jie-Ren Ku, Ruxandra Vidu, Raisa Talroze and Pieter Stroeve

599d  Molecular Dynamics Simulations for Melting of Palladium Nanoclusters and Nanowires
      Ling Miao, Venkat R. Bhethanabotla T and Babu Joseph

599g  Synthesis and Characterization of Titania Nanostructures
      P. Katta, L. Khatri, R.D. Ramsier and G.G. Chase

* These papers were unavailable at the time of publication.