Sunday, June 14, 2009

Sunday, June 14, 2009
6:00 PM - 8:00 PM
Welcome Reception

Monday, June 15, 2009

Monday, June 15, 2009
8:00 AM - 9:10 AM
Plenary Lecture

Monday, June 15, 2009
9:10 AM - 9:30 AM
Coffee Break

Monday, June 15, 2009
9:30 AM - 12:15 PM
Biocolloids for Imaging and Drug Delivery I: Nanoparticles

Organizers: Mark Borden, PhD, Columbia University, Steven P. Wrenn, Drexel University

Session Overview: This session will cover the design, production and characterization of nanoparticles used for imaging and drug delivery.

9:30	Next Generation Nano Carriers for Multifunctional Drug Delivery, Imaging, And Targeting- How Do We Make Them?. **Robert K. Prud'homme**, Princeton University
10:00	Pharmaceutical Nanomaterials; Novel Delivery Systems for Sensitive Bio-Materials. **J. C. Mitchell, Professor** and M. J. Snowden, Professor, University of Greenwich
10:20	Multi-Functional Nanoparticle-Based Targeted Drug Delivery for Brain Cancer. **Ki-Bum Lee**, Jongjin Jung, Prasad Subramaniam, Shreyas Shah, Vladimir Lokshin, Kevin Memoli, Hiyun Kim and Lawrence J. Williams, Rutgers, The State University of New Jersey
10:40	Nanocolloids for Drug Delivery and Imaging. **Keith P. Johnston**[1], M. Andrea Miller[1], Li Leo Ma[1], Jasmine M. Tam[1], Avi Murthy[1], Justina Tam[1], Robert O. Williams[1], Konstantin Sokolov[1], Thomas E. Milner[1] and Marc D. Feldman[2], (1)University of Texas, (2)University of Texas Health Sciences Center San Antonio
11:00	Multimodal Nanoparticles for Noninvasive Bio-Imaging. **Parvesh Sharma**[1], Scott C. Brown[1], Amit Singh[1], Niclas Bengtsson[1], Edward W. Scott[1], Glenn A. Walter[1], Stephen R. Grobmyer[1], Qizhi Zhang[1], Huabei Jiang[1], Swadeshmukul Santra[2] and Brij M. Moudgil[1], (1)University of Florida, (2)University of Central Florida
11:20	Composite Nanoparticles Containing Upconverting Phosphors for Photodynamic Therapy. **Stephanie J. Budijono** and Robert K. Prud'homme, Princeton University
11:40	Formation of Magnetite Clusters Using a Multi-Inlet Vortex Mixer. **Raquel Mejia-Ariza**, Oguzhan Celebi, William C. Miles, John Boyd, J.S. Riffle and Richey Davis, Virginia Tech

12:00 Synthesis of Calcium Carbonate Nanoparticles in the Presence of Proteins as Stabilizing and Functionalizing Agents. **Herley Casanova, Dr**, Lina Paola Higuita and Julie Benavides, University of Antioquia

Monday, June 15, 2009
9:30 AM - 11:40 AM
Biomineralization I

Organizers: George Nancollas, University of Buffalo, John H. Harding, University of Sheffield

9:30 Biomineralization-Demineralization-Remineralization Phenomena and Modern Strategies for the Isolation of Organic Matrices. **Hermann Ehrlich**, Dresden University of Technology

10:00 Biological Controls in Biomineralization. **Ruikang Tang**, Xurong Xu and Haihua Pan, Zhejiang University

10:20 The Organization of Hierarchical Calcium Phosphate Microstructures by Amelogenin. **George Nancollas**[1], Xiudong Yang[1] and Lijun Wang[2], (1)University of Buffalo, (2)Lawrence Berkeley National Laboratory

10:40 DMP1 An Acidic Macromolecule Can Regulate Biomineralization Process. **Anne George, Dr**, University of Illinois at Chicago

11:00 Identification of Crystal-Binding Sequences In Osteopontin. **Graeme K. Hunter, Ph.D.**, Jason O'Young, Paul V. Azzopardi, Bernd Grohe, Mikko Karttunen, Ph.D. and Harvey A. Goldberg, University of Western Ontario

11:20 X-Ray Micrcoscopy Studies of the Influence of Statherin and Related Salivary Peptides On Hydroxyapatite and Enamel De- and Remineralisation. Paul W Grosvenor, Mark P Hector, R.A.D. Williams, Jelena Kosoric, Graham Davis, Janet Davies and **Paul Anderson**, Queen Mary, Univeristy of London

Monday, June 15, 2009
9:30 AM - 12:30 PM
Biosurfactants and Other Novel Surfactants I

Organizer: Orlando J. Rojas, North Carolina State University
Presider: Krister Holmberg, Chalmers University of Technology

9:30 Controlling Colloid and Microemulsion Stability with Light. Rico Tabor and **Julian Eastoe**, University of Bristol

10:00 Polymerisable Surfactants. **P.D.I Fletcher**, N-G. Kang and V.N. Paunov, The University of Hull

10:25 Interfacial Properties of Lipopeptide Biosurfactant. **Jun Wu**[1], Ponisseril Somasundaran[1], Gabriel Reznik[2] and Kevin Jarrell[2], (1)Columbia University, (2)Modular Genetics, Inc.

10:50 Amino Acid-Based Surfactants. **Romain Bordes**[1], Juergen Tropsch[2] and Krister Holmberg[1], (1)Chalmers University of Technology, (2)BASF SE

11:15 Study of the Adsorption at Different Surface of Amino Acid-Based Surfactant by Complementary Techniques: QCM-D And SPR. **Romain Bordes**[1], Juergen Tropsch[2] and Krister Holmberg[1], (1)Chalmers University of Technology, (2)BASF SE

11:40 New Catanionic Surfactants Derived From Sugars: From Design to Applications. **Isabelle Rico-Lattes**, University of Toulouse

12:05 Polymers in Disperse Systems. **Tharwat F. Tadros**, Consultant

Monday, June 15, 2009
9:30 AM - 12:15 PM
Clustering I

Organizers: Tony Dinsmore, University of Massachusetts, Paul Dubin, University of Massachusetts

Session Overview: Proteins and lipids form clusters, some biofunctional and some adventitious. Experimental and theoretical approaches to these phenomena are described in this session.

9:30 Welcoming Remarks.

9:35 Equilibrium Cluster Formation In Concentrated Protein Solutions. **Anna Stradner**, Adolphe Merkle Institute, University of Fribourg, Frédéric Cardinaux, Heinrich-Heine-Universität Düsseldorf, Stefan U. Egelhaaf, Heinrich-Heine University and Peter Schurtenberger, University of Fribourg

10:15 Domain/Raft Exploration In Lipid Mono- & Bilayer by Freeze-Fracture Electron Microscopy On Nano-Resolution Scale. **Brigitte Papahadjopoulos-Sternberg**, NanoAnalytical Laboratory

10:35 Break.

10:55 Tuning of the Finite Size of Globular Clusters of Proteins And Polyelectrolytes of Opposite Charges by Electrostatic Screening. **Fabrice Cousin**, Jérémie Gummel and François Boué, Laboratoire Léon Brillouin, CEA Saclay

11:15 Study of the Short-Range Attraction of Globular Proteins In Solution. **Yun Liu**, NIST, Wei-Ren Chen, ORNL, Lionel Porcar, Institut Laue-Langevin, Emiliano Fratini, University of Florence, Piero Baglioni, University of Florence and CSGI, Kunlun Hong, Oak Ridge National Laboratory and Sow-Hsin Chen, Massachusetts Institute of Technology

11:35 Clustering Versus Percolation in the Assembly of Colloids with Long DNA. **Nienke Geerts, Msc** , FOM Institute AMOLF and Erika Eiser, Dr. , University of Cambridge

11:55 poster sound-bites.

Monday, June 15, 2009
9:30 AM - 12:10 PM
Colloid Rheology and Microrheology I

Organizers: William Russel, Princeton University, Jan Vermant, Katholieke Universiteit Leuven
Presider: Eric Furst, University of Delaware

Session Overview: These sessions will emphasize the rheology and microrheology of colloidal dispersions and complex fluids consisting of colloids, polymers, biopolymers and surfactants. Topics of interest include (but are not limited to) gelling and glassy systems, flow-induced structure and dynamics, effects of molecular and interparticle interactions on rheology, probe microrheology of

complex fluids, multicomponent systems, and applications of complex fluid rheology to industrial problems. Experimental, theoretical and computational papers are welcome.

9:30 Rheology of Colloidal Star Glasses. **Dimitris Vlassopoulos**, FORTH and Univ. of Crete, Brian Erwin, ESPCI and FORTH and Michel Cloitre, ESPCI

10:10 Can We Make Money with the Re-Entry Phenomenon in Concentrated Colloidal Dispersions. **Norbert Willenbacher**[1], Raha Roohnia[1], O. Thorwarth[2] and Eckhard Bartsch[2], (1)University of Karlsruhe, (2)University of Freiburg

10:30 Delayed Collapse of Arrested Colloidal Depletion Gels by Vane Rheometry. **M.A. Faers**[1], E. Langrand[1], R. Buscall[2], L. Teece[3] and P. Bartlett[3], (1)Bayer CropScience AG, (2)MSACT Consulting, (3)University of Bristol

10:50 Shear Elasticity of Dense Attractive Colloids: Homogeneous And Heterogeneous Glasses. **Alessio Zaccone**, Emanuela Del Gado and Hua Wu, ETH Zurich

11:10 The Phase Behaviour And Kinetics of Attractive Rod-Like Viruses Under Shear Flow. **Peter Holmqvist**, Forschungszentrum Jülich

11:30 Scaling of Strain Recovery In the Aging of An Attractive Colloidal Gel. **Ajay Singh Negi** and Chinedum O. Osuji, Yale University

11:50 Different Mechanisms for Dynamical Heterogeneities In Colloidal Gels And Glasses. **Emanuela Del Gado**[1], A. de Candia[2], A. Fierro[2] and A. Coniglio[2], (1)ETH Zurich, (2)Università di Napoli "Federico II"

Monday, June 15, 2009
9:30 AM - 12:20 PM
Colloidal Gels and Microgels I

Organizer: Martin Snowden, University of Greenwich at medway
Presider: Brian Vincent, University of Bristol

9:30 Enzymatically Synthesized Sugar Surfactants: As Edible Oil Structuring Agents. **Swapnil R. Jadhav**, Praveen Kumar Vemula and George John, City College of City University of New York

9:50 Stimuli-Sensitive, Multicomponent Microgels. **Walter Richtering**, RWTH Aachen University

10:20 pH-Responsive Microgel Dispersions for Repairing Damaged Load-Bearing Soft Tissue. **Brian R. Saunders**, The University of Manchester

10:50 Properties of Packed Microgel Suspensions – Soft And Deformable Can Really Make a Difference. **Alberto Fernandez-Nieves**, Benjamin Sierra-Martin and Juan Jose Lietor-Santos, Georgia Institute of Technology

11:20 Preparation and Characterization of Novel Biocompatible Porous Materials Prepared by Templating In Highly Concentrated Emulsions. **Jordi Esquena**, Susana Vílchez, Jonathan Miras, Ricardo Molina, Pilar Erra and Conxita Solans, Consejo Superior de Investigaciones Científicas (CSIC).

11:40 Experimental Investigation of Active Polymer Microsponges. **Ales Zadrazil**, Mandeep Singh, Roman Aynbinder and Frantisek Stepanek, Institute of Chemical Technology, Prague

12:00 Rheological Behavior of Cationic Acid-Swellable Copolymer Latexes. **Damien Dupin**[1], Steven Peter Armes[1], K. C. Tam[2] and B. H. Tan[3], (1)University of Sheffield, (2)University of Waterloo, (3)Agency for Science Technology and Research

Monday, June 15, 2009
9:30 AM - 12:20 PM
Electrokinetics & Microfluidics I
Sponsor: Biomicrofluidics (American Institute of Physics)

Organizers: Leslie Yeo, Monash University, Shelley L. Anna, Assistant Professor, Carnegie Mellon University
Presider: Todd M. Squires, University of California

Session Overview: This session provides a forum for the dissemination of recent advances in micro/nanoscale colloid, interfacial and electrokinetic phenomena from a fundamental perspective as well as that pertaining to micro/nanofluidic applications, for example, proteomics/genomics, drug delivery, biosensors, DNA sequencing, fuel cells and directed electronics assembly. Topics include fundamental micro/nanoscale transport phenomena (wetting, thin films, instabilities, nanorheology), micro/nanofluidic actuation (pumping, mixing, droplet generation and transport), molecular/bioparticle (immunocolloids, genetic probes) separation and manipulation, electrokinetically-directed assembly, complex surfaces and particles (nanoparticles, biological cells, soft particles, fibers, patterning), measurement techniques (electrophoretic mobility, charge distribution), and novel applications of electrokinetic and micro/nanofluidic phenomena.

9:30 Multiphase Flows in Confined Systems: (I) a Model for Separation-Driven Coalescence and (II) Shear-Induced Dispersion of Nonspherical Particles. **Howard A. Stone**, School of Engineering and Applied Sciences, Harvard University

10:00 Microfluidic Colloidal Island Self-Assembly and Erasure. **Leslie Yeo**, Haiyan Li and James Friend, Monash University

10:20 Impact of Surfactant Sorption Kinetics On Microscale Tipstreaming. Wingki Lee, Lynn M. Walker and **Shelley L. Anna**, Carnegie Mellon University

10:40 Microfluidic Production of Quantum Dot Embedded Polymeric Microbeads. **Shahab Shojaei-Zadeh, Levich Fellow**, The Benjamin Levich Institute, City College of New York, Jeffrey F. Morris, City University of New York, Alexander Couzis, City College of New York and Charles Maldarelli, The City College of New York

11:00 Microfluidic Interfacial Destabilization and Atomization. **Leslie Yeo**, Aisha Qi and James Friend, Monash University

11:20 How to Control the Shape of the Deposit Left by An Evaporating Colloidal Droplet?. Rajneesh Bhardwaj, Xiaohua Fang, Ponisseril Somasundaran and **Daniel Attinger**, Columbia University

11:40 Suspension Transport, Migration, and Structure In Microchannel Mixers. **Changbao Gao**, Bu Xu and James F. Gilchrist, Lehigh University

12:00 Two Phases Flow in Porous Media Model: Trapping at Low Capillary Number. **Christophe Cottin**, Annie Colin, Hugues Bodiguel and Mikel Morvan, LOF UMR 5258 CNRS, Rhodia, Université Bordeaux1

Monday, June 15, 2009
9:30 AM - 11:40 AM
Interfacial Forces and Fields I

Organizers: Sven-Holger Behrens, Georgia Institute of Technology, Pierre M. Adler, Universite Pierre et Marie Curie, Eric R. Dufresne, Yale University

Session Overview: This symposium will survey the interaction between solid-liquid, liquid-liquid, and gas-liquid interfaces as well as the influence of external fields on colloidal interaction. The focus of the first session will be on liquid ordering caused by external fields and/or spatial constraints.

9:30 Aqueous Interfaces: Slip, Viscosity And Reconstruction. **Roland R. Netz**, Technical University Munich

10:00 Nanofluids and Nanochannels. Tai-de Li and **Elisa Riedo**, Georgia Institute of Technology

10:20 Properties of Aqueous Solutions Under Interfacial And Magnetic Fields. **Sumio Ozeki**, Shinshu University

10:40 Pattern Formation In Suspensions of Rods Induced by Flow and Electric Fields. **Jan K. G. Dhont**, Kyongok Kang and Pavlik Lettinga, Forschungszentrum Juelich

11:00 Tuning Surface-Induced Layer Transition of Liquid Crystals Via Alkane. **Lijuan Zhang**[1], Günter K. Auernhammer[2], Michael Kappl[1], Beate Ullrich[1], Hans-Jürgen Butt[1] and Doris Vollmer[1], (1)Max Planck Institute, (2)Max Planck Institute for Polymer Research

11:20 Rheological Study of Liquid Crystal Confined Between Mica Surfaces Under the Electric Field. **Shinya Nakano**, Masashi Mizukami and Kazue Kurihara, Tohoku University

Monday, June 15, 2009
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Mechanisms of Bacterial Adhesion I

Organizers: Sharon Walker, University of California, Riverside, Nathalie Tufenkji, McGill University
Presider: Terri Camesano, Worcester Polytechnic Institute

9:30 Adhesion And the Mechanism of Biofilm Tolerance to Antimicrobial Agents. **Kim Lewis, Professor**, Northeastern University

10:00 The Influence of a Polymer Brush Coating on Bacterial Adhesion, Growth and Antibiotic Treatment. **Willem Norde**, M. Reza Nejadnik, Henny C. van der Mei and Henk J. Busscher, University Medical Center Groningen and University of Groningen

10:20 Bacterial Spore Killing by Dodecylamine: Examining the Role of Self-Assembly. **Stephanie A. Marcott**, Charlene M. Mello and Ramanathan Nagarajan, Natick Soldier Research, Development & Engineering Center

10:40 Adhesion of Spores On Surfaces In Atmospheric Environments. **Eunhyea Chung**[1], Hyojin Kweon[1], Sotira Yiacoumi[1], Ida Lee[2], David Joy[3], Anthony A. Palumbo[4] and Costas Tsouris[1], (1)Georgia Institute of Technology, (2)University of Tennessee, (3)University of Tennessee/Oak Ridge National Laboratory, (4)Oak Ridge National Laboratory

11:00 Real Time Physiology during Detachment of Biofilms Exposed to Chemical Stress. **Eric S. McLamore, PhD**, David M. Porterfield, PhD and Margaret K. Banks, PhD, PE, Purdue University

11:20 Relationship Between Bacterial Adhesion to a Surface And Cellular Bioenergetics. **Derick G. Brown**, Lehigh University and Yongsuk Hong, University of California, Riverside

11:40 The Impact of Bacterial Adhesion On Biofilm Formation In Cooling Towers. **Yang Liu**[1], Wei Zhang[2] and Aaron I. Packman[2], (1)University of Alberta, (2)Northwestern University

Monday, June 15, 2009
9:30 AM - 12:00 PM
Novel Measurement Tools & Methods I

Organizers: Mark Bumiller, Horiba Instruments, Dietmar Lerche, L.U.M. GmbH
Presider: Andrei Dukhin, Dispersion Technology Inc.

Session Overview: The renaissance of Colloid and Interface Science induced by the raise of Nanotechnology has created new challenges for analytical measurement methods. There are several new techniques and instruments designed recently for meeting these challenges. This list includes atomic force microscope, ultrasound based methods, image analysis for submicron particles, new analytical centrifugation techniques, micro-rheological devices, new instruments for surface tension, microfluidics measuring devices, new versions of light scattering instruments, and others. This section is dedicated to presentation of these novel measurement techniques.

9:30 Dynamics of Liquid Interfacial Layers as Studied by Capillary Pressure Techniques. **Reinhard Miller**[1], Aliyar Javadi[1], Jürgen Krägel[1], Piero Pandolfini[2], Giuseppe Loglio[2], Eugene V. Aksenenko[3], Volodymyr I. Kovalchuk[4], Francesca Ravera[5], Libero Liggieri[5] and V.B. Fainerman[6], (1)Max-Planck, (2)University of Florence, (3)Institute of Colloid Chemistry and Chemistry of Water, (4)Institute of Biocolloid Chemistry, (5)Consiglio Nazionale delle Ricerche, (6)Donetsk Medical University

10:00 Particle Characterization Using Elliptically Polarized Light Scattering. **Mark Bumiller**, Horiba Instruments

10:20 2-Focus Fluorescence Correlation Spectroscopy a New Technique to Study Colloids. **Walter Richtering**, Bernd Müller, John Wong, Kerstin Weiß and Jörg Enderlein, RWTH Aachen University

10:40 High Resolution Temperature Measurement In Microfluidic Systems Using the Brownian Motion of Colloids. Jae Kyu Cho, Kwanghun Chung, Hang Lu and **Victor Breedveld**, Georgia Institute of Technology

11:00 Use of Acoustic Spectroscopy for Characterization of d-Limonene/ Water Microemulsions for Improved Oil and Gas Production. **Andrei S. Zelenev**, CESI Chemical, a Flotek Company

11:20 Time-Resolved X-Ray Microscopy of Nanoparticle Aggregates Under Oscillatory Shear. **Günter K. Auernhammer**[1], Doris Vollmer[1], Jinyu Zhao[1], Markus Weigand[2], Marcel Roth[1] and Kai Fauth[3], (1)Max Planck Institute for Polymer Research, (2)Max Planck Insitute for Metals Research, (3)Universität Würzburg

11:40 Human Erythrocyte Aggregation And Deformation Probed by Incoherent Light Transport. **Christophe Baravian**, Nadjim Moumini and Jerome Dillet, CNRS-Nancy Université UMR 7563

Monday, June 15, 2009
9:30 AM - 12:20 PM
Polymer-Surfactant Interactions I

Organizers: Frank Blum, Missouri University of Science and Technology, Maria M. Santore, University of Massachusetts,
Presider: Frank Blum, Missouri University of Science and Technology

9:30 Polymer-Surfactant Interactions: The NMR Picture. **Olle Söderman**, Lund University

10:00 The Interaction of Poly(ethylene glycol) with Dioctadecyldimethylammonium Bromide Vesicles. **Eloi Feitosa, Dr.** and Cecilia Marques, Sao Paulo State University

10:20 The Interaction of Sodium Dodecyl Sulfate with Poly(ethylene glycol) Studied by the Krafft Phenomenon. **Eloi Feitosa, Dr.** and Paulo C. Camillo, Sao Paulo State University

10:40 Polymer- Nano-Vesicle Interactions. **Basavaraja Madivala Gurappa**[1], Matthew L. Lynch[2] and Norman J. Wagner[1], (1)University of Delaware, (2)Procter & Gamble Company

11:00 Competitive Interactions of Anionic Surfactants with Cationic Polymer Jaguar. **Bingquan Li**[1], Kp Ananth[2] and Ponisseril Somasundaran[1], (1)Columbia University, (2)Unilever

11:20 Invertible Micellar Structures from Amphiphilic Polymers. **Andriy Voronov, Dr.**, Ananiy Kohut and Ivan Hevus, North Dakota State University

11:40 Polymer-Induced Lamellar-to-Isotropic Phase Transition in the System of TX-100/n-C8H17OH/H2O. **Lingling Ge**, Xiaohong Zhang and Rong Guo*, Yangzhou University

12:00 Interaction Between PEO-PPO-PEO Triblock Copolymer (F68) and Anionic Surfactants. **Yiming Li**, Ocean University of China

Monday, June 15, 2009
9:30 AM - 12:15 PM
Single Molecule Chemistry I

Organizers: John Kitchin, Carnegie Mellon University, James B. Miller, Carnegie Mellon University

Session Overview: We invite talks on experimental and computational investigations of surface alloy catalysis, CO2 capture/utilization, single molecule surface chemistry and topics in catalysis and surface science.

9:30 Reactions of Single Atoms And Molecules by Excitation of Quantum States Using the STM. **Miquel Salmeron**, Lawrence Berkeley National Laboratory

10:15 Observing Actuating Nanocars by STM. **Kevin Kelly, Assoc. Prof.**, Rice University

10:40 Quantitative Measurements of Adsorbate Interactions and Dynamics: Intermolecular Potentials and Functional Properties. **Paul S. Weiss**, The Pennsylvania State University

11:05 Quantification of Chemical Forces On the Atomic Scale Using 3D-AFM. **Todd C. Schwendemann**, Boris J. Albers, Mehmet Z. Baykara, Nicolas Pilet, Eric I. Altman and Udo D. Schwarz, Yale University

11:30 Self-Organization Spanning Single Molecule Dynamics at Surfaces through Hierarchical Materials. **Steven J. Sibener**, The University of Chicago

11:55 A Quantitative Single-Molecule Analysis of Thioether Molecular Rotors. **Ashleigh E. Baber**, Heather L. Tierney and Charlie Sykes, Tufts University

Monday, June 15, 2009
9:30 AM - 12:25 PM
Structured Lipids I

Organizer: Nissim Garti, The Hebrew University of Jerusalem

9:30 Crystallizing Membrane Proteins in Lyotropic Lipid Mesophases for Use in Structure-Function Studies. **Martin D. Caffrey**, University of Limerick

10:05 Lyotropic Liquid Crystals In Foods: Structural, Rheological And Thermodynamic Properties. **Raffaele Mezzenga**, University of Fribourg and Nesté Research Center

10:45 In Vivo Demonstration of Lyotropic Liquid Crystalline (LLC) Mesophases From Structured Lipids as Drug Delivery Systems. **Ben J. Boyd, PhD**, Monash University

11:05 Nanostructured Lipid Droplets: Structural Hierarchies and Transfer Kinetics of Components. **Otto Glatter**, Christian Moitzi, Anniina Salonen, Matija Tomšič and Samuel Guillot, Karl-Franzens University Graz

11:25 Solubilization of Lysosyme In Modified Novel Reverse Hexagonal Mesophases. **Nissim Garti, Professor**, Tehila Mishraki, Idit Amar-Yuli and Dima Libster, The Hebrew University of Jerusalem

11:45 Colloidal Delivery Systems for Micronutrients and Nutraceuticals. **Krassimir Velikov**, Unilever R&D Vlaardingen

12:05 Novel Tubular Helical Liposomes Containing Skin Lipids. **Grace Tan**, Peng Xu, Jibao He, John D. Clements and Vijay T. John, Tulane University

Monday, June 15, 2009
9:30 AM - 12:10 PM
Structures at Interfaces with Liquids I

Organizers: Kenneth B. Eisenthal, Mark Hyman Professor of Chemistry, Columbia University, Franz Geiger, Northwestern University

Session Overview: The following topics will be presented: Dynamics of water at biointerfaces from theory Micellar and zeolithic guest-host systems vibrational energy transfer at fluid/solid interfaces

9:30 Dynamics of Water Interacting with Ions and Interfaces. **Michael D. Fayer**, Stanford University

10:10 Structural and Dynamical Properties of Water at the Interfaces with Lipid Bilayers. **Max L. Berkowitz**, C. Eun and Z. Zhang, University of North Carolina at Chapel Hill

10:50 Structure And Dynamics of Interfaces And Surfaces. **Nicholas Turro**, Columbia University

11:30 Structure, Organization and (possible) Vibrational Energy Transfer at Solid/Liquid Interfaces. **Robert A. Walker, Professor**, John T. Fourkas, Professor, Feng Ding, Dr. and Michael R. Brindza, University of Maryland

Monday, June 15, 2009
9:30 AM - 12:15 PM
Thin Liquid Films Including Bilayers I

Organizers: Dimo Platikanov, University of Sofia, Cosima Stubenrauch, University College Dublin
Presider: Cosima Stubenrauch, University College Dublin

9:30 Emulsion Nanofilms Stabilized by Polymeric Surfactants. **Dotchi Exerowa**, Institute of Physical Chemistry, Bulgarian Academy of Sciences

10:00 Tuning the Film and Foaming Properties of the Surfactant Mixture C_{12} TAB / C_{12} DMPO. **Enda Carey** and Cosima Stubenrauch, University College Dublin

10:20 DLVO And Marangoni Effects In Freestanding Surfactant-Free Aqueous Films. Vassili V. Yaminsky[1], Satomi Ohnishi[1], Erwin A. Vogler[2] and **Roger G. Horn**[1], (1)University of South Australia, (2)Pennsylvania State University

10:40 Thin Wetting Films From Aqueous Solutions of Polymeric Surfactants. **Dimo Platikanov**[1], Michail Nedyalkov[1], Lidia Alexandrova[2], Bart Levecke[3] and Tharwat F. Tadros[4], (1)University of Sofia, (2)Bulgarian Academy of Sciences, (3)ORAFTI Bio Based Chemicals, (4)Consultant

11:00 break.

11:15 Electrohydrodynamic Instabilities in Free Emulsion Films. **Farshid Mostowfi**, Schlumberger DBR Technology Center, Plamen Tchoukov, CanmetENERGY, Natural Resources Canada, Nikolay Panchev, Champion Technologies, Inc., Tadeusz Dabros, Natural Resources Canada and Jan Czarnecki, University of Alberta

11:35 Hydrophilic Polymers Reverse the Effect of Albumin and Restore the Surface Activity of Lung Surfactants in Monolayer and Foam Films. **Georgi As. Georgiev**[1], E. Kutsarova[1], A. G. Jordanova[2], A. Tsanova[3], C.St. Vassilieff[4] and Z. I. Lalchev[5], (1)Sofia University, (2)Bulgarian Academiy of Science, Institute of Biophysics, (3)Sofia University "St. Kliment Ohridski", Faculty of Medicine, (4)Sofia University "St. Kliment Ohridski", Faculty of Chemistry, (5)Sofia University "St. Kliment Ohridski", Faculty of Biology

11:55 Experimental Investigations of Foam Drainage. **Pyotr Kruglyakov**, Natalya Vilkova and Svetlana Elaneva, Penza State University of Architecture and Building

Monday, June 15, 2009
2:00 PM - 4:45 PM
Biocolloids for Imaging and Drug Delivery II: Drug Delivery

Organizers: Mark Borden, PhD, Columbia University, Steven P. Wrenn, Drexel University

Session Overview: This session will cover the design, characterization and testing of biocolloids for targeted drug and gene delivery.

2:00 Nanostructured Polymer Capsules for Biomedical Applications. **Frank Caruso**, Angus P. R. Johnston, Alex N. Zelikin and Alisa L. Becker, The University of Melbourne

2:30 Controlled Release of Oligonucleotides From a Thermosensitive Hydrogel. **James O. Hardin IV** and Valeria T. Milam, Georgia Institute of Technology

2:50 Chemically Triggered Biodelivery Using Metal-Organic Sol-Gel. **Vadim G. Kessler, Prof.** , Gulaim A. Seisenbaeva, Sebastian Håkansson and Maria Unell, SLU

3:10 Solubilization of Celecoxib in Microemulsions Based on Mixed Nonionic Surfactants and Peppermint Oil. **Monzer Fanun**, Al-Quds University

3:30 A Colloidal Science Approach to Ultrasound-Based Drug Delivery. **Eleanor F. Small**, Stephanie Carroll, Peter Lewin and Steve Wrenn, Drexel University

3:50 Synthesis ,Characterization of Re-188-Tin Nanocolloial Aggregated Microparticles for Therapeutic Targeted Delivery. **Gurupad Bandopadhyaya, MSc, Ph D**, Jaya Shukla, SA Samim and Rakesh Kumar, ALL INDIA INSTITUTE OF MEDICAL SCIENCES

4:10 Characterization of Binding Effects of QDs to Cancer Marker Proteins Via AFM and SPR. **Mikala Shremshock** and R. Lloyd Carroll, West Virginia University

4:30 The Long-Term Release of Antibiotics From Monolithic Nonporous Polymer Implant -- Modeling and Testing for Use as Tympanostomy Tube (TT) for the Treatment of Otitis Media (OM). **S. S. Dukhin**[1], Charles J. Brumlik[2], Yacoob Tabani[2], Paul Stoodley[3] and Mohamed E. Labib[2], (1)New Jersey Institute of Technology, (2)Novaflux Technologies, (3)Allegheny-Singer Research Institute

Monday, June 15, 2009
2:00 PM - 4:45 PM
Biomineralization II

Organizers: George Nancollas, University of Buffalo, John H. Harding, University of Sheffield

2:00 What Can Simulation Contribute to the Understanding of Biomineralisation?. **John H. Harding**[1], Colin L. Freeman[1], David Quigley[2] and P. Mark Rodger[2], (1)University of Sheffield, (2)University of Warwick

2:30 In Situ Atomic Force Microscopy On the Interfacial Interactions of Model Polymers with the Mineralizing Surfaces of Calcium Carbonate. **Il Won Kim, Ph.D.**, Soongsil University

2:50 Biomineralization of Uranium And Nanocluster Formation by Microorganisms. **Sonja Selenska-Pobell** and Mohamed L. Merroun, Institute of Radiochemistry, Forschungszentrum Dresden Rossendorf

3:10 Newly Emerging Nanoscopic Pathways in the Crystallisation of $BaCO_3$ Nanoparticles of Different Crystal Structure and Morphology within Water-in-Oil Microemulsions. **Wiebke F.C. Sager**, Gopinath Shanmugavadivelu and Jing Zhang, FZ Jülich

3:30 Templated Crystallization of His-Proteins Using Dynamic Cyclodextrin:NTA-Inclusion Ligand Interfaces. **David H. Thompson, Professor & University Faculty Scholar**, Purdue University

3:50 Biomimetic Growth of Non-Biogenic Semiconductor and Ceramic Materials. **R. Lloyd Carroll**, Mikala Shremshock and Adam M. Sadowski, West Virginia University

Monday, June 15, 2009
2:00 PM - 4:45 PM
Biosurfactants and Other Novel Surfactants II

Organizers: Krister Holmberg, Chalmers University of Technology, Orlando J. Rojas, North Carolina State University
Presider: Julian Eastoe, University of Bristol

2:00 Charge-Charge Complexes of Modified Hydrocolloids and Proteins as Emulsifiers for Double Emulsions. **Nissim Garti** and Rachel Lutz, Mrs., The Hebrew University of Jerusalem

2:40 Biobased Surfactants: Overview of Basic Research and Industrial Activity. **Douglas G. Hayes**, University of Tennessee

3:05 Surfactant-Like Materials From Waste Biomass. **Edgar J. Acosta**, Flor Yunuen Garcia-Becerra and David Grant Allen, University of Toronto

3:30 Solvent-Free Enzymatic Synthesis of Saccharide-Fatty Acid Ester Biosurfactants. Douglas G. Hayes[1], Sang-Hyun Pyo[2] and **Ran Ye**[1], (1)University of Tennessee, (2)Samyang Genex Corporation

3:55 PFG-NMR Investigation of Liposome Systems Containing Hydrotrope. **Fadwa Odeh**[1], Nicole A. Heldt[2], M. Gauger[2], G. Slack[2] and Yuzhuo Li[2], (1)University of Jordan, (2)Clarkson University

4:20 Lignins as Polymeric Surfactants. **Orlando J. Rojas**, North Carolina State University, Fredy Ysambertt, Lab. Petroquímica y Surfactantes and Johnny Bullón, Lab. FIRP

Monday, June 15, 2009
2:00 PM - 4:45 PM
Clustering II

Organizers: Tony Dinsmore, University of Massachusetts, Paul Dubin, University of Massachusetts

2:00 Introductory Remarks.

2:05 Finite-Size Objects Stabilized by Electrostatic Interactions. **Willem K. Kegel**, Van 't Hoff Laboratory, Utrecht University

2:45 Model Colloidal Suspensions with Competing Interactions Exhibiting Phase Transitions to Modulated Phases. **Andrew John Archer**, Loughborough University

3:05 Break.

3:25 Nucleation, Aggregation, Crystallization, and Glass Formation: Examples of Clustering. **Charles F. Zukoski**[1], Ryan Larsen[1], Ryan Kramb[2], Eric Mock[1] and Guangwen He[3], (1)University of Illinois at Urbana-Champaign, (2)University of Illinois, (3)Institute of Chemical and Engineering Sciences

3:45 Mesophase Assemblies of Isotropic, Clustering Particles. **Gregory Grason**, University of Massachusetts, Amherst

4:05 Gelation of Particulate Systems. **Christopher M. Sorensen**, Kansas State University

4:25 Random Packing and Colloidal Crystallization of Monodisperse Model Ellipsoids. **Laura Rossi**[1], Stefano Sacanna[2], Alan Wouterse[1] and Albert P. Philipse[1], (1)Van 't Hoff Laboratory, Utrecht University, (2)Center for Soft Matter Research, New York University

Monday, June 15, 2009
2:00 PM - 4:40 PM
Colloid Rheology and Microrheology II

Organizers: Eric Furst, University of Delaware, William Russel, Princeton University, Jan Vermant, Katholieke Universiteit Leuven
Presider: Reghan J. Hill, McGill University

2:00 Rheological Properties of Wet or Dry Granular Media. **Pierre M. Adler**[1], Jf Thovert[2], Iryna Malinouskaya[3], Larry Wilen[4] and T Moaddel[4], (1)Universite Pierre et Marie Curie, (2)LCD/ENSMA, (3)UPMC, (4)Unilver

2:20 Viscous Friction Inside Steadily Sheared Foams and Concentrated Emulsions. **Nikolai D. Denkov**[1], Slavka Tcholakova[1], Konstantin Golemanov[1], K. P. Ananthapadmanabhan[2] and Alex Lips[2], (1)Laboratory of Chemical Physics & Engineering, (2)Unilever

2:40 Shear Thinning In Suspensions of Soft Microgel Spheres. **Hans M. Wyss**, TU Eindhoven, Johan Mattsson, Chalmers University of Technology, Thomas Franke, University of Augsburg, Elisa Mele, Universita' degli Studi di Lecce and David A. Weitz, Harvard University

3:00 Effect of the Particle Softness Over the Rheological Behavior of Ionic Microgel Suspensions. **Benjamin Sierra-Martin** and Alberto Fernandez-Nieves, Georgia Institute of Technology

3:20 Structural Transitions of Magnetorheological Fluids In Microgravity. **Paula A. Vasquez**[1], Eric Bennung[1], Juan Agui[2], Peggy Whitson[3] and Eric M. Furst[1], (1)University of Delaware, (2)NASA Glenn Research Center, (3)NASA Johnson Space Center

3:40 Electrical And Classical Microrheology of Polyelectrolyte Hydrogel Composites. **Aliasghar Mohammadi** and Reghan J. Hill, McGill University

4:00 Network Formation in Liquid Crystal-Colloidal-Suspensions. **Günter K. Auernhammer**, Marcel Roth and Doris Vollmer, Max Planck Institute for Polymer Research

4:20 Rheological Characterization of a Discotic Colloidal Clay at Bulk and Microscopic Scales. **Jason P. Rich**, Patrick S. Doyle and Gareth H. McKinley, Massachusetts Institute of Technology

Monday, June 15, 2009
2:00 PM - 4:45 PM
Colloidal Gels and Microgels II

Organizer: Martin Snowden, University of Greenwich at Medway
Presider: Brian Vincent, University of Bristol

2:00 Surface Engineering of Stimuli-Responsive Microgels Via Layer-by-Layer Assembly of Polyelectrolytes. **John E. Wong, Dr** and Walter Richtering, Prof, RWTH Aachen University

2:20 Preparation and Properties of Natural Polymers Microgels. **Haruma Kawaguchi**, Keio University

2:40 Synthesis of Thermoresponsive AuNP/PNIPAm-PEG Core/Shell Microcapsules for Cell Encapsulation. **Tatiya Trongsatitkul** and Bridgette Maria Budhlall, University of Massachusetts

3:00 Compositional Analysis and Applications of Colloidal Microgels. J. C. Mitchell, Professor and **M. J. Snowden, Professor**, University of Greenwich

3:20 A Comparative Study of Swelling Behaviour of Super Absorbent Hydrogels Prepared by Gamma Radiation & Solution Polymerization. **Arun Kumar Nagpal, Professor**, Reena Singhal and Rajive Tomar, H.B.Technological Institute,

3:40 Emulsion Gels Comprising Crystallized Droplets: The Role of Interfacial Crystals. **Fernando Leal-Calderon**, Florence Thivilliers, Eric Laurichesse, Hassan Saadaoui and Véronique Schmitt, Université Bordeaux 1

4:00 Criticality And Aggregation In a Core-Shell Colloidal System. **Malin Zackrisson**[1], Johan Bergenholtz[2], Anna Stradner[1] and Peter Schurtenberger[3], (1)Université de Fribourg, (2)University of Gothenburg, (3)University of Fribourg

4:20 Polyvinylamine Microgels Have Interesting Properties but Are Difficult to Prepare. **Robert Pelton** and Wei Chen, McMaster University

Monday, June 15, 2009
2:00 PM - 4:40 PM
Electrokinetics & Microfluidics II

Organizers: Leslie Yeo, Monash University, Shelley L. Anna, Assistant Professor, Carnegie Mellon University
Presider: Shelley L. Anna, Assistant Professor, Carnegie Mellon University

2:00 Microfluidicly Synthesized Silica Beads and Their Bioconjugation. **Gerson Aguirre**, Alex Couzis and Charles Maldarelli, The Graduate Center, The City University of New York

2:20 Colloid Aggregation as a Tool to Optimize Surface Enhanced Raman Scattering In Microfluidics Devices. Caroline Delhaye[1], Jean-Luc Bruneel[2], David Talaga[2], Matthieu Guirardel[1], Sophie Lecomte[2] and **Laurent Servant**[1], (1)University Bordeaux 1, (2)Université Bordeaux 1

2:40 Guided Colloidal Crystallization in a Galvanic Micro Reactor. Christian Punckt[1], **Linda Jan**[1], Peng Jiang[2], Boris Khusid[3], Thomas A. Frewen[1], Ioannis G. Kevrekidis[1], Dudley A. Saville[1] and Ilhan A. Aksay[1], (1)Princeton University, (2)University of Florida, (3)New Jersey Institute of Technology

3:00 Patchy Particles as Osmotic Motors. **Amar B. Pawar** and Ilona Kretzschmar, The City College of City University of New York

3:20 Investigation of Splice Variants Via P.C.R. In Microfluidic Droplets. **Nick J. Carroll**, Jeremy S. Edwards and Dimiter N. Petsev, University of New Mexico

3:40 Microfluidic Combinatorial Approaches to Investigate the Function of Microenvironmental Cues On Human Embryonic Stem Cell (hESC) Fate. **Ki-Bum Lee**[1], Ken-ichiro Kamei[2], Aniruddh Solanki[1], Shuling Guo[2], Zeta Tak For Yu[2], Eric Gschweng[2], Minori Ohashi[2], April Pyle[2], Owen N. Witte[2] and Hsian-Rong Tseng[2], (1)Rutgers, The State University of New Jersey, (2)University of California, Los Angeles

4:00 Microfluidic PhaseChip for Exploration of Multidimensional Phase Diagrams. **Seila Selimovic** and Seth Fraden, Brandeis University

4:20 On Magnetic Separation of Spheroidal Nanoparticles. **Gautam Mukhopadhyay** and Shruti Puri, Indian Institute of Technology - Bombay

Monday, June 15, 2009
2:00 PM - 4:30 PM
Interfacial Forces and Fields II

Organizers: Sven-Holger Behrens, Georgia Institute of Technology, Pierre M. Adler, Universite Pierre et Marie Curie, Eric R. Dufresne, Yale University

Session Overview: This symposium will survey the interaction between solid-liquid, liquid-liquid, and gas-liquid interfaces as well as the influence of external fields on colloidal interaction. The focus of this second session will be on fundamentals of colloidal interaction in quiescent and sheared liquids.

2:00 Nontrivial Coupling Between Van Der Waals and Electrostatic Interactions In Electrolyte Systems. **Roland Kjellander** and Erik Wernersson, University of Gothenburg

2:30 Manning Condensation And Elasticity of Biopolymers. **Emmanuel Trizac**, LPTMS, University Paris XI

2:50 Measuring Femtonewton and Piconewton Forces On Many Particles with Light and Noise. **Eric R. Dufresne**[1], Jason W Merrill[1], Cecile O Mejean[1] and Sunil K. Sainis[2], (1)Yale University, (2)Harvard University

3:10 Magnetic Tweezer Sensor for Measuring Binding Strength of Nonmagnetic Particles. **Randall Erb**, Debby P. Chang, Stefan Zauscher and Benjamin B. Yellen, Duke University

3:30 Aggregation and Breakage Phenomena In Sheared Colloidal Suspensions. **Massimo Morbidelli**, ETH Zurich

3:50 Rheology of Interfaces at Microscopic Length Scales. **Eric R. Weeks**, Emory University and Vikram Prasad, Emory Universty

4:10 Determination of Interaction Potentials in Colloidal Monolayers Using the Inversion of 2D Pair Correlation Functions. **Adam Daniel Law, BSc (Hons.)** and D. Martin A. Buzza, The University of Hull

Monday, June 15, 2009
2:00 PM - 4:30 PM
Mechanisms of Bacterial Adhesion II

Organizers: Terri Camesano, Worcester Polytechnic Institute, Nathalie Tufenkji, McGill University
Presider: Sharon Walker, University of California, Riverside

2:00 AFM Force Analysis of Bacterial Interaction Forces with Surfaces. **Henk J. Busscher**, Willem Norde and Henny C. van der Mei, University Medical Center Groningen and University of Groningen

2:30 Effect of Surface Topography On Adhesion of Colloids And Bacteria. **Jianwei Ma**, Hao Lu, Jun Lou and Qilin Li, Rice University

2:50 Establishing a Standard Protocol of MATH Test for Microbial Surface Hydrophobicity Assessment. **Gaurav Saini**, Mark E. Dolan and Brian D. Wood, Oregon State University

3:10 A Correlation Between the Nanoscale Adhesion of Listeria Monocytogenes to Surfaces and Their Virulence. Bong-Jae Park and **Nehal I. Abu-Lail**, Washington State University

3:30 Activity of Cranberry Metabolites in Urine against Bacterial Adhesion. **Paola A. Pinzon-Arango**, Angela Tao and Terri Camesano, Worcester Polytechnic Institute

3:50 Bacterium-Substratum Bond Maturation Measured Non-Destructively and Real Time Using a Novel QCM-D Approach. **Adam L.J. Olsson**, Henny C. van der Mei, Henk J. Busscher and Prashant K. Sharma, University Medical Center Groningen

4:10 Chemotactic Response of P. Aeruginosa to Diffusive Chemical Gradients Inside a Microfluidic Chamber. **Javier Atencia, Dr.**, Laurie E Locascio and Jayne B Morrow, National Institute of Standards and Technology

Monday, June 15, 2009
2:00 PM - 4:30 PM
Novel Measurement Tools & Methods II

Organizers: Andrei Dukhin, Dispersion Technology Inc., Mark Bumiller, Horiba Instruments
Presider: Dietmar Lerche, L.U.M. GmbH

2:00 Evanescence Wave AFM Measurements. **William Ducker**[1], Clayton T. McKee[1], Spencer Clark[1], Wade K.J. Mosse[2] and John Y. Walz[1], (1)Virginia Tech, (2)University of Melbourne

2:30 Systems for Characterisation of Nanoparticle Dispersions. **Duncan Griffiths**, Patrick Hole, Jonathan Smith and Bob Carr, NanoSight Ltd

2:50 In Vivo Spectroscopy of Gold Nanorods. **Yasuro Niidome, PhD**, Yasuyuki Akiyama, Kohei Shimoda and Takuro Niidome, PhD, Kyushu University

3:10 Electrical Sensing Zone Analytics of Colloidal Systems. **John A. Costello**, Beckman Coulter Inc.

3:30 Molecular Mapping by Low-Energy-Loss EFTEM Imaging. **Elisângela M. Linares**, Leonardo F. Valadares, Cristiane A. Silva, Camila A. Rezende, Carlos A. P. Leite and Fernando Galembeck, University of Campinas - UNICAMP

3:50 Quantitative Analysis of Polymer Colloids by Cryo-Transmission Electron Microscopy. **Matthias Ballauff** and J. J. Crassous, University of Bayreuth

4:10 In-Situ Monitoring of the 2D Aggregation Process of Thiol-Coated Gold Nanoparticles Using Optical Waveguide Spectroscopy. **Hélène Yockell-Lelièvre** and Anna M Ritcey, Université Laval / COPL / CQMF

Monday, June 15, 2009
2:00 PM - 4:30 PM
Polymer Surfactant Interactions II

Organizers: Frank Blum, Missouri University of Science and Technology, Maria M. Santore, University of Massachusetts,
Presider: Olle Söderman, Lund University

2:00 Stimuli-Responsiveness of Polymer-Surfactant Interactions; Molecular Recognition and Stratification. **Marek W. Urban**, University of Southern Mississippi

2:30 pH Dependent Polyampholyte-SDS Interactions in Water-in-Oil Microemulsions and in Diluted Aqueous Solutions. **Joachim Koetz** and Mabya Fechner, Universität Potsdam

2:50 Variation In Emulsion Stabilization Behavior Of Hybrid Silicone Polymers With Change In Molecular Structure. **Somil C. Mehta**, Langmuir Center for Novel Surfactants, Ponisseril Somasundaran, Columbia University and Ravi Kulkarni, Elkay Silicones Ltd.

3:10 Effect of Polymeric Emulsifiers on SYNTHESIS and Properties of Crosslinkable Copolymers. **Indira Nigam, Dr.** and Sweta Bajpai, H.B.Technological Institute

3:30 A Study of Fluorinated Polymerisation. **Martha K. Tomlinson**[1], Roy W. Hughes, Dr.[1], Paul A. Reynolds, Dr.[1], Brian Vincent, Prof.[1], Terry E. Attwood, Dr.[2] and Martyn J. Shenton, Dr.[2], (1)University of Bristol, (2)AGC Chemical Europe Ltd

3:50 Molecular Weight Dependence of Non-Surface Activity of Ionic Amphiphilic Block Copolymers. **Hideki Matsuoka**, Hao Chen, Fumiaki Ozaki and Rati Ranjan Nayak, Kyoto University

4:10 Effect of the Interaction Between Oppositely Charged Polymers and Surfactants on the Deposition of Solid Particles to Surfaces. **Jordan Petkov**[1], Karla M. Webb[1] and Peter Garrett[2], (1)Unilever R&D, (2)University of Manchester

Monday, June 15, 2009
2:00 PM - 4:45 PM
Structured Lipids II

Organizer: Nissim Garti, The Hebrew University of Jerusalem

2:00 Bicontinuous Inverted Cubic Phases and Membrane Fusion: a Tale of Biology and Lipid Phase Behavior. **David Siegel**, Givaudan Inc.

2:30 Phase Transformations of Multicompartment Lipid Nanovector Systems. **Angelina Angelova**[1], Borislav Angelov[2], Brigitte Papahadjopoulos-Sternberg[3], Ulla Vainio[4], Rada Mutafchieva[2], Vasil M. Garamus[5], Sylviane Lesieur[1], Regine Willumeit[5] and Patrick Couvreur[1], (1)CNRS UMR8612, University of Paris Sud, (2)Bulgarian Academy of Sciences, (3)NanoAnalytical Laboratory, (4)HASYLAB c/o DESY, (5)GKSS Forschungszentrum

3:00 Unraveling the Structure of Structured Lipids by Cryo-EM. **Dganit Danino**, Technion - Israel Institute of Technology

3:30 Stratum Corneum Lipids: Interaction with Different Lipid-Surfactant Nanostructures. **Olga Lopez, Dr.**, Lucyanna Barbosa-Barros, Gelen Rodriguez and Alfonso de la Maza, Spanish National Research Council (CSIC)

3:50 Structures In Complex Food Emulsions, as Related to End-Use Properties. **Perla Relkin**, AgroParisTech-centre de Massy

4:10 Degree of Lipid Segregation and Water Penetration, as a Result of Temperature Variation In a Binary Lipid Mixture. **Andrea C. Hamill**[1], Paul D. Butler[1], Ursula Perez-Salas[2], William Hamilton[3], Lionel Porcar[1] and Divya Singh[1], (1)National Institute of Standards and Technology, (2)Argonne National Laboratory, (3)ANSTO

4:30 Environmentally Friendly Soy Lecithin Based Agrochemical Products. **Shireen Baseeth, Ph D**, Archer Daniel's Midland, Bruce Sebree, Ph.D, Archer Daniels Midland and Vatren Jurin, Technical Director, Brand Consolidated Inc.,

Monday, June 15, 2009
2:00 PM - 4:40 PM
Structures at Interfaces with Liquids II

Organizers: Kenneth B. Eisenthal, Mark Hyman Professor of Chemistry, Columbia University, Franz Geiger, Northwestern University

Session Overview: The following topics will be presented: power generation in fast-flowing water Ions at aqueous interfaces - experiments and theory nano-micro colloid/aqueous interfaces

2:00 Photoelectrokinetic Energy Conversion In Liquid Water Microjets: An Interfacial Phenomenon. Andrew M. Duffin and **Richard J. Saykally**, University of California, Berkeley; Chemical Sciences Division, Lawrence Berkeley National Laboratory

2:40 Ions at Aqueous Interfaces: From Water Surface to Hydrated Proteins. **Pavel Jungwirth, Prof.**, Academy of Sciences

3:20 Ionic Binding of Na+ Versus K+ to Palmitic Acid Monolayers Studied by Vibrational Sum Frequency Spectroscopy. Cheng Y. Tang and **Heather C. Allen**, The Ohio State University

4:00 The Vibrational Dynamics of Ordered Interfacial Water. **Eric U. Borguet** and A. Eftekhari-Bafrooei, Temple University

4:20 Nano-Micro Particle/ Aqueous Interfaces. **Kenneth B. Eisenthal, Mark Hyman Professor of Chemistry**, Columbia University

Monday, June 15, 2009
2:00 PM - 4:40 PM
Surface Alloys

Organizers: John Kitchin, Carnegie Mellon University, James B. Miller, Carnegie Mellon University

2:00 Measuring and Relating the Electronic Structure of Nonmodel Supported Catalytic Materials to Their Performance. Eranda Nikolla and **Suljo Linic**, University of Michigan

2:30 Catalytic Activity and Stability of Bimetallic Surfaces. **Jingguang G. Chen**, University of Delaware

2:55 Atomic-Scale Surface Chemistry of Catalytically Important Bimetallic Alloys. Ashleigh E. Baber[1], Heather L. Tierney[1], John Kitchin[2] and **Charlie Sykes**[1], (1)Tufts University, (2)Carnegie Mellon University

3:20 Catalyzing the Catalyst: Hydrogen Dissociation and Spillover On Pd Impurities In Cu(111) but Not In Au(111). **John Kitchin**[1], Charlie Sykes[2], Heather L. Tierney[2] and Ashleigh E. Baber[2], (1)Carnegie Mellon University, (2)Tufts University

3:40 High Throughput Study of Surface Segregation in PdCu Alloys. **James B. Miller**, Deepika Priyadarshini and Andrew J. Gellman, Carnegie Mellon University

4:00 Methods for Modeling Reaction Dynamics at Surfaces Over Long Time Scales. **Graeme Henkelman**, University of Texas at Austin

4:20 AgCl Monolayers On Au(111): Novel, Ultra-Stable and Atomically-Flat Surfaces. **Erin V. Iski**[1], Mahnaz El-Kouedi[1], Camilo Calderon[2], Feng Wang[2], Darin O. Bellisario[1], Tao Ye[3] and Charles Sykes[1], (1)Tufts University, (2)Boston University, (3)University of California, Merced

Monday, June 15, 2009
2:00 PM - 4:45 PM
Thin Liquid Films Including Bilayers II

Organizers: Dimo Platikanov, University of Sofia, Cosima Stubenrauch, University College Dublin
Presider: Dimo Platikanov, University of Sofia

2:00 Viscoelasticity And Surface Forces In Systems with Alkyl Glucoside Surfactants. **Orlando J. Rojas**, North Carolina State University, Cosima Stubenrauch, University College Dublin and Per M. Claesson, Royal Institute of Technology

2:30 Dips And Rims In Colloidal Films. Caroline Parneix[1], V. Nikolayev[1], David Quéré[1], **Bernard Cabane**[2] and Martine Meireles[3], (1)PMMH, ESPCI, (2)Ecole superieur de physique et de chimie industrielles, (3)CNRS/Université de Toulouse

2:50 Issues In Patterning Self-Assembled Monolayers by Molecular Replacement: Comparison of Adventitious And Directed Replacement of One Molecule In a SAM for Another. **Eric Z. Tucker**, North Carolina State University and Christopher B. Gorman, North Carolina State Univeristy

3:10 Phosphonium Ionic Liquid as Defoamers: Structure-Property-Application Performance Correlations. **Rahul Bagwe**, Shailesh Majmudar, Douglas Harris, Laurence W. Chang and Christine Kennedy, Cytec Industries, Inc.

3:30 Break.

3:45 Drug Binding And Mobility In Lipid Bilayer Membranes by Multinuclear Dynamic NMR. **Emiko Okamura** and Noriyuki Yoshii, Himeji Dokkyo University

4:05 Wrinkles/Folds and Interfacial Thermodynamics: Effect of Phase Separation of Water/Glycerol Binary Mixtures Next to Lipid Monolayers on Surface Mechanical Stability. **Luka Pocivavsek** and Ka Yee Lee, The University of Chicago

4:25 Defect And Texture Modeling of Block-Copolymer Films. Nasser Mohieddin Abukhdeir and **Alejandro Rey, Professor**, McGill University

Monday, June 15, 2009
5:15 PM - 6:15 PM
Unilever Award Presentation & Lecture

Monday, June 15, 2009
6:15 PM - 7:15 PM
Award Reception

Tuesday, June 16, 2009

Tuesday, June 16, 2009, 8:00 AM - 9:10 AM
Plenary Lecture

Tuesday, June 16, 2009
9:10 AM - 9:30 AM
Coffee Break

Tuesday, June 16, 2009
9:30 AM - 12:00 PM
Biocolloids for Imaging and Drug Delivery III: Imaging and Sensors

Organizers: Mark Borden, PhD, Columbia University, Steven P. Wrenn, Drexel University

Session Overview: This session will cover biocolloids used for biomedical imaging and bio-sensing.

9:30 Electrophoretic Separation of DNA-Micelle Complexes: Applications In Rapid Sequencing and Genomic Analysis. **James W. Schneider**, Stephen Istivan, Angela Holmen and Oxana Selivanova, Carnegie Mellon University

10:00 Molecular Imaging of Endothelial Cells Via Quantum Dot Probes Used in the Detection of Cancer Cell Markers. **Mikala Shremshock** and R. Lloyd Carroll, West Virginia University

10:20 Living Cells Decorated with Chromatic Nano-Patches: An Innovative Approach for Studying Membrane Processes. Zulfiya Orynbayeva and **Raz Jelinek**, Ben Gurion University

10:40 Luminescent Oxide Nanoparticles for Bioimaging: Solution Synthesis Directed by Weak Ligand-Solvent Interactions. Gulaim A. Seisenbaeva, Assoc. Prof., PhD[1], **Vadim G. Kessler, Prof. Dr. Hab.**[1], Robert Pazik, PhD[1] and Wieslaw Strek, Prof, dr.Hab.[2], (1)SLU, (2)Institute of Low Temperature and Structure Research, Polish Academy of Sciences

11:00 Preparation of Biocompatible Magnetic Colloids From Supercritical Fluid Extraction of Emulsion. **Marco Furlan**, Johannes Kluge, Francesco Fusaro, Marco Lattuada, Marco Mazzotti and Massimo Morbidelli, ETH Zurich

11:20 Controlled Clustering of Magnetite-Polyether Complexes through the Application of a Density Distribution Model And DLVO Theory. **William C. Miles**[1], Jonathan D. Goff[2],

Philip P. Huffstetler[2], Christian Reinholz[2], J.S. Riffle[1] and Richey M. Davis[2], (1)Virginia Tech, (2)Virginia Polytechnic Institute and State University

11:40 Enhanced Colloidal Stability of Water Based Magnetic Fluids for Biomedical Application. **Etelka Tombácz**[1], Angéla Hajdú[1], Ildikó Tóth[1], Erzsébet Illés[1] and Ladislau Vékás[2], (1)University of Szeged, (2)Romanian Academy-Timisoara Division

Tuesday, June 16, 2009
9:30 AM - 12:00 PM
Biointerfaces I: Signaling and Membrane Rafts

Organizers: Marjorie Longo, University of California, Davis, Ka Yee Lee, University of Chicago
Presiders: Marjorie Longo, University of California, Davis, Ka Yee Lee, University of Chicago

Session Overview: This session provides a forum for experimental and computational investigations of lipid, lipid/protein, cell membrane, protein, DNA/RNA, and biomimetic/biocompatible interfaces.
Organizers: Marjorie L. Longo and Ka Yee C. Lee

9:30 Membrane Structure at T Cell Activation Sites: How Protein Clustering Triggers Membrane Condensation. **Katharina Gaus, A/Prof**, David Williamson, Carles Rentero and Dylan M Owen, University of New South Wales

10:00 Cholesterol's Inter- and Intra-Lipid-Vesicle Transfer Rates Determined by Small Angle Neutron Scattering (SANS). **Sumit Garg**[1], Lionel Porcar[2], Paul D. Butler[3] and Ursula Perez-Salas[1], (1)Argonne National Laboratory, (2)Institut Laue-Langevin, (3)National Institute of Standards and Technology

10:20 Mechanical And Spatial Regulation of Signal Transduction In Cell Membranes. **Jay T. Groves**, Howard Hughes Medical Institute, University of California Berkeley

10:40 Break.

11:00 Weak Interactions at the Membrane-Toward a Discriminating Response In Signaling. **Anne Hinderliter**, University of Minnesota Duluth, Paulo F. Almeida, University of North Carolina Wilmington, Erin D. Sheets, Pennsylvania State University, Sylvio May, North Dakota State University and Roger B. Sutton, The University of Texas Medical Branch

11:20 Modulation of Membrane Domains by Proteins and Inter-Leaf Coupling. **Sylvio May**[1], Anne Hinderliter[2] and Alexander J. Wagner[1], (1)North Dakota State University, (2)University of Minnesota Duluth

11:40 Lipid Interactions In Bilayers Containing Cholesterol. **Paulo F. Almeida**, University of North Carolina Wilmington

Tuesday, June 16, 2009
9:30 AM - 12:30 PM
Biosurfactants and Other Novel Surfactants III

Organizer: Krister Holmberg, Chalmers University of Technology
Presider: Orlando J. Rojas, North Carolina State University

9:30 A Novel Multi-Amine Head Surfactant and Its Application for the AgCl Hollow Sphere Formation. **Long Jiang**, Wei Wang and Wensheng Lu, Institute of Chemistry, Chinese Academy of Sciences (CAS)

10:00 New Surface Active Inositol Derivatives: Synthesis and Selected Properties. **Cosima Stubenrauch**, University College Dublin and Dirk Blunk, University of Cologne

10:25 Levo Versus Dextro: Effect of the Headgroup Chirality on Nanoassemblies. **Pierandrea Lo Nostro**[1], Moira Ambrosi[1], Emiliano Fratini[1], Piero Baglioni[1] and Barry W. Ninham[2], (1)University of Florence, (2)Australian National University

10:50 Inulin Surfactants for Colon-Specific Drug Delivery. **Ezequiel Delgado**, Julio C. Arboleda, Hector J. Contreras and Guillermo Toriz, University of Guadalajara

11:15 Preparation And Properties of Comb-Like Surfactants Containing Poly(ethylene oxide) Methyl Ether Grafts. **Zhiping Du**[1], Wei Zhang[1], Guoyong Wang[1] and Chien-Hsiang Chang[2], (1)China Research Institute of Daily Chemical Industry, (2)National Cheng Kung University,

11:40 Superficial Behavior of Rhamnolipids of Pseudomonas Aeruginosa. **Zulfiqar A. Raza Sr.**, The University Faisalabad, Faisalabad-Pakistan.

12:05 Betaine Ester Surfactants. **Krister Holmberg**, Chalmers University of Technology and Dan Lundberg, University of Coimbra

Tuesday, June 16, 2009
9:30 AM - 11:55 AM
Clustering III

Organizers: Tony Dinsmore, University of Massachusetts, Paul L. Dubin, University of Massachusetts

9:30 Introductory Remarks.

9:35 Designed Anisotropic Particles, Assemblies and Clusters by Microfluidic Confinement. **Michael J. Solomon**, University of Michigan

9:55 Equilibrium Colloidal Clusters at Small N: Experiments and Theory. **Vinothan Manoharan**, Guangnan Meng, Natalie Arkus and Michael Brenner, Harvard University

10:15 Break.

10:35 Lock and Key Colloids. **Stefano Sacanna**, William T.M. Irvine, Paul M. Chaikin and David J. Pine, Center for Soft Matter Research, New York University

10:55 The Stability And Structure of Aqueous Clusters of Ferrihydrite Nanoparticles. **Benjamin Gilbert**[1], Nathan Burrows[2] and R. Lee Penn[2], (1)Lawrence Berkeley National Lab, (2)University of Minnesota

11:15 Extensional Rheology of Shear Thickening Nano Particle Suspensions. Manoj Chellamuthu, Eric Arndt and **Jonathan Rothstein**, University of Massachusetts

11:35 A Chemical Synthetic Route towards "Colloidal Molecules". Adeline Perro[1], Etienne Duguet[2], Olivier Lambert[3], Jean-Christophe Taveau[3], Elodie Bourgeat-Lami[4] and **Serge Ravaine**[1], (1)CRPP - University of Bordeaux, (2)ICMCB, (3)IECB, (4)LCPP

Tuesday, June 16, 2009
9:30 AM - 11:50 AM
Colloid Rheology and Microrheology III

Organizers: Eric Furst, University of Delaware, Jan Vermant, Katholieke Universiteit Leuven
Presider: William Russel, Princeton University

9:30 Microdynamics and Flow-Induced Structure In Colloidal Particle Gels. **Michael J. Solomon**, University of Michigan

10:10 Holographic Microrheology. **Fook Chiong Cheong**, New York University and David Grier, Center for Soft Matter Research, New York University

10:30 Effects On Rheological Properties of Functionalized Alumina In Polyisoprene Melt. **Rose S. Ndong** and William B Russel, Princeton University

10:50 Motion of Particles In Viscoelastic Suspending Media. Frank Snijkers[1], Gaetano D'Avino[2], Martien Hulsen[3], Francesco Greco[4], Pier Luca Maffettone[2] and **Jan Vermant**[5], (1)K.U. Leuven, (2)Università degli Studi di Napoli Federico II,, (3)TU Eindhoven, (4)IRC, CNR,, (5)Katholieke Universiteit Leuven

11:10 Testing the Hydrocluster Mechanism of Shear Thickening In Colloidal Dispersions – Measurements of the First Normal Stress Difference (N1). **Norman J. Wagner**, Richard Dombrowski, Donald Kessler and Dennis Kalman, University of Delaware

11:30 Small Molecules as Colloids. **Ryan J. Larsen** and Charles F. Zukoski, University of Illinois at Urbana-Champaign

Tuesday, June 16, 2009
9:30 AM - 12:10 PM
Colloidal Gels and Microgels III

Organizers: Martin Snowden, University of Greenwich at Medway, Brian Vincent, University of Bristol
Presider: M. J. Snowden, Professor, University of Greenwich

9:30 Universal Features In the Transient Collapse of Reversible Colloidal Gels. **Lisa Teece**[1], P. Bartlett[1] and M.A. Faers[2], (1)University of Bristol, (2)Bayer CropScience AG

9:50 Detecting and Treating Cancer with Microgels. **L. Andrew Lyon**, Erin Dickerson, Michael Smith, William Blackburn and John F. Mcdonald, Georgia Institute of Technology

10:10 Phase Behavior And Rheology of Attractive Rod-Like Particles. Phil F. Huang[1], Roy Rotstein[1], **Seth Fraden**[1], Karen E. Kasza[2] and Nolan Flynn[3], (1)Brandeis University, (2)Harvard University, (3)Wellesley College

10:30 Freezing And Melting of Two-Dimensional And Multilayer Colloidal Crystals. **Yilong Han**, Hong Kong University of Science and Technology

10:50 Phase Behavior of Microgel Suspensions Using Hydrostatic Pressure. **Juan Jose Lietor-Santos**[1], Urs Gasser[2], Zhibing Hu[3] and Alberto Fernandez-Nieves[1], (1)Georgia Institute of Technology, (2)Paul Scherrer Institute, (3)University of North Texas

11:10 Reversible Gelation of Rod-Like Viruses Grafted with Thermoresponsive Polymers. **Zhenkun Zhang**[1], Naveen Krishna[1], Eric Grelet[2], Jan Vermant[1] and M. Paul Lettinga[3], (1)Katholieke Universiteit Leuven, (2)Centre de Recherche Paul Pascal, (3)Forschungszentrum Juelich

11:30 Thermoresponsive Catalysts. Au@Pnipam Nanoparticles as Systems with Tunable Catalytic Effect. **S. Carregal-Romero**, J. Pérez-Juste, P. Hervés and L.M. Liz-Marzán, University of Vigo

Tuesday, June 16, 2009
9:30 AM - 12:20 PM
Electrokinetics & Microfluidics III

Organizers: Leslie Yeo, Monash University, Shelley L. Anna, Assistant Professor, Carnegie Mellon University
Presider: Dimiter Petsev, University of New Mexico

9:30 The Electrokinetic Properties of Colloidal Magnetic Iron Oxides. **Thomas W. Healy, Dr.**, Ian M. Metcalfe and Andrew Homola, University of Melbourne

10:00 Improvement of the Reproducibility of Zeta Potential Measurements by Transformation. **Paul J. Sides**, Danish Faruqui and Andrew J Gellman, Carnegie Mellon University

10:20 Universal Electro-Osmotic Coefficients. **Pierre M. Adler** and Alok Gupta, Universite Pierre et Marie Curie

10:40 Electrokinetic Properties of Colloidal Carbon Nanotubes. **Ahmet Can Sabuncu**[1], Bhargava Subhash Kalluri[1], Wei Cao[1], Michael W. Stacey[1], Shizhi Qian[1], Ali Beskok[1] and Tarek M. Abdel-Fattah[2], (1)Old Dominion University, (2)Christopher Newport University

11:00 Anisotropic Polarizability of Double Wall Carbon Nanotubes. **Ji Yeon Huh**, Matthew L. Becker and Jeffrey A. Fagan, National Institute of Standards and Technology

11:20 The Stability of Electrokinetic Annular Films. **Richard Craster, Dr**[1], Omar Matar, Prof[2] and Demetrios Papageorgiou[2], (1)University of Alberta, (2)Imperial College London

11:40 Instabilities And Critical Phenomena In Free-Surface Electroosmotic Flows. **Sang W. Joo**, Yeungnam University and Shizhi Qian, Ph.D., Old Dominion University

12:00 Theoretical Analysis of the Electrokinetic Pumping of Non-Newtonian Fluids. **Claudio L. A. Berli, Dr./Prof.**, INTEC, Universidad Nacional del Litoral - CONICET

Tuesday, June 16, 2009
9:30 AM - 12:15 PM
Environmental Colloid and Interfacial Processes I

Organizers: Qilin Li, Rice University, Helen Nguyen, University of Illinois, Urbana-Champaign
Presider: V. Faye McNeill, Columbia University

9:30 Welcoming Remarks.

9:35 Composition of the Aqueous Liquid/Vapor Interface: An X-Ray Photoelectron Spectroscopy Study. **John C. Hemminger**, University of California at Irvine

10:15 Ice-Vapor Interactions Via the Quasi-Liquid Layer Studied by Molecular Dynamics. **Martina Roeselova**[1], Steven Neshyba[2], Erin Nugent[2] and Pavel Jungwirth[1], (1)Academy of Sciences of the Czech Republic, (2)University of Puget Sound

10:35 Hydroxyl Radical Formation Rates On Ice Measured Using a Novel In Situ Probe. **Tara F. Kahan** and D. James Donaldson, University of Toronto

10:55 Uptake Measurements of OVOC On Solid Ice Surfaces And On Solid/Liquid Supercooled Mixtures Doped with Nitric Acid. Application to the Upper Troposphere. **Melanie Petitjean**[1], Stephane Le Calve[2], Philippe Mirabel[2] and Michael Kerbrat[3], (1)Louis Pasteur University, (2)Louis Pasteur University, Strasbourg, (3)Paul Scherrer Institut, Bern University

11:15 Photolysis of Pyruvic Acid In Ice. **Marcelo I. Guzman**[1], Michael R. Hoffmann[2] and Agustin J. Colussi[2], (1)Harvard University, (2)California Institute of Technology

11:35 Measurement of Acidic Ions and Their Qualitative Effects on Snow Crystal Morphology and the Quasi-Liquid Layer. **Travis Knepp**, Paul Shepson and Tennie Renkens, Purdue University

11:55 Effect of Size or Effect of Chemical Environment On Phase Transitions In (NH4)2SO4/H2O. **Anatoli Bogdan**, University of Helsinki and Thomas Loerting, University of Innsbruck

Tuesday, June 16, 2009
9:30 AM - 12:10 PM
Fabrication of Colloidal Assemblies and Devices I: Colloidal Devices I

Organizers: Darrell Velegol, Pennsylvania State University, Orlin D. Velev, North Carolina State University

Session Overview: This session will cover three major topics of colloidal assembly: 1) Fundamental experimental or modeling research that leads to an understanding of colloidal self-assembly, either direct or biologically-inspired, 2) Processes for making materials with well-defined and highly organized structure, with description of the structure-property relationships within such materials, and 3) Engineering aspects of the fabrication of devices by self-assembly, including topics such as making and utilizing highly responsive materials, designing structures with electronic and photonic functionality and preparing biologically active or responsive assemblies. We welcome contributions from fundamental experiments or modeling, as well as from technological applications.

9:30 Layer-by-Layer Assembly & Nanoparticles: Toward Soft-Matter Devices. **Gero Decher**, Université Louis Pasteur and C.N.R.S.

10:00 Smart Nanocontainers for Delivery of Chemical Agents: Architectural Capsules And Tubes. **Yuri M. Lvov**, Elshad Abdullayev and Zhiguo Zheng, Louisiana Tech University

10:20 Copolymer Dendrons for Improving the Performance of Particle Based Bioassays. **Darby Kozak**, Annie Chen, Lionel Marcon and Matt Trau, The University of Queensland

10:40 Particle-Based Biosensors for Medical And Agricultural Biosecurity Applications. **Bronwyn J. Battersby**[1], Andrew Geering[2], Darby Kozak[1] and Matt Trau[1], (1)The University of Queensland, (2)Queensland Department of Primary Industry and Fisheries

11:00 Optimising Optically Encoded Particle-Based Immunoassay for the Early Detection of Ovarian Cancer. **Annie Chen**, Darby Kozak, Bronwyn J. Battersby and Matt Trau, The University of Queensland

11:20 Real Time DNA Sequencing Via Detection of Polymerization with Silicon Based Pico-Calorimeter Chips. **Hesaam Esfandyarpour**, R.F.W. Pease, Kenneth Goodson and Ronald W. Davis, Stanford University

11:40 Lipid Nanocapsules Overcome the Challenge of Sensitive Vitamins Encapsulation. **Maud Gonnet**[1], Laurent Le Thuaut[2], Layachi Mouradi[2] and Frank Boury[1], (1)University of Angers, (2)Enitiaa

Tuesday, June 16, 2009
9:30 AM - 12:00 PM
Interfacial Forces and Fields III

Organizers: Pierre M. Adler, Universite Pierre et Marie Curie, Sven-Holger Behrens, Georgia Institute of Technology, Eric R. Dufresne, Yale University

Session Overview: This symposium will survey the interaction between solid-liquid, liquid-liquid, and gas-liquid interfaces as well as the influence of external fields on colloidal interaction. The focus of this third session will be on particles in non-polar liquids or in oil-water interfaces.

9:30 Measurement and Control of Ultra-Low Particle Charges In Non-Polar Media. **P. Bartlett**, University of Bristol

10:00 Colloidal Interactions at a Liquid-Liquid Interface. **Eric M. Furst**, University of Delaware

10:20 A New Approach for Measuring the Contact Angle of Nanoparticles at Liquid Interfaces. Luben N. Arnaudov[1], Olivier J. Cayre[2], Martien A. Cohen-Stuart[3], Simeon Stoyanov[1] and **Vesselin N. Paunov**[4], (1)Unilever Research, (2)Institute of Particle Science and Engineering, (3)Laboratory of Physical Chemistry and Colloid Science, (4)The University of Hull

10:40 Charging and Screening In Nonpolar Liquids and Liquid Interfaces: Ionic Versus Nonionic Surfactants. **Sven H. Behrens**, Qiong Guo and Virendra Singh, Georgia Institute of Technology

11:00 Adsorption and Interaction of Charged Colloid Particles at Oil-Water Interfaces: Effect of Added Surfactant and Salt. **Virendra Singh**, Qiong Guo and Sven H. Behrens, Georgia Institute of Technology

11:20 Electrostatics at the Oil-Water Interface: Stability And Order In Emulsions And Colloids. **Mirjam E. Leunissen**[1], Jos Zwanikken[2], René van Roij[2], Alfons van Blaaderen[2] and Paul M. Chaikin[1], (1)Center for Soft Matter Research, New York University, (2)Utrecht University

11:40 Thermodynamic Stabilty of Pickering Emulsions: Electrostatics And Chemistry. **René van Roij** and Jos Zwanikken, Utrecht University

Tuesday, June 16, 2009
9:30 AM - 12:20 PM
Mechanisms of Bacterial Adhesion III

Organizers: Terri Camesano, Worcester Polytechnic Institute, Sharon Walker, University of California, Riverside
Presider: Nathalie Tufenkji, McGill University

9:30 The Seven Secrets of Slime. **Hans-Curt Flemming, Prof.**, University of Duisburg-Essen

10:00 Effect of Strain Rate And Calcium On the Cohesive Strength of *Staphylococcus epidermidis* Biofilms. **Srijan Aggarwal** and Raymond M. Hozalski, University of Minnesota

10:20 Mechanics of Escherichia Coli D21g Biofilms at the Aqueous-Air Interface. **James K. Ferri**[1], Steven E. Mylon[1] and Sharon L. Walker[2], (1)Lafayette College, (2)University of California, Riverside

10:40 Surface Factors Influence Swarm Motility of *Pseudomonas aeruginosa*. **Joshua D. Shrout**, University of Notre Dame

11:00 Adsorption of Corynebacterium-Diphtheriae-Intermedius (CDI) Bacteria Onto Phosphate Mineral. **S.E. El-Mofty**[1], A.M. Elmahdy[2], A.A. El-Midany[1] and N.A. Abdel-Khalek[2], (1)Cairo University, (2)Central Metallurgical Research and Development Institute

11:20 Simulations of Swimming Bacteria with Granular Media Yield Extended Residence Times That Explain Experimental Observations. **Jun Liu**, Tao Long and Roseanne M. Ford, University of Virginia

11:40 Variations In Oxygen Tension During Bacterial Growth and Acclimation Affect Their Surface Properties and Attachment Behavior. **Nathalie Tufenkji** and Felipe Castro, McGill University

12:00 The Role of Dissolved Organic Matter within a Plume of Treated Sewage Upon the Transport of Bacteria In a Sandy Aquifer In Cape Cod, Massachusetts. **Ronald W. Harvey, PhD**, David W. Metge, Larry Barber, PhD and George R. Aiken, PhD, U.S. Geological Survey

Tuesday, June 16, 2009
9:30 AM - 12:00 PM
Novel Measurement Tools & Methods III

Organizers: Andrei Dukhin, Dispersion Technology Inc., Dietmar Lerche, L.U.M. GmbH
Presider: Mark Bumiller, Horiba Instruments

9:30 Recent Developments In the Methods of Particle Size Characterization. **Michael Stintz**, University of Technology Dresden, Germany

10:00 ZetaSpin: Measurement of Zeta Potential by Means of a Rotating Disk. **Paul J. Sides**[1], Dennis C. Prieve[1] and James D. Hoggard[2], (1)Carnegie Mellon University, (2)ATI Alldyne

10:20 Zetapotential Distribution Analysis by Electrophoresis Video Microscopy. **Hanno R. Wachernig**, Particle Metrix GmbH, Meerbusch, Germany

10:40 New Technologies In Measuring Zeta Potential of Particles In Concentrated Suspensions And of Flat Surfaces. **Renlianf Xu, Dr.**, Beckman Coulter, Inc.

11:00 New Technique for Zeta Potential Measurement. **Paul Freud**, Michael Trainer and Philip Plantz, Microtrac Inc.

11:20 Electrospray – Differential Ion-Mobility: a Probe for Colloidal Stability and Kinetics. D.-H. Tsai[1], Leonard F. Pease[2], Rebecca A. Zangmeister[2], Michael J. Tarlov[2] and **Michael**

R. Zachariah[1], (1)University of Maryland and National Institute of Standards and Technology, (2)National Institute of Standards and Technology

11:40 Online Monitoring of Changes In the Surface Potential of Colloidal Systems by Optical Second Harmonic Generation. **Benedikt Schuerer** and Wolfgang Peukert, University of Erlangen-Nuremberg

Tuesday, June 16, 2009
9:30 AM - 12:20 PM
Polymer and Biopolymer Systems

Organizers: Frank Blum, Missouri University of Science and Technology, Maria M. Santore, University of Massachusetts,
Presider: Monika Schönhoff, University of Münster

9:30 Polyelectrolyte-Micelle Coacervates: Mesophasic Fluids with Temperature- and Charge-Induced Transitions. Michael Hernon[1], **Paul L. Dubin**[1], Anil Kumar[1], Yajuan Li, PhD[2] and JoAn Hudson[3], (1)University of Massachusetts, (2)Johnson & Johnson, (3)Clemson University

10:00 Supramolecular Assemblies of Cationic Lipid and Model Antigens. Nilton Lincopan, PhD[1], Noeli M. Espíndola, PhD[2], Adelaide J. Vaz, PhD[2], Eliana Faquim-Mauro, PhD[3] and **Ana M. Carmona-Ribeiro**[1], (1)Biocolloids Lab, Universidade de São Paulo, Instituto de Química, (2)Faculdade de Ciências Farmacêuticas, Universidade de São Paulo, (3)Instituto Butantan

10:20 The Surface Properties of Mucin Solutions: a Lung Mucus Model System. Markus J. Weygand, Beautia Dew, **Stephen Garoff**, Mathias Loesche, Todd M. Przybycien and Robert Tilton, Carnegie Mellon University

10:40 Amphiphilic Polymer Assemblies for Protein Sensing. Daniella Gonzalez, Elamprakash Savariar and **Sankaran Thayumanavan**, University of Massachusetts

11:00 Influence of Binding Strength On the Structure of Supramolecular Polymer-Surfactant Complexes. **Manesh Gopinadhan**, Chinedum Osuji, Evan Beach and Paul Anastas, Yale University

11:20 Self-Aggregation of Mixtures of Oppositely Charged Polyelectrolytes And Surfactants Studied by Rheology, Dynamic Light Scattering And Small Angle Neutron Scattering. **Ingo Hoffmann**[1], Norman J. Wagner[2] and Michael Gradzielski[1], (1)Technische Universität Berlin, (2)University of Delaware

11:40 Effects of Aggregation and Bulk Phase Separation On the Adsorption of Oppositely Charged Polyelectrolyte / Surfactant Mixtures at the Air/Liquid Interface. **Imre Varga, Ph.D.**[1], Katrin Tonigold[2], T. Nylander[2], Anna Angus-Smyth[3] and Richard Campbell[3], (1)Eötvös Lorand University, (2)Lund University, (3)Institut Laue-Langevin

12:00 Physico-Chemical Properties of Complex Fluids and Their Interactions with Polymer Surfaces. **Saule B. Aidarova**, A. Sharipova and L. Myltykbayeva, K.I. Satpayev's KazNTU

Tuesday, June 16, 2009
9:30 AM - 12:00 PM
Single Molecule Chemistry II

Organizers: John Kitchin, Carnegie Mellon University, James B. Miller, Carnegie Mellon University

9:30 Spatially Resolved Organizational Structure and Interfacial Electronic States for Stereospecific Molecular Domains. **Thomas P. Pearl**, North Carolina State University

9:55 STM Studies of Reversible Switching Among Charge States of Single TCNE Molecules. **Jay A. Gupta, Assistant Professor of Physics** and Taeyoung Choi, Ohio State University

10:20 Turning Molecular Rotors Into Motors and Sensors: From Electrical Control of Motion to Chiral Identification at the Single-Molecule Level. **Heather L. Tierney**, Ashleigh E. Baber, April D. Jewell, Erin V. Iski and Charlie Sykes, Tufts University

10:45 Control of Surface Diffusion. **Ludwig Bartels**, University of California

11:10 Scanning Tunneling Microscopy of Chemically Reactive Self-Assembled Monolayers. **Lloyd A. Bumm**, Daminda H. Dahanayaka, Abhijit B. Biswas, Anuradha Singh, Louis P. Jackson and Ronald L. Halterman, University of Oklahoma

11:35 Single Molecule STM Chemistry. **Saw-Wai Hla**, Ohio University

Tuesday, June 16, 2009
9:30 AM - 12:10 PM
Structures at Interfaces with Liquids III

Organizers: Kenneth B. Eisenthal, Mark Hyman Professor of Chemistry, Columbia University, Franz Geiger, Northwestern University

9:30 Structure of Thin Organic Films Under Oil Studied by Vibrational Spectroscopy. **Paul B. Davies** and Mike T.L. Casford, University of Cambridge

10:10 Application of Nonlinear Optical Spectroscopy to Study Polymer and Biological Molecules at Interfaces. **Zhan Chen**, University of Michigan

10:50 How Does Urea Denature Proteins?. **Paul S. Cremer** and Laura B. Sagle, Texas A&M University

11:30 Organic Ions at Air/Water Interface. **Mahamud Subir, Ph.D.** , Yi Rao, Ph.D., Eric A. McArthur, Ph.D., Nicholas J. Turro and Kenneth B. Eisenthal, Mark Hyman Professor of Chemistry, Columbia University

11:50 Free Energy Relationships in the Electrical Double Layer. **Franz M. Geiger**, Northwestern University

Tuesday, June 16, 2009
2:00 PM - 4:40 PM
Biocolloids for Imaging and Drug Delivery IV: Microbubbles

Organizers: Mark Borden, PhD, Columbia University, Steven P. Wrenn, Drexel University

Session Overview: This session will cover fundamentals and applications of biomedical microbubbles.

2:00 Long-Term Stability of Microbubbles: (I) Armored Bubbles And (II) Surfactant-Covered Bubbles with Interfacial Polygonal Nanopatterning. **Howard A. Stone**, School of Engineering and Applied Sciences, Harvard University

2:30 Novel Electrically-Driven Devices And Methods for the Preparation of Microbubbles And Microcapsules. **Mohan Edirisinghe**, Uthumankandu Farook, Marjan Enayati, Zeeshan Ahmad and Eleanor Stride, University College London

3:00 The Role of Microbubble Size Distribution In Ultrasound Imaging. Mehmet Kaya, Ph.D.[1], Jason Streeter[1], Mark Borden, PhD[2], Jameel Feshitan[2], Kanaka Hettiarachchi[3], Abraham P. Lee, Ph.D.[3] and **Paul A. Dayton**[1], (1)University of North Carolina - North Carolina State Joint Department, (2)Columbia University, (3)University of California, Irvine

3:20 Ultrasound-Mediated Therapeutic and Diagnostic Approaches. **Terry O. Matsunaga, Pharm.D., Ph.D.** and Evan Unger, M.D., University of Arizona

3:40 Microbubble Biodistribution and Targeted Drug Delivery. **Michaelann Tartis, PhD**[1], Dustin E. Kruse, PhD[2], Hairong Zheng[2], Hua Zhang[2], Jan Marik[2], Azadeh Kheirolomoom[2] and Kathy Ferrara[2], (1)New Mexico Tech, (2)University of California at Davis

4:00 Development of "Bulky" Lipid Microbubbles for Ultrasound Triggered Drug Delivery. **Shashank R. Sirsi, Ph.D.**, Cherry Chen, Jameel Feshitan, James Kwan, Chinpong Fung and Mark Borden, Ph.D., Columbia University

4:20 Ultrasound Based Drug Delivery And Colloidal Science of Contrast Agents. **Stephen Dicker** and Steven Wrenn, Drexel University

Tuesday, June 16, 2009
2:00 PM - 4:50 PM
Biointerfaces II: Membrane Computation and Mechanics

Organizers: Marjorie Longo, University of California, Davis, Ka Yee Lee, University of Chicago
Presiders: Ka Yee Lee, University of Chicago, Marjorie Longo, University of California, Davis

2:00 Dynamics of Rods and Filaments In Viscoelastic Membranes. **Frederick C. MacKintosh**, Vrije Universiteit

2:30 Hybrid Lipid as Biological Surfactants. **Robert Brewster**[1], Phil Pincus[2] and Samuel A. Safran[1], (1)Weizmann Institute of Science, (2)University of California, Santa Barbara

2:50 Structure and Dynamics of a Fluid Phase Bilayer on a Solid Support as Observed by a Molecular Dynamics Computer Simulation. **Scott E. Feller**, Wabash College

3:10 Break.

3:30 An Alpha Helical Peptide In AOT Micelles Prefers to Be Localized at the Water/Headgroup Interface. **Jianhui Tian** and Angel E. Garcia, Rensselaer Polytechnic Institute

3:50 Sedimentation of Giant Unilamellar Vesicles and Its Effect On Vesicle Motion near a Horizontal Flat Surface. Ivan Rey Suarez[1], Alexander Ladino[1], Guillaume Gay[2], Chad Leidy[1] and **Andres Gonzalez Mancera**[1], (1)Universidad de los Andes, (2)Univerite Paul Sabatier Toulouse 3

4:10 Computational Studies of Texas Red DHPE: Model Building And Applications. **Michael J. Skaug**, Marjorie L. Longo and Roland Faller, University of California Davis

4:30 Shape Deformation of a Mixed Vesicle with a Composition Dependent Bending Rigidity. **Takashi Taniguchi**[1], Miho Yanagisawa[2] and Masayuki Imai[2], (1)Kyoto University, (2)Ochanomizu University

Tuesday, June 16, 2009
2:00 PM - 4:40 PM
Colloid Rheology and Microrheology IV

Organizers: Eric Furst, University of Delaware, William Russel, Princeton University, Jan Vermant, Katholieke Universiteit Leuven
Presider: Dimitris Vlassopoulos, FORTH and Univ. of Crete

2:00 Shear Stresses of Colloidal Dispersions at the Glass Transition. **Matthias Ballauff**[1], M. Siebenbuerger[1], J.J. Crassous[1], D. Hajnal[2], O. Henrich[2] and M. Fuchs[2], (1)University of Bayreuth, (2)University of Konstanz

2:40 The Particle Pressure In Sheared Colloidal Dispersions. **Jeffrey F. Morris**[1], Yevgeny Yurkovetsky, PhD[2] and Sandeep D. Kulkarni[1], (1)City University of New York, (2)Raindance Technologies

3:00 Suspension Rheology with Stokesian Dynamics. **Yogesh Harshe**, Marco Lattuada, Lyonel Ehrl and Massimo Morbidelli, ETH Zurich

3:20 Rheology and Microstructure In Brownian Colloidal Suspensions. **Wenxiao Pan**, Bruce Caswell and George Karniadakis, Brown University

3:40 Basic Study On the Lattice Boltzmann Method for Application to Many Particle Dispersions (A Uniform Flow past a Two-dimensional Circular Particle). **Akira Satoh**, Akita Prefectural University

4:00 Predicting the Shear Thinning Behavior of Concentrated Colloidal Dispersions. Koichi Takamura, BASF Corporation and **Theo G.M. van de Ven**, Pulp and Paper Research Centre, McGill University

4:20 Contributions of Dynamical Heterogeneities to Non-Linear Rheology of Confined Colloidal Suspensions Under Oscillatory Shear. **Prasad S. Sarangapani** and Y. Elaine Zhu, University of Notre Dame

Tuesday, June 16, 2009
2:00 PM - 4:30 PM
Colloid and Surface Science in Mineral Separations and Processing I

Organizer: D. R. Nagaraj, Cytec Industries
Presiders: Sarah Harmer, PhD, University of South Australia, Ela Mielczarski, Dr, Nancy-University, CNRS

2:00 Interfacial Aspects of Microbe-Mineral Interactions Relevant to Mineral Beneficiation. **K.A. Natarajan, Professor**, Indian Institute of Science

2:30 Monitoring Surface And Interface Phenomena at Natural Minerals at Nano Scale. **Jerzy A. Mielczarski, Prof** and Ela Mielczarski, Dr, Nancy-University, CNRS

2:50 Adsorption of Biomolecules On Solid Surfaces at Molecular Level. **Ela Mielczarski, Dr**[1], Jie Dong[2] and Jerzy A. Mielczarski, Prof[1], (1)Nancy-University, CNRS, (2)University of Alberta

3:10 Microbial Aspects of Mining Environmental Pollution and Bioremediation. **K.a. Natarajan, Professor**, Indian Institute of Science

3:30 Stabilisation of Nanoparticles for Colloidal Ceramic Processing. Marie Laure Rami[1], **Martine Meireles**[2], Bernard Cabane[3] and Christian Guizard[1], (1)Saint Gobain CREE/CNRS, (2)CNRS/Université de Toulouse, (3)Ecole superieur de physique et de chimie industrielles

3:50 Interaction of Mineral Surfaces with Simple Carboxylic Acids In Aqueous And / or Solution In Hexane. **Joan E. Thomas**, Jefferson Laboratory and The College of William and Mary and Michael J. Kelley, Jefferson Laboratory and College of William and Mary

4:10 The Effect of Crystal Habit On the Surface Speciation And Reactivity of Pyrite Fracture Surfaces. **Sarah Harmer, PhD** and Bill Skinner, University of South Australia

Tuesday, June 16, 2009
2:00 PM - 4:40 PM
Colloidal Gels and Microgels IV

Organizers: Martin Snowden, University of Greenwich at Medway, Brian Vincent, University of Bristol
Presider: Brian Saunders, School of Marterials, The University of Manchester

2:00 Peptides and Proteins in Polyelectrolyte Microgels. **Martin Malmsten, Prof.**, Uppsala University

2:20 Core-Shell Colloids with Optimal Scattering Properties. **Guangnan Meng**, Adeline Perro, Jerome Fung and Vinothan N. Manoharan, Harvard University

2:40 Charged Temperature Sensitive Microgel Particles as a Model System to Study Equilibrium and Non-Equilibrium Phase Behaviour of Soft Colloids. **Mathias Reufer**[1], Urs Gasser[1], Pedro Díaz-Leyva[1], Hervé Dietsch[1], Nasser Ben Braham[2], Frank Scheffold[1] and Peter Schurtenberger[1], (1)University of Fribourg, (2)LSInstruments GmbH

3:00 Solubilization Capacity of a Covalently Crosslinked Micellar Gel. **Steven Kline, Dr.**, NIST

3:20 Multifunctional Thin-Film Membranes From a Stimuli-Responsive Biopolymer Hydrogel. **Ihor Tokarev**, Venkateshwarlu Gopishetty, Yuri Roiter and Sergiy Minko, Clarkson University

3:40 Uptake and Release of Positively Charged Peptides by Poly(acrylic acid) Microgels. **Helena Bysell** and Martin Malmsten, Prof., Uppsala University

4:00 Slow Dynamics and Ageing In Concentrated Multiarm Stars: New Routes to Equilibrium?. Manolis Stiakakis[1], Agnieszka Wilk[2], Dimitris Vlassopoulos[1] and **George Petekidis**[1], (1)FORTH, (2)PSI

4:20 Mechanisms of Protein and Surfactant Binding to Polymer Networks. **Per Hansson**, Christian Johansson, Martin Andersson and Jonas Gernandt, Uppsala University

Tuesday, June 16, 2009
2:00 PM - 4:50 PM
Electrokinetics & Microfluidics IV

Organizers: Leslie Yeo, Monash University, Shelley L. Anna, Assistant Professor, Carnegie Mellon University
Presider: Kevin D. Dorfman, University of Minnesota

2:00 AC Polarization of Nanocolloids and Their Impedance Signatures in Strong Electrolytes. **Hsueh-Chia Chang**, University of Notre Dame

2:30 Understanding Nanocolloid – Nanochannel Interaction for Biomolecular Detection. **Gilad Yossifon**, Yu-Chen Chang, Sagnik Basuray, Peter Mushenheim, Lauren Floccare and Hsueh-Chia Chang, University of Notre Dame

2:50 Enhancing the Concentration Polarization In Micro/Nanochannel Hibrid System Using Array of Pillars. **Sung H. Ko**[1], Sung J. Kim[2], Kwan H. Kang[1] and Jongyoon Han[2], (1)Pohang University of Science and Technology, (2)Massachusetts Institute of Technology

3:10 AC-Polarization And Conformational Transition of Weak Polyelectrolyte In Uniform AC-Electric Fields. **Shengqin Wang** and Y. Elaine Zhu, University of Notre Dame

3:30 Electro-Hydrodynamic Particle Levitation on Electrodes: Asymptotic Analysis. **Ehud Yariv**, Technion

3:50 Electrohydrodynamic Flow And Colloidal Patterning near Inhomogeneities On Electrodes. William D. Ristenpart[1], Peng Jiang[2], Michael A. Slowik[3], **Christian Punckt**[3], Dudley A. Saville[3] and Ilhan A. Aksay[3], (1)University of California at Davis, (2)University of Florida, (3)Princeton University

4:10 Separation of Colloids Using Alternating Current Electrokinetics. **Shahnawaz Molla** and Subir Bhattacharjee, University of Alberta

4:30 A Pore Resistance Model And the Effect of Electrical Conductivity On Electroporation. **Hao Lin, PhD** and Jianbo Li, Rutgers University

Tuesday, June 16, 2009
2:00 PM - 4:50 PM
Emulsions I
Sponsor: BASF Stony Brook, NY

Organizer: Rong Guo, Yangzhou University
Presider: Stig Friberg, University of Virginia

Session Overview: The session's main aim to connect new FUNDAMENTAL KNOWLEDGE with PRACTICAL APPLICATIONS of emulsions. It will show the latest development in SPONTANEOUS EMULSIFICATION, a ONE STEP PROCESS to prepare DOUBLE EMULSIONS and will introduce a new approach to estimate the PHASEE CHANGES during EVAPORATION of emulsions.

2:00 Development of Double Emulsions with Vegetable Oils by One-Step Method. **Orlando D. H. Santos**, Tatiana A. Aguiar, Ludimila M. Santana, Vanessa T. Jeronimo, Julinana S. Oliveira, Natalia Q. Rezende and Patricia L. Goto, Federal University of Ouro Preto

2:30 Thermodynamic Parameters of Transfer of Vitamin E From the Oil to the Interfacial Region of a Octane Based Model Emulsion. **Carlos Bravo-Díaz**[1], Pastoriza - Gallego Maria Jose[1], Sánchez - Paz Veronica[1], Losada - Barreiro Sonia[1], K. Gunaseelan[2] and Laurence S. Romsted[2], (1)Universidad de Vigo, (2)Rutgers University

2:50 Novel Silica Stabilized Multiple Emulsions: Release and Polymerization Study. **Amro K. F. Dyab**[1], Vesselin N. Paunov[2], B.P. Binks[2] and P.D.I Fletcher[2], (1)The University of Minia, Faculty of Science, (2)The University of Hull

3:10 Double Emulsion Droplets as Microreactors for Synthesis of Hydroxyapatite. **Ho Cheung Shum**[1], Amit Bandyopadhyay[2], Susmita Bose[2] and David A. Weitz[1], (1)Harvard University, (2)Washington State University

3:30 Comparison of Calculated and Experimentally Determined Evaporation Path from An Emulsion. **Abeer AL Bawab**, university of Jordan

3:50 The Effect of Relative Humidity on the Evaporation Path of An Emulsion. **Patricia . A Aikens**, BASF Corporation

4:10 Constant Vapor Pressure Evaporation from a Fragrance Emulsion. **Lingling Ge** and Rong Guo, Yangzhou University

4:30 Analysis of Phase Diagrams and Microstructural Characterization of Microemulsion Systems Using High-Resolution Ultrasonic Spectroscopy. **Vitaly Buckin**, Sinead Hickey, Shailiesh Kumar and Evgeny Kudryashov, University College Dublin

Tuesday, June 16, 2009
2:00 PM - 4:25 PM
Environmental Colloid and Interfacial Processes II

Organizers: Qilin Li, Rice University, Helen Nguyen, University of Illinois, Urbana-Champaign
Presider: V. Faye McNeill, Columbia University

2:00 Welcoming Remarks.

2:05 Microscopic Characterization of Carbonaceous Aerosol Aging In the Outflow From Mexico City. **Ryan Moffet**[1], Tobias R. Henn[1], Rebecca Hopkins[1], Alexei Tivanski[2], Yury Desyaterik[3], Jerome Fast[4], V. Shutthanandan[4], A. Laskin[4] and M.K. Gilles[1], (1)Lawrence Berkeley National Laboratory, (2)University of Iowa, (3)Colorado State University, (4)Pacific Northwest National Laboratory

2:25 OH-Initiated Oxidation of Carbonaceous Surfaces at Tropospheric Temperatures. **Yong Liu**, Andrey Ivanov and Mario Molina, University of California, San Diego

2:45 Reactive Uptake of O3 on Deliquesced KI Particles Coated with Fatty Acids and SDS. **Aurélie Rouvière** and Markus Ammann, Paul Scherrer Institut

3:05 Heterogeneous Ozone Oxidation of Chiral Terpenes Studied by Vibrational Sum Frequency Generation. **Franz M. Geiger**, Northwestern University

3:25 A Dynamic Uptake Coefficient Treatment for Modeling the Heterogeneous Reactions of O_3, NO_2, And H_2o with Benzo[a]Pyrene Adsorbed On Soot. **Marco Springmann**[1], Daniel A. Knopf[1] and Nicole Riemer[2], (1)Stony Brook University, (2)University of Illinois at Urbana-Champaign

3:45 The Ozonolysis of Surface-Adsorbed Polycyclic Aromatic Hydrocarbons. **V. Faye McNeill**, Neha Sareen, Sophia Sands, Michelle Tomasik, Paul Lee and Sophie Chu, Columbia University

4:05 Interactions of 4-Chlorophenol with TiO_2 Surfaces: Study of Environmental Interfaces by NEXAFS, XPS And UPS. **Alexander Orlov, Ph.D.**[1], Richard Lambert, Ph.D.[2] and Mintcho Tikhov[2], (1)State University of New York, Stony Brook, (2)University of Cambridge, UK

Tuesday, June 16, 2009
2:00 PM - 4:50 PM
Fabrication of Colloidal Assemblies and Devices II: Colloidal Devices II

Organizers: Darrell Velegol, Pennsylvania State University, Orlin D. Velev, North Carolina State University

2:00 Omnidirectional Printing of Flexible, Stretchable and Spanning Microelectrodes from Silver Nanoparticle Inks. **Jennifer A. Lewis**, University of Illinois, Urbana-Champaign

2:30 Superclusters: Hierarchical Self-Assembly towards Structured Microparticles for Digital Printing. **Zhaoyang Ou**, Zhen (Jerry) Lai, Chieh-Min Cheng, Dennis A Mattison and Chris Blair, Xerox Corporation

2:50 Magnetically Deformable Liquid Mirrors From Silver Nanoparticles. **Anna M. Ritcey**, Jean-Philippe Déry, Luc Faucher and Ermanno F. Borra, Université Laval

3:10 Engineering Spontaneous Emission of Fluorescent 3D Photonic Crystals through Self-Assembly of Sub-Micron Colloids. **Jung Hun Song**[1], Harish N. S. Krishnamoorthy[2], Vinod M. Menon[2] and Ilona Kretzschmar[3], (1)Graduate Center and City College of City University of New York, (2)Queens College of City University of New York, (3)City College of City University of New York

3:30 Acrylamide-Based Magnetic Nanosponges: a New Smart Nanocomposite Material. **Massimo Bonini**[1], Sebastian Lenz[2], Ester Falletta[3], Rodorico Giorgi[3], Francesca Ridi[3], Emiliano Carretti[3], Emiliano Fratini[3], Albrecht Wiedenmann[4] and Piero Baglioni[3], (1)Present Address: BASF SE - BASF ISIS Team, Institut de Science et d'Ingénierie Supramoléculaires, (2)Present Address: Max Planck Institute for Polymer Research, (3)University of Florence and CSGI, (4)Present Address: Institut Laue-Langevin (ILL)

3:50 Rapid Detection of S-Adenosylhomocysteine Using Self-Assembled Optical Diffraction Gratings. **David H. Thompson, Professor & University Faculty Scholar**, Ghanashyam Acharya, Chun-Li Chang, Cagri Savran and David P. Holland, Purdue University

4:10 Vapor Responses of Thiol-Protected Gold Nanoparticle Films: Progress Toward a Chemical Sensor. **Jisun Im**[1], Amol Chandekar[1], Sandip K. Sengupta[1] and James E. Whitten[2], (1)University of Massachusetts Lowell, (2)Department of Chemistry and Center for High-Rate Nanomanufacturing, University of Massachusetts Lowell

4:30 A Revolutionary Fuel Cell. **Krishna Kowlgi**, Delft University of Technology and Ger JM Koper, TU Delft

Tuesday, June 16, 2009
2:00 PM - 4:20 PM
General I

Organizers: John Kitchin, Carnegie Mellon University, James B. Miller, Carnegie Mellon University

2:00 Surface Anisotropic Colloidal Delivery And Template System for Multi-Stage Reactive Separation. **Jung Hun Song**, Graduate Center and City College of City University of New York and Ilona Kretzschmar, City College of City University of New York

2:20 Evidence for Enantiospecific Interaction of Histidine with Planes of Single Crystalline Alpha Quartz. **Paul J. Sides**, Danish Faruqui, Vladimir V Pushkarev and Andrew J Gellman, Carnegie Mellon University

2:40 Enantiospecific Adsorption of Amino Acids On Hydroxylated Quartz (0001). **Jeong Woo Han** and David S. Sholl, Georgia Institute of Technology

3:00 Growth And Characterization of Iron And Iron Oxide Nanoparticles On the Au(111) Surface. Xingyi Deng, Junseok Lee and **Christopher Matranga**, National Energy Technology Laboratory, U.S. Dept. of Energy

3:20 First Example of Polymer Stablized Gold Nanoparticles for Suzuki-Miyaura Cross-Coupling Reaction. **Jie Han**, Yan Liu and Rong Guo, Yangzhou University

3:40 Gas-Surface Reactions of Alkanethiol Monolayers. **S. Alex Kandel** and Natalie A. Kautz, University of Notre Dame

4:00 TiO2 Nanocrystals for Surface Reaction Dynamics Studies. **Richard Osgood Jr.** and Denis Potapenko, Columbia University

Tuesday, June 16, 2009
2:00 PM - 4:30 PM
Interfacial Forces and Fields IV

Organizers: Sven-Holger Behrens, Georgia Institute of Technology, Pierre M. Adler, Universite Pierre et Marie Curie, Eric R. Dufresne, Yale University

Session Overview: This symposium will survey the interaction between solid-liquid, liquid-liquid, and gas-liquid interfaces as well as the influence of external fields on colloidal interaction. The emphasis of this fourth session is on colloidal assembly and different types of phoretic phenomena.

2:00 Self-Assembly of Nematic Colloids. **Igor Musevic**, J.Stefan Institute

2:30 Colloidal Non-Interactions In Strongly-Charged Phoretic Phenomena. **Todd M. Squires**, University of California

2:50 Soret Effect In Non-Ionic Surfactants. **Sascha Datta**[1], Thomas Sottmann[1], Simone Wiegand[2] and Bastian Arlt[2], (1)University of Cologne, (2)Forschungszentrum Jülich

3:10 Phoretic Motion of Axisymmetrical Objects Via Self-Generated Composition Gradients. **Mihail N. Popescu**[1], Mykola Tasinkevych[2], Siegfried Dietrich[2] and John Ralston[1], (1)Ian Wark Research Institute, University of South Australia, (2)Max-Planck-Institut fuer Metallforschung, 70569 Stuttgart

3:30 Organizing End-Grafted Polymer on Phospholipid Bilayers. **Reghan J. Hill** and Huaiying Zhang, McGill University

3:50 Interactions, Dynamics, and Microstructures in Electric Field Induced Colloidal Assembly. **Jaime J. Juárez** and Michael A. Bevan, Johns Hopkins University

4:10 Colloids in AC Fields: Edge Localized Instabilities in Dielectrophoretic Bottles. **Doris Vollmer**, Zhao Jinyu, Auernhammer Guenter and Butt Hans-Juergen, Max Planck Institute

Tuesday, June 16, 2009
2:00 PM - 4:30 PM
Novel Measurement Tools & Methods IV

Organizers: Mark Bumiller, Horiba Instruments, Dietmar Lerche, L.U.M. GmbH
Presider: Andrei Dukhin, Dispersion Technology Inc.

2:00 Recent Advances In the Textural Characterization of Nanoporous Materials. **Matthias Thommes, Dr.** , Quantachrome Instruments

2:30 Direct Measurement of the Surface Area of Suspensions Using NMR. **David Fairhurst, PhD.**[1], Sean W. Race[1], Terence Cosgrove[2], Stuart Prescott[2] and Michael Brozel[2], (1)XiGo Nanotools, LLC, (2)University of Bristol

2:50 Laser Micro-Rheology and Film FORMATION MONITORING of Coatings. Helene Dihang[1], **Yoann Lefeuvre**[2] and Laurent Brunel[1], (1)Formulaction, (2)FORMULACTION, Inc.

3:10 Scattering of Fractal Aggregates And Implications for Particle Sizing. **Frank Babick**, Karin Schießl and Michael Stintz, Technische Universität Dresden

3:30 Study of Colloidal Disk Sedimentation by Analytical Centrifugation. **Peng He**[1], Dazhi Sun[1], Dean Dinair[2], Sue Hung-Jue[1] and Zhengdong Cheng[1], (1)Texas A&M University, (2)L. U. M. Corporation

3:50 Wettability of Interfaces as An Indicator of Their Properties And State. **Alexandre Emelyanenko**, Frumkin Institute of Physical Chemistry and Electrochemistry, Russian Academy of Sciences

4:10 Characterisation of Core-Shell Polymer-Silica Nanocomposite Particles by Small Angle X-Ray Scattering. **Jennifer A. Balmer**, Andreas Schmid, Oleksandr O. Mykhaylyk, Steven P. Armes, J. Patrick A. Fairclough and Anthony J. Ryan, University of Sheffield

Tuesday, June 16, 2009
2:00 PM - 4:50 PM
Polymer Interfaces I

Organizers: Frank Blum, Missouri University of Science and Technology, Maria M. Santore, University of Massachusetts,
Presider: Maria Santore, University of Massachusetts

2:00 Biomimetic Multifunctionally Responsive Surfaces. **Spiros H. Anastasiadis, Professor**, Foundation for Research and Technolgy - Hellas

2:30 Light-Induced Bio-Inspired Responsive Polymer Brushes. **Tao Chen** and Stefan Zauscher, Duke University

2:50 Zipper Brushes: Ultra Dense Brushes through Adsorption. **Wiebe M. de Vos**, J. Mieke Kleijn, Arie de Keizer and Martien A. Cohen Stuart, Wageningen University

3:10 Peptides Grafted from Solids for the Control of Interfacial Properties. **William A. Ducker**[1], Wade K.J. Mosse[2], Merran Koppins[2] and Sally Gras[2], (1)Virginia Tech, (2)University of Melbourne

3:30 Nanostructured Polymer Brushes: Chemical Gating and Wetting Behavior. **Mikhail Motornov**[1], Roman Sheparovych[2], Evgeny Katz[1] and Sergiy Minko[1], (1)Clarkson University, (2)Clarkson Uninersity

3:50 Reduction of Surface Hydrophobicity Using a Stimulus Responsive Polysaccharide. Iliana G. Sedeva, Daniel Fornasiero, John Ralston and **David A. Beattie**, University of South Australia

4:10 Partially Fluorinated Ionomer Films by Surface-Initiated Ring Opening Metathesis Polymerization. **G. Kane Jennings, Associate Professor**, Christopher J. Faulkner and Remington E. Fischer, Vanderbilt University

4:30 pH-Dependent Charging at Constant Ionic Strength: Dendrimers, Surfaces with Adsorbed Polyelectrolytes and Spherical Brushes. **Duško Cakara**, University of Rijeka

Tuesday, June 16, 2009
2:00 PM - 4:40 PM
Structures at Interfaces with Liquids IV

Organizers: Kenneth B. Eisenthal, Mark Hyman Professor of Chemistry, Columbia University, Franz Geiger, Northwestern University

2:00 Computational Analysis of Sum Frequency Generation Spectrocopy and Aqueous Solution Surfaces. **Akihiro Morita** and Tatsuya Ishiyama, Tohoku University

2:40 Structure of the Water/Organic Liquid Interface And Its Effect On Reactivity. **Ilan Benjamin, Professor**, University of California, Santa Cruz

3:20 Nonlinear Light Scattering From Colloidal Nanoparticles – Probing Surface Structure and Adsorption. **Hai-Lung Dai**, Temple University

4:00 Quantitative Calculation of Third Order Effects at Charged Aqueous Interfaces. **Brian Space** and Anthony Green, University of South Florida

4:20 Influence of Molecular Packing Density On the Properties of Self-Assembled Monolayers Under An Applied External Field. Gloria K. Olivier and **Joelle Frechette**, Johns Hopkins University

Tuesday, June 16, 2009
2:00 PM - 4:20 PM
Surfactants and Supermolecular Assemblies: Aggregates at the Solid-Liquid Interface

Organizers: Alexander Couzis, The City College of New York, Charles Maldarelli, The City College of New York

Session Overview: This session focuses on new developments on surfactants and their self assembly at interfaces and in solution, including: 1. The structure and phase transitions of Langmuir and Gibbs surfactant monolayers, including single component and mixed surfactant monolayers. 2. The dynamics of surfactant adsorption and surface tension reduction at gas/liquid and liquid/liquid interfaces and dynamic control and tunability of surface tension. 3. The aggregation of surfactants in aqueous and non-aqueous media including phase behavior, equilibrium structures, the kinetics of micellization, mixed surfactant and cationic/anionic assemblies, microemulsions and molecular dynamics simulations of the processes. 4. Nanoparticles adsorbed at interfaces; their phase behavior and their effect on the surface tension. 5. Lipid assembly and phase behavior in aqueous media including bilayers, liposomes and polymer/surfactant liposomes 6. Supermolecular structures templated by surfactant assembly at interfaces and in the bulk.

2:00 Surfactants at Solid-Oil Interfaces. **Rico Tabor**[1], Julian Eastoe[1] and Peter J. Dowding[2], (1)University of Bristol, (2)Infineum UK Ltd

2:20 Coating of Hydrophilic and Hydrophobic Surfaces with Complex Coacervate Core Micelles and Its Effect on Protein Adsorption. **Agata Maria Brzozowska**, Arie de Keizer, Willem Norde and Martien Cohen Stuart, Wageningen University

2:40 Surfactant Self-Assembly on Substrates and the Dewetting Process. **J.S. Bernardes** and F. Galembeck, University of Campinas

3:00 Self-Assembly Structure of Nonionic Surfactants On Colloidal Silica Studied by Small-Angle Neutron Scattering. **Dersy M. Lugo Q.**[1], Julian Oberdisse[2], Sylvain Prévost[1], Matthias Karg[1] and Gerhard H. Findenegg[1], (1)Technische Universität Berlin, (2)Université Montpellier 2

3:20 Self-Assembled Soft Materials From Biobased Surfactants. **George John**, The City College of CUNY

3:40 Macromolecular Self-Assembly: Pseudopolyrotaxanes. **Pierandrea Lo Nostro, Dr.**[1], Luca Giustini, Mr.[1], Emiliano Fratini, Dr.[1], Francesca Ridi, Dr.[1], Barry W. Ninham, Prof. Dr.[2] and Piero Baglioni, Prof. Dr.[1], (1)University of Florence, (2)Australian National University

4:00 A Twist On Amphiphile Design Yields "Sticky" Supramolecular Cones. **Yan Geng**, University of Georgia

Tuesday, June 16, 2009
4:45 PM - 6:15 PM
Tuesday Poster Session
Sponsor: CAPES, FAPESP E CNPq

Presider: Shahab Shojaei, The City College of New York

Thermodynamics of Micelle Formation of a Novel Cocogem Surfactant and the Dynamic Adsorption of the Cocogem On Sandstone. **Annamária B. Páhi**[1], Zoltán Király[1], József Dudás[2] and Sándor Puskás[3], (1)University of Szeged, (2)University of Pannonia, (3)E&P, New Technologies and R&D

Multiple Glass Transition Temperatures In Thermosetting Ultra-Thin Films : Stratification Process or Confinement Effect ?. **Pascal Carriere**, Sandra Onard and Stéphanie Mallarino, University of Toulon

PEO at the Air/Water Interface. **Louise Deschênes**, Agriculture & Agri-Food Canada, Anna M. Ritcey, Universite Laval and Mosto Bousmina, Institut des Nanosciences/ Nanotechnologies de. Rabat

Transformation of Organized Assemblies in Cationic-Anionic Surfactant Solutions. **Jianbin Huang Sr.**, Peking University

In-Situ Characterization of Dispersion Mechanisms of Agglomerated Filler Particles In a Polymer Matrix Under the Action of Shear. Céline Roux, Véronique Collin, Patrick Navard and **Edith Peuvrel-Disdier**, Mines-ParisTech

Smart Organized Systems. Characterization and Applications. Fernando Moyano, Dr, Silvina Soledad Quintana, Mercedes Novaira, Ruben Dario Falcone, Dr, Juana Josefa Silber, PhD and **N. Mariano Correa, Dr**, UNRC

Study the Dependence of Dendrimer Conformation On Concentration by Small Angle Neutron Scattering. Wei-Ren Chen[1], **Yun Liu**[2], Lionel Porcar[3], Paul D. Butler[3], Kenneth W. Herwig[1] and Gregory S. Smith[1], (1)ORNL, (2)NIST, (3)National Institute of Standards and Technology

RUB-18 Organomodified Derivatives for Cation Removal at the Solid/Liquid Interface. **Thaís R. Macedo** and Claudio Airoldi, Institute of Chemistry – University of Campinas

Analytical Scattering Function of Polydisperse, Multilayered Hard Spheres. **Moheb Nayeri, PhD student**[1], Malin Zackrisson[2] and Johan Bergenholtz[1], (1)University of Gothenburg, (2)Université de Fribourg

Preparation and Structural Analysis of Gold-Lustrous Low-Molecular Organic Crystals. **Akiko Matsumoto**, Maho Kawaharazuka, Takeshi Kawai and Yukishige Kondo, Tokyo University of Science

Dynamically Controlled Colloidal Assembly Via Navigation of Energy Landscapes. **Daniel J. Beltran-Villegas** and Michael A. Bevan, Johns Hopkins University

Dynamics of Quantum Dot Modified Dense Colloidal Suspensions. **Shomeek Mukhopadhyay**, Columbia University and M. Lane Gilchrist, City College and the Graduate Center of the City University of New York

Role of Surface Tension in the Growth of a Gas Bubble in Supersaturated Solution. Anatoliy E. Kuchma, Professor, **Gennady Yu. Gor** and Fedor M. Kuni, Professor, Saint-Petersburg State University

Water Confined in Cement Pastes as a Probe of Cement Microstructure Evolution. Observation of a Dynamic Crossover in Nanoporosity. **Piero Baglioni, Professor**, Francesca Ridi, Paola Luciani and Emiliano Fratini, University of Florence and CSGI

Molecular Modeling of Peptide-Like Inclusions in Lipid Bilayers: Lipid-Mediated Interactions. Richard A. Kik, **J. Mieke Kleijn** and Frans A.M. Leermakers, Wageningen University

Intermittent Brownian Dynamics Over a Colloidal Interface: Probing Adsorption and Relocation Statistics by NMR Relaxometry. **Pierre Levitz**, Ecole Polytechnique - CNRS

Radiative Decay Rate Measurement for Perylene Dye Molecules Embedded to Porous Silicon Nano-Structures. **Bukem Bilen**, Dogus University and M. Naci Inci, Bogazici University

Effect of Nanoparticles On the Properties of the Oil/Water Interface In the Presence of An Oil Soluble Surfactant. Catherine Whitby[1], **Libero Liggieri**[2], Francesca Ravera[2], Daniel Fornasiero[1] and John Ralston[1], (1)University of South Australia, (2)CNR-Institute for Energetics and Interphases - Dept. of Genoa

Electrophoresis of PEG-Derivatized Lipids in Supported Phospholipid Bilayer Membranes. **Huaiying Zhang** and Reghan J. Hill, McGill University

Interaction Between Non-Ionic Surfactants and Cellulose Ester by Differential Scanning Calorimetry and Atomic Force Microscopy. **Jorge Amim Junior, PhD student**, Yoshio Kawano and Denise Freitas Siqueira Petri, University of São Paulo

Stability and Interface Properties of Thin Cellulose Ester Films Adsorbed from Acetone and Ethyl Acetate Solutions. **Jorge Amim Junior, PhD student**, Priscila Monteiro Kosaka, Francisco Carlos Barbosa Maia, PhD student, Paulo Barbeitas Miranda, professor and Denise Freitas Siqueira Petri, University of São Paulo

The Dynamics of Charging of Muscovite Mica. **Paul J. Sides**, Danish Faruqui and Andrew J. Gellman, Carnegie Mellon University

Dynamic Interfacial Properties of Drops Relevant to W/O-Emulsion-Forming Systems. Measurements of High-Frequency Oscillations by Capillary-Pressure Tensiometry. **Giuseppe Loglio**[1], Piero Pandolfini[1], Francesca Ravera[2], Jürgen Krägel[3], Aliyar Javadi[3], Alexander V.

Makievski[4], Boris A. Noskov[5], Libero Liggieri[2], Reinhard Miller[3] and Lucilla Del Gaudio[6], (1)University of Florence, (2)CNR-Institute for Energetics and Interfaces - Dept. of Genova, (3)MPI Colloids & Interfaces, (4)Sinterface Tecnologies, (5)St. Petersburg State University, (6)Eni S.p.A. E&P

Formation of W/O Nanoemulsions by Dilution of a Concentrated Phase: Effect of Nonionic Surfactant Type. **Laura Marquez**, Ana Forgiarini and María-Teresa Celis, University of The Andes

Interactions of Block-Copolymer Micelles with Bacteria. **Renata Vyhnalkova**, Adi Eisenberg and Theo G.M. Van de Ven, McGill University

Synthesis of Liposome@Yttrium-Basic-Carbonate Composite Nanocapsules. Martín G. Bellino and **Alberto E. Regazzoni**, Comisión Nacional de Energía Atómica

The Maximum of Phosphate Adorption at pH 4.0: Why It Appears on Al Oxides but Does Not on Fe Oxides. **Xiao Huang**, G. Foster, R. Honeychucks and J. Schriefels, George Mason University

Measurement of the Interaction Between Two Silica Surfaces Bearing Layers of Adsorbed Thermosensitive Poly(N-isopropylacrylamide) (PNIPAM) Chain. **Xiangjun Gong** and To Ngai, The Chinese University of Hong Kong

Depletion Attraction Between a Polystyrene Particle and a Hydrophilic Surface in a Pluronic Aqueous Solution. **Xiaochen Xing**, Chinese University of Hong Kong and To Ngai, The Chinese University of Hong Kong

The Structural Properties of Magnetite/Porous Silica Nanocomposite and Its Applications in Cosmetics. **Youngjun Yang**, Taikjin OH and Hakhee Kang, AMOREPACIFIC

Formation of Plasmid DNA-Single Chained Cationic Surfactant Vesicles and Its Application in Gene Transfer. **X. M. Ran**[1], X. Guo[2] and R. Guo[2], (1)School of Chemistry and Chemical Engineering, Yangzhou University, (2)Yangzhou University

Nanogel Applications in Tissue Engineering". **Sathish Ponnurangam**, Irina Chernyshova and Ponisseril Somasundaran, Columbia University

Determination of Adsorption Modes of Alkyl Hydroxamates on Titania Minerals - a DFT Study. **Sathish Ponnurangam**, Irina Chernyshova and Ponisseril Somasundaran, Columbia University

Phase Behaviour of Hydrogen-Bonded Hybrid Amphiphile In Water. Fumin Ma[1], **Xiao Chen**[1], Yurong Zhao[1], Xudong Wang[1], Qiuhong Li[1] and Huayu Qiu[2], (1)Shandong University, (2)Hangzhou Normal University

Field-Induced Orientational Order In Aqueous Beidellite Suspensions. Erwan Paineau[1], Krassa Antonova[2], Ivan Dozov[3], Patrick Davidson[4], Isabelle Bihannic[1], Christophe Baravian[5], Pierre Levitz Sr.[6] and **Laurent J. Michot**[1], (1)CNRS-Nancy Université UMR 7569, (2)Bulgarian Academy of Sciences, (3)NEMOPTIC, (4)CNRS-Université Paris-Sud UMR 8502, (5)CNRS-Nancy Université UMR 7563, (6)Ecole Polytechnique - CNRS

Sudden Spreading of Particles Sprinkled Onto a Liquid Surface. **Satish Gurupatham, Graduate student**[1], Bhavin Dalal[1], Pushpendra Singh[1], Nadine Aubry, Professor[2] and Dan Joseph, Professor[3], (1)New Jersey Institute of Technology, (2)Carnegie Mellon University, (3)University of Minnesota

Stability of Size-Selected Microbubbles. **Jameel A. Feshitan, PhD Candidate**, Cherry C. Chen, PhD Candidate and Mark A. Borden, PhD, Columbia University

A Model for Lipid-Coated Microbubble Growth And Dissolution In Complex Media. **James J. Kwan, PhD Student**, Nicholas Chen, Undergraduate and Mark Borden, PhD, Columbia University

Micelle-Vesicle Transition of a Hybrid Surfactant In Water. **Yutaka Takahashi**[1], Judith Schmidt[2], Yeshayahu Talmon[2] and Yukishige Kondo[1], (1)Tokyo University of Science, (2)Technion-Israel Institute of Technology

Ionic Self-Assembled Solid-Like Vesicles And Their Temperature-Induced Transformation. Bo Jing and **Xiao Chen**, Shandong University

Temperature-Induced Aggregation of Odorant Binding Proteins. Paola Luciani[1], **Francesca Ridi**[2], Emiliano Fratini[2], Virna Conti[3], Stefano Grolli[3], Roberto Ramoni[3] and Piero Baglioni[1], (1)University of Florence and CSGI, (2)University of Florence, (3)University of Parma

Preparation of Ag-Au Bimetallic Nanoparticles In Reverse Microemulsion. **Romain Bordes**, Cheng Jing and Krister Holmberg, Chalmers University of Technology

Quantification of the Interactions Between Particles And Colloidal Gas Aphrons. **Nidal Hilal, Prof** and Daniel Johnson, Centre for Clean Water Technologies

Fabrication of Straight Very Thin Gold Nanowires In Organogel Template. **Takeshi Kawai**, Yoshiro Imura and Takeshi Kondo, Tokyo University of Science

Novel Gel Phase Formed by Mixing a Cationic Surfactive Ionic Liquid C16mimCl And An Anionic Surfactant SDS In Aqueous Solution. Yurong Zhao, **Xiao Chen**, Bo Jing, Xudong Wang and Fumin Ma, Shandong University

Liquid Crystalline Phases Self-Organized From a Surfactant-Like Ionic Liquid C16mimCl In Ethylammonium Nitrate. Yurong Zhao, **Xiao Chen** and Xudong Wang, Shandong University

Simultaneous Measurement System of Resonance Shear Responses And Fluorescence Lifetime to Evaluate Local Viscosity of Confined Liquid. **Motohiro Kasuya**, Daisuke Fukushi, Hiroshi Sakuma and Kazue Kurihara, Tohoku University

Love Mode Acoustic Waveguide Biosensors In Microfluidic Applications: a Theoretical Analysis. **Marina V. Voinova**, University of Gothenburg

Flow Cytometric Analysis of Microbubble Size Distribution And Surface Interactions. **Cherry C. Chen, PhD Candidate** and Mark A. Borden, PhD, Columbia University

Apparent Molar Volume of Mixtures of Ethoxylated Nonyl Phenol Homologues In Micellar Solution. **Szabolcs Vass**[1], István Lakatos[1], György Jákli[2] and Lajos Nagy[3], (1)University of Miskolc, (2)KFKI Atomic Energy Research Institute, (3)University of Debrecen

An Interfacial Scale Bacterial Adhesion Model Explains the Hysteretic Force Interaction Profiles. **Gaurav Saini**, Mark E. Dolan and Brian D. Wood, Oregon State University

Blistering Phenomenon of Bioabsorbable Polymers During Degradation And Confocal Raman Microscopy Study. **Dachuan Yang**, Elizabeth Vailhe, Yumei Xu, Christophe Vailhe and James McDivitt, ETHICON, JOHNSON & JOHNSON COMPANY

Preparation And Characterization of Various Porous Silica Materials Via Self-Assembly of Surfactants In Strong Acid Condition. **Jae-Hyung Park**, Eun-Gyeong Lee, Tae-Ho Kang and Seong-Geun Oh, Hanyang University

Reversible Sol-Gel Transition of Long-Chain Amide Derivatives Controlled by Light. **Keisuke Matsue**, Takeshi Kondo and Takeshi Kawai, Tokyo University of Science

Layer-by-Layer Assembly of Natural Polyphenol And Gelatin In Organized Microcapsules. **Tatsiana G. Shutava**[1], Shantanu S. Balkundi[2], Vladimir E. Agabekov[1] and Yuri M. Lvov[3], (1)Institute of Chemistry of New Materials, National Academy of Sciences of Belarus, (2)Institute for Micromanufacturing, Louisiana Tech University, (3)Louisiana Tech University

Gold Nanoparticle Assemblies On Solid Substrate Prepared by Using Surface Molecular Macroclusters. **Takeshi Kajiwara**, Tatsurou Shinzawa, Masashi Mizukami and Kazue Kurihara, Tohoku University

Preparation of Robust Silica Nanocapsules Using Molecular Assemblies Formed Vesicles as Templates. **Taku Ogura**, Hiroto Sohma, Hirobumi Shibata, Kenichi Sakai, Hideki Sakai and Masahiko Abe, Tokyo University of Science

Dynamics of Concentrated Hard-Sphere Colloids near a Wall. Vassiliki Michailidou[1], **George Petekidis**[1], James Swan[2] and John F. Brady[2], (1)FORTH and University of Crete, (2)California Institute of Technology

Gold Films with Cavities for Applications In Plasmonics. **Jes Dreier**, Ole Albrektsen, Rene L. Eriksen and Adam Cohen Simonsen, PhD, University of Southern Denmark

Bi-Layer Formation of Imidazole-Modified Ethyl(HydroxyEthyl)Cellulose at a Hydrophobic Surface as Monitored by QCM-D. **Jesper Hedin**, Chalmers

Efficient Synthesis of Cross-Linked Spherical Micelles And Polymersomes. **Chan Woo Park**, Hyun Jin Lee, Hee-Man Yang and Jong-Duk Kim, KAIST

Modeling the Osmotically Driven Crystallization Inside Double Emulsion Drops. **Kathryn S. Hess** and Carlos J. Martinez, Ph.D., Purdue University

Relative Motion of a Pair of Colloids In Nonadsorbing Polymer Solutions. **Tai-Hsi Fan**, University of Connecticut and Remco Tuinier, DSM Research

Polymer-Coated Microspheres And Nanocrystalline Cellulose for Modeling the Initial Stages of Blood Thrombus Formation. **Luca Manfredi**[1], Reghan J. Hill[1] and Theo G.M. van de Ven[2], (1)McGill University, (2)Pulp and Paper Research Centre, McGill University

Interfacial Films of Mixtures of Block Copolymers And Metallic Nanoparticles. **Samuel Lamarre** and Anna M. Ritcey, Universite Laval

Chemisorption of Bidentate Ligands Onto Titanium Dioxide. Mayumi Matsuyoshi, Federico Roncaroli, Miguel A. Blesa and **Alberto E. Regazzoni**, Comisión Nacional de Energía Atómica

Development of Lanthanide Ion-Based Luminescent Nanoparticles. **Marie-Christine Dorais** and Anna M. Ritcey, Universite Laval

Polyelectrolyte Adsorption On Pulp Fibers In Packed Beds. **Laura Ciovica**[1], Nathalie Tufenkji[1] and Theo G.M. van de Ven[2], (1)McGill University, (2)Pulp and Paper Research Centre, McGill University

Synthesis And Characterization of Polymer Nanoparticles Doped with Luminescent Europium Complex. **Jessie Desbiens** and Anna M. Ritcey, Universite Laval

Hysteresis or Lack Thereof In Polymer/Surfactant Coadsorption. **Trishna Saigal** and Robert Tilton, Carnegie Mellon University

Poly(methyl methacrylate) Encapsulated Aluminium Pigments for Waterborne Applications. **Philip M. Karlsson**, Neo B. Esbjornsson and Krister Holmberg, Chalmers University of Technology

RAFT Synthesis of Novel Biodegradable Stimuli-Responsive Triple Shape Memory Polymers. **Amit Garle** and Bridgette M. Budhlall, University of Massachusetts

Aggregation of Silver Nanoparticles In Aquatic Systems. **Xuan Li**, John J. Lenhart and Harold W. Walker, The Ohio State University

Characterization of Foaming Kinetics In Mixed Surfactant Systems And Relationship Between Cleaning And Foaming Efficiency On Hard Surface. Eun-woo Chun, **Jun-Seok Park**, Chang-Hyuk Lim, Hyung-Seo Goo and In-Sik Cho, Aekyung

Biomimetic Investigations of $CaCO_3$ Growth by Solution And Vapor Phase Techniques. **Adam M. Sadowski** and R. Lloyd Carroll, West Virginia University

Effects of Extrusion On the Emulsifying Properties of Rumen And Soy Protein. Ana C. C. Silva[1], Elizabeth P. G. Arêas[1], Marcelo A. Silva[2] and **José A. G. Arêas**[1], (1)Universidade de São Paulo, (2)Universidade de Campinas

Emergent Structures And Dynamics In Biomacromolecular Systems: Synergic Effects of Amylose On Lysozyme Gelation In Dimethylsulfoxide/Water. Willemberg A. Cruz and **Elizabeth P. G. Arêas**, Universidade de São Paulo

Reversible Phase Transfer And Fractionation of Au Nanoparticles by pH Change. **Yoshiro Imura**, Clara Morita, Takeshi Kondo and Takeshi Kawai, Tokyo University of Science

Photo-Responsive Surfactants at the Silica/Aqueous Solution Interface. **Yuki Imaizumi**, Takakuni Oguchi, Kenichi Sakai, Hideki Sakai and Masahiko Abe, Tokyo University of Science

Electrochemical And Spectroscopic Aspects of the Formation Process of Octadecyltrimethylammonium Bromide/DNA Surfoplexes. **Alberto Rodríguez-Pulido**, Emilio Aicart and Elena Junquera, Universidad Complutense de Madrid

Immobilization of Anticarcinogenic Preparations Into Polymer Gels. **Dinara Rahimbayeva**[1], Kuanyshbek Musabekov[1], N Musabekov[1], Saule B. Aidarova[2], M Isahov[2] and Erkesh O. Batyrbekov[3], (1)al-Faraby's KazNU, (2)K.I. Satpayev's KazNTU, (3)A.B.Bekturov's Institute of chemical sciences

Application of Natural Biocolloids – Spherosomes as Drug Carrier. **Aitugan N. Sabitov**[1], Kuanysbek Musabekov[1], Murat K. Gilmanov[2], S. Seisenbayev[3] and Zaure A. Djumatayeva[4], (1)al-Faraby's KazNU, (2)M.A. Aytkhozhin's IMBB, (3)Rheumatologic center of Almaty, (4)Institute of eye diseases

Chemical Shift Imaging NMR to Follow Gel Formation. **Åsa Östlund**, Diana Bernin, Lars Nordstierna and Magnus Nydén, Chalmers University of Technology

A Study of the Factors Influencing the Cr(III)-Cr(VI) Redoxi Reaction In the Ca-Bentonite-Mn(IV)-Oxide System. **Agnes Hargitai Toth**, College of Nyíregyháza

Electro-Optics And Rheology of Dispersions of Polymer Nanotubes. **Bin Huang**[1], Reghan J. Hill[1] and Theo G.M. van de Ven[2], (1)McGill University, (2)Pulp and Paper Research Centre, McGill University

Halloysite Clay Nanotubes - Smart Capsules for Corrosion Inhibitors In Metal Coatings. **Elshad Abdullayev**[1], Yuri Lvov[1] and Ronald Price[2], (1)Louisiana Tech University, (2)Glen Muir Technologies Inc.

Surface Light Scattering Spectroscopy Applied to Enhanced Oil Recovery Systems. **J. Adin Mann Jr., Professor of Engineering**[1], David Herman[1], Dan Wolak[1], Grace Chen[1], William V. Meyer, Senior researcher NASA Glenn[2], Anthony Smart, Senior Researcher and VP, Scattering Solutions[3] and Craig Saltiel, President, Scattering Solutions Inc.[3], (1)Case Western Reserve University, (2)NASA Glenn, (3)Scattering Solutions Inc.

How Lipid Acyl Chain Structure Influences the Activity of Membrane-Active Peptides. **Antje Pokorny**, Erin M. Kilelee, Diana Wu and Paulo F. Almeida, University of North Carolina Wilmington

Transport Processes In Micellar Solutions of Ethoxylated Nonyl Phenols. An Empirical Viscometry, DLS, NMR And QENS Study. **Szabolcs Vass**[1], István Bányai[2], Gerhard Meier[3], István Lakatos[1], Márta Berka[2] and Bernhard Frick[4], (1)University of Miskolc, (2)University of Debrecen, (3)Research Centre Jülich, (4)Institut Laue-Langevin

Modification of Lipid Bilayer Material Properties as a Common Mode of Action for a Wide Range of Phenolic Phytochemicals. **Helgi I. Ingolfsson**[1], Roger E. Koeppe II[2] and Olaf S. Andersen[1], (1)Weill Medical College of Cornell University, (2)University of Arkansas

The Insulin-Sensitizers Troglitazone And Rosiglitazone Alter Lipid-Bilayer Properties. **Radda Rusinova**[1], Roger E. Koeppe II[2] and Olaf S. Andersen[1], (1)Weill Cornell Medical College, (2)University of Arkansas

Aggregation of ZnO Nanoparticles Under Varying Solution Chemistries. **Dongxu Zhou** and Arturo A. Keller, University of California, Santa Barbara

Diffusion of Poly(ethylene oxide) In a System Poly(methyl methacrylate)/Solvent. **Zomalala Ramananarivo**, Pascal Carriere and Andre Margaillan, Laboratoire des Matériaux Polymères Interfaces Environnement Marin , University of Toulon

Nanoparticle-Loaded Aerogels for Energy Applications. **Yuan Li** and R. Lloyd Carroll, West Virginia University

Sharp Sol-Gel Transition of Colloids with Potential Energy Barrier Under Shear Flow. **Alessio Zaccone**, Daniele Gentili, Hua Wu and Massimo Morbidelli, ETH Zurich

Simple Synthetic Process of PEG-Silica Hybrid Particles Using Remodeled Sol-Gel Reaction of PEGME-IPTES Precursors In Aqueous Solution. **Chul Oh**, Yong-Geun Lee and Seong-Geun Oh, Hanyang University

Enhancement of Charcoal Adsorption Capacity by Micro-Qiantity Fullerite Addition. **Sergey V. Mjakin**, Vladimir G. Korsakov, Vera Ju. Nikonova and Vyacheslav V. Samonin, St-Petersburg State Institute of Technology (Technical University)

Biosorption of Radionuclides by Bacterium Bacillus Polymyxa IMV 8910. **Irina Leshchuk** and Natalia Klymenko, Institute of Colloid and Water Chemistry, National Academy of Sciences of Ukraine

Conformational Changes at Colloidal Interfaces with Nonlinear Optical Techniques. **Benedikt Schuerer** and Wolfgang Peukert, University of Erlangen-Nuremberg

Utilizing Microbubbles for Efficient Delivery of Plasmid DNA to Tumors. **Shashank R. Sirsi, Ph.D.**[1], Sonia Hernandez[2], Jameel Feshitan[1], Darrell Yamashiro, MD, Ph.D.[2], Jessica Kandel, MD[2] and Mark Borden, Ph.D.[1], (1)Columbia University, (2)Columbia University Medical Center

Anionic Hetero-Gemini Surfactants Synthesized From Unsaturated Fatty Acid. **Kenichi Sakai**[1], Yuta Sangawa[1], Naoyuki Iwata[1], Yuichiro Takamatsu[2], Koji Tsuchiya[1], Kazuyuki Tsubone[2], Hideki Sakai[1] and Masahiko Abe[1], (1)Tokyo University of Science, (2)Miyoshi Oil & Fat Co., Ltd.

Monitoring the Early Stages of ZnO Nanoparticle Formation. **Doris Segets** and Wolfgang Peukert, University of Erlangen-Nuremberg

Controlled Incorporation of Light Sources Inside Colloidal Photonic Crystals: a Step towards Low-Threshold Lasers. Jean-Francois Dechezelles[1], Renaud Vallee[1], Eric Cloutet[2], Henri Cramail[2] and **Serge Ravaine**[1], (1)CRPP - University of Bordeaux, (2)LCPO

Electron Transport through Organic Molecules On Silicon Surfaces. **Liu Yang**, University of Delaware and Doug Doren, Univesity of Delaware

Rheology and Characterization of Reverse Micelles. **Patricia A. Darcy, Ph.D.** and Caroline R. Szczepanski, Lafayette College

In-Situ Analysis of the Structure and Dynamics During the Sedimentation of Charged Colloidal Particles. **Nasser Ben Braham**, LSInstruments GmbH and Department of Physics, University of Fribourg and Frank Scheffold, University of Fribourg

Electrokinetic Enhancement In Pearl-Chain Formation of Silica Particles Under AC Electric Field. **Satoshi Nishimura**, Hideo Matsumura, Katsunori Kosuge and Tomohiko Yamaguchi, National Institute of Advanced Industrial Science & Technology(AIST), Tsukuba

Emulsification and In-Vitro Digestion of Fat. **Concetta Tedeschi**, Simone Acquistapace, Eric Kolodziejczyk and Baltasar Valles-Pamies, Nestlé Reseach Center Lausanne

Shear Induced Aggregation Rate of Colloidal Nanoparticles and Clusters In the Presence of Repulsive Interactions. **Marco Lattuada** and Massimo Morbidelli, ETH Zurich

Testicular Hyaluronidase Surface Activity and Immobilization On DPPC and Cerebroside LB Films. **Douglas Santos Monteiro**, Thatyane Morimoto Nobre and Maria Elisabete Darbello Zaniquelli, Universidade de São Paulo

A Model for Asymmetric Drainage of Thin Liquid Films. **Elena Mileva** and Ljubomir Nikolov, Institute of Physical Chemistry, Bulgarian Academy of Sciences

Structure and Organization of Liquids at Surfaces. **Michael R. Brindza**, Feng Ding, Dr., Qin Zhong, John T. Fourkas, Professor and Robert A. Walker, Professor, University of Maryland

Tof-SIMS C_{60} Depth Profile, Mapping An Organic Biocide's Spatial Distribution In Antifouling Paint Binder Film. **Emiliano Pinori**[1], Mattias Berglin[1], Peter Sjövall[2] and Hans Elwing[1], (1)Gothenburg University, (2)SP Technical Research Institute of Sweden

In-Situ Analysis of Nanoparticle Self-Assembly and Surface Interactions with the Quartz Crystal Microbalance with Dissipation Monitoring (QCM-D) Technology. **Stephen L. Hussey**, Q-Sense

'Clickable' Multivalent Nanoparticles as Potent Chemotherapeutic Agents for Glioblastoma Multiforme (GBM). **Prasad Subramaniam**[1], Kevin Memoli[1], Birju Shah[1], Aniruddh Solanki[1], Jongjin Jung[1], Ken-ichiro Kamei[2], Hsian-Rong Tseng[2] and Ki-Bum Lee[1], (1)Rutgers, The State University of New Jersey, (2)University of California, Los Angeles

Attenuated Total Reflection Infrared Spectroscopy Studies of Water Transport In Films Inspired by Plant Cuticles. **Annabel M. Edwards**, Denison University

Spontaneous Insertion of Water Into Oil On a Droplet-Based Microfluidic Device. **Alexander K. Tucker-Schwartz**[1], Debalina Chatterjee[1], Heather Shepherd[2] and Robin L. Garrell[1], (1)University of California, Los Angeles, (2)Life Technologies, Inc

pH Triggered Content Release From Anti-HER2/Neu Lipid Vesicles for Cancer Therapy. **Shrirang Karve**, Ali Alaouie and Stavroula Sofou, Polytechnic Institute of NYU

Hydrodynamic Properties and Motion of Fractal Aggregates In Linear Flows. **Yogesh Harshe**, Marco Lattuada and Massimo Morbidelli, ETH Zurich

Investigation of pH-Dependent Formation of Lipid Heterogeneities On Giant Unilamellar Vesicles. **Amey A. Bandekar** and Stavroula Sofou, Polytechnic University of NYU

Fusion Studies of Heterogeneous Lipid Bilayers Controlled by pH and Cholesterol. **Manali R. Bhagat** and Stavroula Sofou, Polytechnic Intsitute of NYU

Evanescent Wave Dynamic Light Scattering (EWDLS) of Colloidal Particles at Liquid-Liquid Interfaces. **Tahereh Mokhtari**[1], Antonio Stocco[2], Enrique Carbó-Argibay[3] and Reinhard Sigel[1], (1)The University of Fribourg, (2)Université Paris-Sud, (3)Universidade de Vigo

Microfluidic Production of Lipid-Stabilized Multi-Phase Particles for Biomedical Imaging and Targeted Drug Delivery. **Kanaka Hettiarachchi**[1], Paul A. Dayton[2] and Abraham P. Lee[1], (1)University of California, Irvine, (2)University of North Carolina - North Carolina State Joint Department

Studies On Anti-Biofouling and Anti-Bacterial Microfiltration Membranes by Membrane Surface Modification Using UV Grafting. **Ramamoorthy Malaisamy**[1], David Berry[2], Lutgarde Raskin[1], Diane Holder[1] and Kimberly Jones[1], (1)Howard University, (2)University of Michigan

Analytical Ultracentrifugation of Protein Solutions. **Dominique M.E. Thies-Weesie**, Karel L. Planken and Albert P. Philipse, Utrecht University

Stability of Orange Oil/Water Nano-Emulsions Produced. **Luciana Dos Santos Spinelli**, Veronica B. de Souza, Sarah A. Medeiros and Claudia R. E. Mansur, Federal University of Rio de Janeiro

Copper Corrosion Protection In Water Reuse Projects: Cooling Systems with Secondary Treated Municipal Wastewater And Residual Disinfectant. **Ming-Kai Hsieh**[1], Shih-Hsiang Chien[2], Heng Li[2], David A. Dzombak[1] and Radisav Vidic[2], (1)Carnegia Mellon Univeristy, (2)University of Pittsburgh

Determination of the Aspect Ratio of Metal Colloid Disks from Dual Angle DLS Measurements. Robert Jack, Ana Morfesis, Ulf Nobbmann, **Carlos A. Rega** and Fraser McNeil-Watson, Malvern Instruments

The Impact of Urea and Its Decomposition Products On the SCR Activity of Zeolite Catalysts for Diesel Emission Control. **Maik Eichelbaum**[1], Marco Castaldi[1] and Robert Farrauto[2], (1)Columbia University, (2)BASF Catalysts LLC

Triggered Templated Assembly of Protein Polymersome. **Feng Li**, Wageningen University

Embracing Crystallization In the Spherical Self-Assembly Curvature. **Yan Geng**, University of Georgia

Metal Leaching from Highway Marking Glass Beads. **Nimrat Sandhu**[1], Peter K. Ndiba[1], Lisa Axe[1], Kauser Jahan[2] and Kandalam V. Ramanujachary[2], (1)New Jersey Institute of Technology, (2)Rowan University

Electrostatic Potential Dissipation on Insulators. **C. A. Rezende, Dr.**, T. A. L. Burgo, M. C. V. M. Silva, S. Bertazzo and F. Galembeck, University of Campinas

Self-Assembly Behavior of Benzotriazole In Water. **Fadwa Odeh**[1], Abeer Al-Bawab[1] and Yuzhuo Li[2], (1)University of Jordan, (2)Clarkson University

Orgnization of Wax by Surfactant Mixture to Fabricate Discotic Colloids. **Zhengdong Cheng**[1], Andreas Majie[1], Peng He[1] and Manuel Marquez[2], (1)Texas A&M University, (2)Arizona State University

Colloidal Fumed Silica In Electrolytes - Aging and Transport Properties of a Surface Modified System. **Jonas Nordström** and Aleksandar Matic, Chalmers University of Technology

Stimulus-Responsive Ultrasound Contrast Agents for Molecular Imaging. **Mark Borden, PhD**, Columbia University

Direct Coating of Surfactant-Free Gold Nanoparticles with Silica in Aqueous Media. **Toshio Sakai**[1], Hiroto Enomoto[2], Hideki Sakai[2] and Masahiko Abe[2], (1)Shinshu University, (2)Tokyo University of Science

Studies of Dipalmitoylphosphatidylcholine (DPPC) Monolayers Imbued with Molecular Balls of C60 and Dy@C82. **Zhining Wang** and Shihe Yang, HongKong University of Science and Technology

Mechanical Properties of Single Silica Capsule. **Lijuan Zhang**, Maria D'Acunzi, Michael Kappl, Günter K. Auernhammer and Doris Vollmer, Max Planck Institute

Synthesis of ZnS Nanoparticle by Microemulsion Method Assisted by Microwave Irradiation. **Tawatchai Charinpanitkul**, Anantaya Wongkamlue, Amornsak Chanakul, Varong Pavarajarn, Apinan Soottitantawat and Wiwut Tanthapanichakoon, Chulalongkorn University

Development of Nanoemulsions of Vegetable Oil (triglycerides) by Low Energy Emulsification Method. **Orlando D. H. Santos**, Tatiana A. Aguiar, Ludimila M. Santana, Vanessa T. Jeronimo, Julinana S. Oliveira, Natalia Q. Rezende and Hygor Mezadri, Federal University of Ouro Preto

A Non-Covalent Method to Functionalize Nanostructured Polymer Films Prepared by Oblique Angle Polymerization. **Niranjan Malvadkar** and Melik Demirel, Pennsylvania State University

Biomimetic Growth of Non-Biogenic Semiconductor Materials. **Mikala Shremshock** and R. Lloyd Carroll, West Virginia University

Nanocomposite Coatings for the Energy Saving Technology In the Energy Transportation. **Ludmila Boinovich**, Alexandre Emelyanenko and Andrey Pashinin, Frumkin Institute of Physical Chemistry and Electrochemistry, Russian Academy of Sciences

Towards Atomic Resolution In Colloidal Science: Soft Chemical Strategies for the SYNTHESIS of Atomic METAL Clusters. **M. Arturo Lopez-Quintela Sr., Professor**, University of Santiago de Compostela

Performance Properties of Coatings And Films Prepared From Silica-Polyacrylate Composite Latex. **Edward Davis** and Brijender Singh, Auburn University

Engineering Functionalized Colloids with Photon Correlation Spectroscopy And Zeta Potential. **Matthew N. Rhyner, PhD**, Beckman Coulter

Colloidal Chemistry Methods for Nanostructures Engineering. **Veronica Salgueirino-Maceira**, University of Vigo

Surface Modification and Dispersion Behavior Control of Oxide Composite Nanoparticles In Organic Solvents by Beads Milling Process. **Hidehiro Kamiya**[1], Motoyuki Iijima[1], Wuled Lenggoro[1], Kenji Takebayashi[2] and Shuji Sasabe[2], (1)Tokyo University of Agriculture and Technology, (2)Hosokawa Powder Technology Research Institute

Statistical Analysis of the Behavior of Magnetic Materials In Non-Uniform Magnetic and Fluid Fields. **Usha K. Veeramachaneni**, R. Lloyd Carroll and Dr. Majid Jaraiedi, West Virginia University

Wednesday, June 17, 2009

Wednesday, June 17, 2009
8:00 AM - 9:10 AM
Plenary Lecture

Wednesday, June 17, 2009
9:10 AM - 9:30 AM
Coffee Break

Wednesday, June 17, 2009
9:30 AM - 12:15 PM
Biocolloids for Imaging and Drug Delivery V: Self Assembly

Organizers: Mark Borden, Columbia University, Steven P. Wrenn, Drexel University
Presider: Raymond S. Tu, The City College of The City University of New York

Session Overview: This session covers the self assembly of biocolloids used in imaging and drug delivery.

9:30 Flexible Filaments for In Vivo Imaging and Delivery. **Dennis Discher** and David Christian, Univ. Pennsylvania

10:00 Assembly of Bioinspired Capsules for Drug Delivery Applications. **Angus P. R. Johnston**[1], Lillian Lee[1] and Frank Caruso[2], (1)The University of Melbourne, (2)University of Melbourne

10:20 Self-Assembled Nanocarriers From Poly(amino acid) Derivatives for Cancer Diagnosis and Chemotherapy. **Hyun Jin Lee** and Jong-Duk Kim, KAIST

10:40 Complexation of Statins with Cyclodextrins in Macromolecular Solutions. **András Süle** and Ferenc Csempesz, PhD, Dr. Habil., Eötvös University, Budapest

11:00 Radiolabelled Colloidal Cyclodextrin: Characterization and Its Role in Bacterial Infection Imaging. **Gurupad Bandopadhyaya**, Jaya Shukla, Rakesh Kumar and P.P. Kotwal, All India Institute of Medical Sciences

11:20 Diverse and Invariant Self-Aggregates of Hydrophobically Modified Poly(aspartic acid) In Aqueous Solution. **Jong-Duk Kim**, KAIST

11:40 Interdigitated Phospholipid Bilayers On Highly Curved SiO_2 Nanoparticles. **Selver Ahmed** and Stephanie L. Wunder, Temple University

12:00 Seeing Multifunctional Nano- And Micro-Particles Suitable for Imaging & Therapy Using Freeze-Fracture Electron Microscopy. **Brigitte Papahadjopoulos-Sternberg**, NanoAnalytical Laboratory

Wednesday, June 17, 2009
9:30 AM - 12:00 PM
Biointerfaces III: Membrane Rearrangement/Disruption 1

Organizers: Marjorie Longo, University of California, Davis, Ka Yee Lee, University of Chicago
Presider: Anne Hinderliter, University of Minnesota Duluth

9:30 Skin Lipid Macromolecular Structure: Review of Current Status, Conflicting Information And Attempts to Relate to Compromised Barrier In Disease Skin. **Linda D. Rhein, Ph.D.**, Bayer HealthCare

10:00 Effect of Low Density Lipoprotein Aggregate Size on Its Uptake and Foam Cell Formation in Macrophages. **Michael J. Walters** and Steven P. Wrenn, Drexel University

10:20 Barrier Function of Lipid Membrane In the Interaction with Nanostructures. Yuri Roiter and **Sergiy Minko**, Clarkson University

10:40 Break.

11:00 Site-Specific Interactions of a Lytic Peptide through Surface-Selective Spectroscopy. **Andrew C. Rapson**[1], Edouard C. Nice[2], Trevor A. Smith[1], Andrew H. A. Clayton[2] and Michelle L. Gee[1], (1)University of Melbourne, (2)Ludwig Institute for Cancer Research

11:20 Vectorial Transplantation of phi29 gp10 N-His-Tag Connector Protein Into C20BAS Liposomes. **David H. Thompson, Professor & University Faculty Scholar**, Purdue University

11:40 The Translocation Mechanism of Arginine Rich Cell Penetrating Peptides. **Angel E. Garcia** and Henry Herce, Rensselaer Polytechnic Institute

Wednesday, June 17, 2009
9:30 AM - 12:10 PM
Colloid Rheology and Microrheology V

Organizer: Eric Furst, University of Delaware
Presider: Jan Vermant, Katholieke Universiteit Leuven

9:30 Rheological and Eletrokinetic Properties of Clay Suspensions with Polymer and Electrolyte Additives. **Cesar C. Santana**, State University of Campinas and Kenny H. Sueyoshi, Petrobrás

9:50 Rheo- SALS Study of Aqueous Solutions of Cationic Surfactant And Salt – Effect of Temperature And Salt Concentration. **Prachi Thareja**[1], Ingo Hoffmann[2], Matthew E. Helgeson[1], Matthew W. Liberatore[3], Michael Gradzielski[2] and Norman J. Wagner[1], (1)University of Delaware, (2)Technische Universität Berlin, (3)Colorado School of Mines

10:10 Microrheology Study On Wormlike Micellar Solutions. **Claude Oelschlaeger, Dr.**, University Karlsruhe

10:30 Viscoelastic Wormlike Micelles of Long Polyoxyethylene Chain Phytosterol with Lipophilic Nonionic Surfactant in Aqueous Solution. **Suraj Chandra Sharma**[1], Lok Kumar Shrestha[2], Koji Tsuchiya[1], Kenichi Sakai[1], Hideki Sakai[1] and Masahiko Abe[1], (1)Tokyo University of Science, (2)Yokohama National University

10:50 Viscoelasticity and Stability of Single Walled Carbon Nanotube – Unsaturated Polyester Resin Dispersions. **Matthew J. Kayatin** and Virginia A. Davis, Auburn University

11:10 Rheology and Liquid Crystallinity of Dispersions of Carbon Nanotubes In DNA and Enzymes. **Virginia A. Davis**, Ao Geyou, Dhriti Nepal, Saroja Mantha, Valber Pedrosa and Aleksandr Simonian, Auburn University

11:30 Particle Dynamics and Rheology of SWNT Suspensions Under Shear and Electric Fields. **Jerry W. Shan, PhD**, Chen Lin and Peter Huang, Rutgers University

11:50 Criticality for High Shear-Induced Gelation In a Microchannel for Charge-Stabilized Colloids without Using Electrolytes. **Hua Wu**, Aikaterini Tsoutsoura, Marco Lattuada and Massimo Morbidelli, ETH Zurich

Wednesday, June 17, 2009
9:30 AM - 12:10 PM
Colloid and Surface Science in Mineral Separations and Processing II

Organizer: D. R. Nagaraj, Cytec Industries
Presiders: Zafir Ekmekçi, Prof. Dr., Hacettepe University, Gayle Morris, Dr, Victoria University

9:30 A Cryo-SEM Study of Raking Behavior in Assisting Clay Based Tailing Dewatering in Thickener. **Jianhua Du**, Rada A. Pushkarova and Roger St.C. Smart, University of South Australia, Australia.

9:50 Polyphosphate Dispersant Stability In Mineral Processing Applications. **Gayle Morris, Dr**[1], Saeed Farrokhpay, Dr[2] and Leanne Britcher, Dr[2], (1)Victoria University, (2)University of South Australia

10:10 Adverse Effects of Slimes In Mineral Separations: Myths and Misconceptions. **D. R. Nagaraj**, Tarun Bhambhani, Mukund Vasudevan and Puspendu Deo, Cytec Industries

10:30 Physicochemical Interactions Among Weathered Mineral Ultrafines and Fines and Their Effects On Selective Mineral Separations. **S. Murthy Khandrika**[1], Partha Patra[1], Tarun Bhambhani[2], D. R. Nagaraj[2] and Ponisseril Somasundaran[1], (1)Columbia University, (2)Cytec Industries

10:50 Surface Modification of Asbestos Fibers. **Fathi Habashi, Professor Emeritus of Extractive Metallurgy**, Laval University

11:10 The Relationship Between Pyrrhotite Mineralogy And Electrochemistry. **Zafir Ekmekçi, Prof. Dr.**[1], Megan Becker[2], Esra Bagci Tekes[1] and Dee Bradshaw[3], (1)Hacettepe University, (2)University of Cape Town, (3)University of Queensland

11:30 Adsorption of Colloidal Gold Onto Silanized Quartz and Its Recovery by Carrier Flotation. **José Farias Oliveira**, Federal University of Rio de Janeiro, Paulo Roberto Costa Camargo, Petróleo Brasileiro S.A. and Armando Correa de Araujo, Federal University of Minas Gerais

11:50 The Relationship Between Oxidation Index and Flotation Performance by Using EDTA Extraction Method. **Ozlem Bicak**, Zafir Ekmekci and N. Metin Can, Hacettepe University

Wednesday, June 17, 2009
9:30 AM - 12:30 PM
Colloidal Gels and Microgels V

Organizers: Martin Snowden, University of Greenwich at Medway, Brian Vincent, University of Bristol
Presider: L. Andrew Loyn, Georgia Tech

9:30 Network Induced Heterogeneities In Colloidal Gels. **Emanuela Del Gado**, ETH Zurich and Walter Kob, Université Montpellier II

9:50 Field-Driven Assembly And Gelation of Janus And Dipolar Particles. **Orlin D. Velev**, North Carolina State University

10:10 Characterization of Hydrogels Produced From Silk Fibroin Metastable Solutions. Grinia M. Nogueira, PhD, Raquel F. Weska, Eng., Mariana A. Moraes, Eng. and **Marisa M. Beppu, PhD**, Universidade Estadual de Campinas

10:30 Thermosensitive Microgels for the Scavenging and Delivery of Local Anesthetics. **Todd R. Hoare, Assistant Professor**, McMaster University and Daniel S. Kohane, Associate Professor, Harvard Medical School/Children's Hospital Boston

10:50 Effect of Primary Particle Morphology On Structure of Gels Formed In Intense Turbulent Shear. **Paolo Arosio**[1], Delong Xie[1], Hua Wu[1], Leonie Braun[2] and Massimo Morbidelli[1], (1)ETH Zürich, (2)BASF SE, GKT/S

11:10 Pulsating Responsive Nanogels. **Imre Varga**[1], Istvan Szalai[1], Juan José Valle-Delgado[2] and Per M. Claesson[2], (1)Eötvös Lorand University, (2)Royal Institute of Technology

11:30 Phase Behavior of Colloidal Suspensions of Soft, Stimuli-Responsive Microgels. Jae Kyu Cho, Zhiyong Meng, L. Andrew Lyon and **Victor Breedveld**, Georgia Institute of Technology

11:50 Mutual Influence of the Coil-to-Globule Transition of Poly(N-isopropylacrylamide) and Drug Molecule Dynamics. **Christian Hofmann** and Monika Schönhoff, University of Münster

Wednesday, June 17, 2009
9:30 AM - 12:30 PM
Electrokinetics & Microfluidics V

Organizers: Leslie Yeo, Monash University, Shelley L. Anna, Assistant Professor, Carnegie Mellon University
Presider: Hao Lin, PhD, Rutgers University

9:30 The Effects of Dielectric Thin Film Coatings On Induced Charge Electroosmotic Slip Velocities. **Andrew J. Pascall** and Todd M. Squires, University of California

9:50 Experimental Study of the Rise Time of Electroosmotic Flow In a Microcapillary. Cuifang Kuang, Fang Yang, Wei Zhao and **Guiren Wang**, University of South Carolina

10:10 AC Electrokinetic Fast Mixing In Non-Parallel Microchannels. Fang Yang, Cuifang Kuang, Wei Zhao and **Guiren Wang**, University of South Carolina, Columbia, SC 29208, USA

10:30 Dielectrophoretic Choking Phenomenon In a Converging-Diverging Channel. **Ye Ai**[1], Sang W. Joo[2], Ali Beskok[1], Marcos A. Cheney, Cheney[3] and Shizhi Qian, Ph.D.[1], (1)Old Dominion University, (2)Yeungnam University, (3)University of Maryland Eastern Shore

10:50 Electrostatic Printing of Sub-Nanoliter Droplets for Tissue Engineering with Precise Concentration Control Via Digital Microfluidics. **Randall D. Evans**, Bang-Ning Hsu, Yan-You Lin and Richard B. Fair, Duke University

11:10 A Synthetic Jet Produced by Electrowetting-Driven Bubble/Droplet Oscillations. **Sung Hee Ko** and Kwan Hyoung Kang, Pohang University of Science and Technology

11:30 A New Switching Method of Two-Dimensional EWOD-Based Droplet Translation On Single-Plate Configuration. **Jun Kwon Park**, Seung Jun Lee and Kwan Hyoung Kang, Pohang University of Science and Technology

11:50 A New Electrohydrodynamic Flow Due to Field-Induced Conductivity Gradient In Dielectric Liquids. Jae Chun Ryu, Hyun Jin Park, Jun Kwon Park and **Kwan Hyoung Kang**, Pohang University of Science and Technology

12:10 Mechanism of Electrohydrodynamic Flow in AC Electrowetting. **Horim Lee**, Sung Chan Yun, Sung Hee Ko and Kwan H. Kang, Pohang University of Science and Technology

Wednesday, June 17, 2009
9:30 AM - 12:20 PM
Emulsions II

Organizers: Stig Friberg, University of Virginia, Rong Guo, Yangzhou University
Presider: Orlando D. H. Santos, Federal University of Ouro Preto

9:30 Composite Core-Shell Colloids through Spontaneous Emulsification. **Stefano Sacanna**, Center for Soft Matter Research, New York University, W.K. Kegel, Utrecht University and Albert P. Philipse, Van 't Hoff Laboratory, Utrecht University

9:50 Particle-Surfactant Interactions at Liquid Interfaces: Emulsions and Foams. **Jhonny A. Rodrigues** and Bernard P. Binks, University of Hull

10:20 Porous Materials and Capsules From Particle-Stabilized Emulsions. **Ilke Akartuna**, Elena Tervoort, André R. Studart and Ludwig J. Gauckler, ETH Zurich

10:40 Break.

11:00 Development of Highly Efficient Nanoparticulate Pickering Emulsifiers Using Grafted Amphiphilic Polymers. **Trishna Saigal**, Hongchen Dong, Hong Yul Cho, Krzysztof Matyjaszewski and Robert Tilton, Carnegie Mellon University

11:20 Control On the Type and Stability of Pickering Emulsions. **Mathieu Destribats**[1], Valérie Héroguez[2], Serge Ravaine[1], Fernando Leal-Calderon Sr.[3] and Véronique Schmitt[1], (1)Centre de Recherche Paul Pascal, (2)Laboratoire de Chimie des Polymères Organiques, (3)Université Bordeaux 1

11:40 Active Emulsions. Hector O. G. Ochoa, Dr., Masahiro Toiya, Dr., Vladimir K. Vanag, Prof., Dr.Sc., **Seth Fraden, Prof.** and Irving Epstein, Prof., Brandeis University

12:00 Flow of Emulsion In Confined Geometry. **Annie Colin**[1], Goyon Julie[1], Lyderic Bocquet[2], Armand Ajdari[3] and Guillaume Ovarlez[4], (1)University Bordeaux 1, (2)University of Lyon, (3)ESPCI, (4)Institut navier

Wednesday, June 17, 2009
9:30 AM - 12:15 PM
Environmental Colloid and Interfacial Processes III

Organizers: Qilin Li, Rice University, Helen Nguyen, University of Illinois, Urbana-Champaign
Presider: V. Faye McNeil, Columbia University

9:30 Welcoming Remarks.

9:35 "the Role of Mineral Dust Aerosol In Global Climate And Chemistry". **Mark A. Young**[1], Juan Navea[1], Brian Meland[1], Dan Curtis[2], Amy preszler-Prince[1], Praveen Mogili[1], Paul Kleiber[1] and Vicki Grassian[1], (1)University of Iowa, (2)California State University, Northridge

9:55 Electrochemical Impedance Spectroscopy (EIS) Based Characterization of Mineral Colloids Deposition From Precipitation Reactions. **Heng Li**[1], Ming-Kai Hsieh[2], David A. Dzombak[2] and Radisav Vidic[1], (1)University of Pittsburgh, (2)Carnegia Mellon Univeristy

10:15 Production of α-Ketocarboxylic Acids In the Reductive Tricarboxylic Acid Cycle by Mineral Photoelectrochemistry. **Marcelo I. Guzman** and Scot T. Martin, Harvard University

10:35 Sources and Properties of Organic Material in Aqueous Atmospheric Aerosols. **V. Faye McNeill**, Erica L. Shapiro, Julia Szprengiel, Neha Sareen, Coty Jen and Michael Giordano, Columbia University

10:55 Complexation of Multivalent Cations by Humic Substances: a High Precision Conductivity Study. **Gaëlle M. Roger**, Serge Durand-Vidal, Guillaume Meriguet, Olivier Bernard and Pierre Turq, Université Pierre et Marie Curie-Paris 6

11:15 In Pursuit of the Elusive Bound Site Activity Coefficient. **Nicholas T. Loux, PhD**, U.S. Environmental Protection Agency (U.S. EPA/ORD/NERL/ERD)

11:35 Water Adsorption Contribution to Electrostatic Charge Build-up. **Fernando Galembeck, Professor**, T. A. L. Burgo, C. A. Rezende and R.F. Gouveia, University of Campinas

11:55 Estimation of Diffuse Layer Model (DLM) Intrinsic Acidity and Electrolyte Ion Site Binding Constants. **Nicholas T. Loux, PhD**, U.S. Environmental Protection Agency (U.S. EPA/ORD/NERL/ERD)

Wednesday, June 17, 2009
9:30 AM - 12:10 PM
Fabrication of Colloidal Assemblies and Devices III: Field-Assisted Assembly

Organizers: Darrell Velegol, Pennsylvania State University, Orlin D. Velev, North Carolina State University

9:30 Directed Self-Assembly of Colloidal Crystals with Electric Fields. **Jason M. McMullan** and Norman J. Wagner, University of Delaware

9:50 Dielectrophoretic Assembly of "Patchy" Particles In AC Electric Fields. **Sumit Gangwal**[1], Amar B. Pawar[2], Ilona Kretzschmar[3] and Orlin D. Velev[1], (1)North Carolina State University, (2)The City College of City University of New York, (3)the City College, the City University of New York

10:10 Electric Field Driven Assembly of Anisotropic Nanoparticles. **Manish Mittal**, University Of Delaware and Eric M. Furst, University of Delaware

10:30 Electric Field Induced Alignment And Self-Assembly of Particles On Fluid-Fluid Interfaces. **Sai Nudurupati, Graduate student**[1], S.K. Gurupatham[1], M. Janja[1], I. Fischer[1], P. Singh[1] and N. Aubry, Professor[2], (1)New Jersey Institute of Technology, (2)Carnegie Mellon University

10:50 New Insights Into the Self-Assembly Conditions of Dielectric Nanoporous Particles Under An External Electrical Field. **Jacques Persello**[1], Alaedine Kossi[1], Georges Bossis[1], Bernard Cabane[2] and Ralf Schweins[3], (1)University of Nice Sophia Antipolis, (2)Ecole superieur de physique et de chimie industrielles, (3)Institute Laue-Langevin

11:10 Fabrication of Microvasculature Via Suspension Dielectrophoresis. **James F. Gilchrist** and Ryan P. Slopek, Lehigh University

11:30 Templated Magnetic Materials From Nanosphere Lithography-Derived Patterns. **R. Lloyd Carroll** and Shengrong Ye, West Virginia University

11:50 Aggregation and Gelation Behavior of Polymer-Magnetic Colloids Under the INFLUENCE of AN External Magnetic Field. **Marco Furlan**, Marco Lattuada and Massimo Morbidelli, ETH Zurich

Wednesday, June 17, 2009
9:30 AM - 11:50 AM
General II

Organizer: James B. Miller, Carnegie Mellon University

9:30 Catalyzed Hydrogenation In Reversed Non-Ionic Microemulsions: Structural Study of the Micelles. **Juan S. Milano-Brusco**, Sylvain Prévost, Michael Gradzielski and Reinhard Schomäcker, Technische Universität Berlin

9:50 Enhancement of Photocatalytic Inactivation of Microbes with Polyhydroxy Fullerenes-TiO2 Nanocomposite. **Vijay Krishna**, Witcha Imaram, Alex Angerhofer, Ben Koopman and Brij Moudgil, University of Florida

10:10 Copper Coated Silica Nanoparticles for Catalytic Applications. **Amit Singh**[1], Vijay Krishna[1], Alex Angerhofer[1], Bao Trong Do[2], J. Gavin MacDonald[2] and Brij Moudgil[1], (1)University of Florida, (2)Kimberley-Clark corporation

10:30 Preparation And Nano-Network Formation of Nafion®-Protected Metal Nanoparticles for Electrocatalysts. **Naoki Toshima**[1], Hideo Naohara[2] and Takahiro Yoshimoto[1], (1)Tokyo University of Science Yamaguchi, (2)Toyota Motor Corporation

10:50 Virus Inactivation In Drinking Water by TiO2 Based Nanocomposite Photocatalysts. **Michael V. Liga**, Erika L. Bryant, Huma R. Jafry, Vicki Colvin, Andrew Barron and Qilin Li, Rice University

11:10 Surface Acidity of Graphite Flake From Programmed Thermal Desorption. **Sheldon P. Wesson, Dr.**, Adherent Technologies

11:30 Thioether Self-Assembled Monolayers On Au{111}. **Darin O. Bellisario**, Erin Iski, Ashleigh Baber, Heather Tierney and Charles Sykes, Tufts University

Wednesday, June 17, 2009
9:30 AM - 12:15 PM
Hydrophobic Interactions I

Organizer: Roe-Hoan Yoon, Virginia Tech
Presider: William A. Ducker, Virginia Tech

Session Overview: Hydrophobic Interactions play an important role in many areas of science and technology, including colloid and surface chemistry, biology, food processing, the energy industry, nanotechnology. The objective of the session is to provide a forum to discuss the basic mechanisms involved in hydrophobic interactions at the molecular-, meso-, and macroscopic scales. It will be of particular interest to discuss the possible origins of the long-range attractions observed between macroscopic hydrophobic surfaces in aqueous environments, nucleation at hydrophobic interfaces, spectroscopy, wetting, and biological applications.

9:30 Modeling of Hydrophobic Interactions. **Alenka Luzar**, JIhang Wang, Christopher D. Daub and Dusan Bratko, Virginia Commonwealth University

9:55 Vapor Phase Nucleation On Hydrophobic Surfaces. **Dusan Bratko** and Alenka Luzar, Virginia Commonwealth University

10:15 Nanobubbles: What Are They And Why Are They Stable?. **William Ducker**[1], Xuehua Zhang[2] and Clayton T. McKee[1], (1)Virginia Tech, (2)University of Melbourne

10:35 On the Stability of Nanobubbles Trapped at a Solid-Liquid Interface. **Rogério Colaco**[1], Ana Paula Serro[1] and Benilde Saramago[2], (1)Instituto Superior Técnico, (2)Intituto Superior Técnico

10:55 Water Density at Hydrophobic Surfaces: Neutron Scattering Studies. **Jaroslaw Majewski**, Los Alamos National Laboratory

11:15 Thermodynamcis of Macroscopic Hydrophobic Interaction. Jialin Wang[1], **Jan Christer Eriksson**[2] and Roe-Hoan Yoon[1], (1)Center for Advanced Separation Technologies, Virginia Tech, (2)Royal Institute of Technology

11:35 Biologically Inspired Hairy Surfaces with Ultrahydrophobicity. **Shu-Hau Hsu** and Wolfgang Sigmund, University of Florida

11:55 Interactions of Water and Aqueous Solutions with Hydrophobic Polymer Surface. **Alexandre Emelyanenko**, Ludmila Boinovich and Andrey Pashinin, Frumkin Institute of Physical Chemistry and Electrochemistry, Russian Academy of Sciences

Wednesday, June 17, 2009
9:30 AM - 11:40 AM
Interfacial Forces and Fields V

Organizers: Sven-Holger Behrens, Georgia Institute of Technology, Pierre M. Adler, Universite Pierre et Marie Curie, Eric R. Dufresne, Yale University

Session Overview: This symposium will survey the interaction between solid-liquid, liquid-liquid, and gas-liquid interfaces as well as the influence of external fields on colloidal interaction. The focus of this fifth session will be on soft interaction and soft surfaces.

9:30 Direct Measurement of Critical Casimir Forces. **Clemens Bechinger**, Universität Stuttgart

10:00 Direct Measurement of the Nanobubble-Induced Depletion Attraction with Total Internal Reflection Microscopy (TIRM). **To Ngai**, The Chinese University of Hong Kong

10:20 Probing Elasticity of Substrates Using Particle Movements In a Surrounding Fluid. **Ee Hou Yong**, Harvard University and Howard A. Stone, School of Engineering and Applied Sciences, Harvard University

10:40 Electric Field Induced Rupture of Phospholipid Vesicles Suspended Above Coplanar Microelectrode Arrays. JitKang Lim and **Robert D. Tilton**, Carnegie Mellon University

11:00 Frequency Dependent Deformation of Liquid Crystal Droplets in An External Electric Field. **Günter K. Auernhammer**, Jinyu Zhao and Doris Vollmer, Max Planck Institute for Polymer Research

11:20 Generalization of Axisymmetric Drop Shape Analysis (ADSA). **Ali Kalantarian** and A. Wilhelm Neumann, University of Toronto

Wednesday, June 17, 2009
9:30 AM - 12:20 PM
Polymer Interfaces II

Organizers: Frank Blum, Missouri University of Science and Technology, Maria M. Santore, University of Massachusetts
Presiders: Monika Schönhoff, University of Münster, Frank Blum, Missouri University of Science and Technology

9:30 A Versatile Method for Covalent Layer by Layer Assembly of Multilayer Organic Films. **Jeffrey T. Koberstein, Professor**, Hernán R. Rengifo and Cristian Grigoras, Dr., Columbia University

10:00 Atomic Force Microscopy Measurements of Adhesion and Morphology of Polyelectrolyte Multilayers. **Sena Ada**[1], Terri A. Camesano[1], Stephanie A. Marcott[2], Bindu Nair[2] and Ramanathan Nagarajan[2], (1)Worcester Polytechnic Institute, (2)Natick Soldier Research

10:20 Deposition of Aqueous Polyelectrolyte-Surfactant Complexes at Solid Surfaces. **Lennart Piculell**[1], A. V. Svensson[1], O. Santos[1], M. Clauzel[1], T. Nylander[1], E. S. Johnson[2], M. R. Sivik[2] and R. K. Panandiker[2], (1)Lund University, (2)The Procter & Gamble Company

10:40 Dendrimer Adsorption On Model Surfaces as Studied by Quartz Crystal Microbalance with Dissipation Monitoring (QCM-D) and Surface Plasmon Resonance (SPR). **Mattias Berglin**, Alexander Toresson and Hans Elwing, Göteborg University

11:00 Calorimetric Study of the Adsorption of PEO and PVP Onto Silica. **Naa Larteokor McFarlane**[1], Norman J. Wagner[1], Matthew L. Lynch[2] and Eric W. Kaler[3], (1)University of Delaware, (2)Procter & Gamble Company, (3)Stony Brook University

11:20 Correlation of Surfactant/ Polymer Phase Behavior with Adsorption On Target Surfaces. **Joseph O. Carnali** and Pravin Shah, Unilever R&D

11:40 In Situ Atomic Force Microscopy of Modified Dextrin Adsorption On Hydrophobic And Hydrophilic Gangue Minerals. **Agnieszka Mierczynska-Vasilev** and David Beattie, University of South Australia

12:00 Influence of Ageing On Salivary Conditioning Film Structure Determined by Quartz Crystal Microbalance (QCM). **Prashant K. Sharma**, Adam L.J. Olsson, H.J. Kaper, Henny C. van der Mei and Henk J. Busscher, University Medical Center Groningen

Wednesday, June 17, 2009
9:30 AM - 12:10 PM
Structures at Interfaces with Liquids V

Organizers: Kenneth B. Eisenthal, Mark Hyman Professor of Chemistry, Columbia University, Franz Geiger, Northwestern University

9:30 Interfacial Molecular Recognition and Chirality In Amphiphilic Assemblies. **Dieter Vollhardt**, Max Planck Institute of Colloids and Interfaces

10:10 Nonlinear Vibrational Spectroscopy for the Analysis of Biological Membranes. Timothy C. Anglin Jr., Krystal L. Brown and **John C. Conboy**, University of Utah

10:50 The Promise and Pitfalls of Polarization Analysis in Nonlinear Optics. **Garth J. Simpson** and Nathan J. Begue, Purdue University

11:30 Effect of Ions On the Quartz/Water Interface. **Mohsen Yeganeh**, ExxonMobil Research and Engineering Company

11:50 Self-Organizing, Ultra-Thin Gel Films at the Interface Between Oil and Water: Synthesis, Structure and Dynamic Properties. **Heinz Rehage** and Reiner Kahner, TU Dortmund

Wednesday, June 17, 2009
9:30 AM - 12:10 PM
Surfactants and Supermolecular Assemblies: Liposomes

Organizers: Alexander Couzis, City College of New York, Charles Maldarelli, The City College of New York

9:30 Dispersion Stability and Dynamic Surface Tension of Aqueous Lipid/Protein Dispersions. Yoonjee Park, Sook Heun Kim and **Elias I. Franses**, Purdue University

10:10 Physical Stability of SUV Liposomes in Colloidal and Supramolecular Systems. **Ferenc Csempesz, PhD, Dr. Habil.**[1], István Puskás, PhD[2] and András Süle[1], (1)Eötvös University, Budapest, (2)Cyclolab Cyclodextrin R&D Laboratory Ltd.

10:30 DNA-Functionalized Liposomes: Lipid-Induced Changes in Binding Strength and DNA Surface Localization. **Paul A. Beales** and T. Kyle Vanderlick, Yale University

10:50 Fully Uncomplexed Cyclodextrin in the Presence of Vesicular Aggregates. **Pablo Hervés** and Celia Cabaleiro-Lago, University of Vigo

11:10 Microcalorimetric Study of Inclusion Complex Formation of Beta-Cyclodextrin with Homologous Series of Anionic, Cationic and Nonionic Surfactants. Mária Benkő and **Zoltán Király**, University of Szeged

Wednesday, June 17, 2009
2:00 PM - 4:50 PM
Biointerfaces IV: Membrane Rearrangement/Disruption 2

Organizers: Marjorie Longo, University of California, Davis, Ka Yee Lee, University of Chicago
Presider: Sylvio May, North Dakota State University

2:00 Enzyme Mediated Membrane Restructuring: An Interplay Between PLA_2 Activity And Membrane Organization. **Chad Leidy, Ph.D.**, Universidad de los Andes

2:30 Origin of Antimicrobial Resistance and Fluidity Dependent Membrane Structural Transformation by Antimicrobial Peptide Protegrin-1. Kin Lok H. Lam[1], Matthew R. Chapman[1], Alan J. Waring[2], Robert I. Lehrer[3] and **Ka Yee C. Lee**[1], (1)The University of Chicago, (2)UCLA School of Medicine, Center for the Health Sciences, (3)University of California, Los Angeles

2:50 Lipid Bilayers as Allosteric Regulators of Membrane Protein Function. **Olaf S. Andersen**, Weill Cornell Medical College

3:10 Break.

3:30 Influence of Enzymes Lipases on Properties of Solid Supported Lipid Layers. **Emil Chibowski, Professor** and Malgorzata Jurak, Maria Curie-Sklodowska University

3:50 pH-Controlled Binding Reactivity of Functionalized Vesicles Composed of Heterogeneous Lipid Membranes. Gautam B. Kempegowda, Shrirang Karve, Amey Bandekar, Arjun Adhikari, Tamara Khaimchayev and **Stavroula Sofou**, Polytechnic Institute of New York University

4:10 Interaction Between Proteins And Polymer Surfaces During Competitive Adsorption. **Maria Holmberg** and Xiaolin Hou, Technical University of Denmark (DTU)

4:30 Lipase Catalysis as a Self-Regulated Reaction. **Pedro Reis**, Baylor College of Medicine and Lausanne University, Krister Holmberg, Chalmers University of Technology, R. Miller, Max-Planck, Martin E. Leser, Nestlé Research Center and Heribert Watzke, Nestlé Ltd

Wednesday, June 17, 2009
2:00 PM - 5:05 PM
Capillary and Wetting Phenomena I

Organizer: Mohamed E. Labib, Novaflux Technologies
Presiders: Darsh T. Wasan, Illinois Institute of Technology, S. S. Dukhin, New Jersey Institute of Technology

Session Overview: Recent progress in wetting and capillary phenomena has developed on the intersections of physics, chemistry and engineering. Such achievements supplement to perfection the fundamentals of wetting and capillarity, and have resulted in the emergence of new fields. Physics reveals the microscopic origin of macroscopic wetting, especially surface forces such as van der Waals and/or electrostatic forces, which are paramount in determining whether a fluid will wet a given surface or not. Theoretical physics promotes the development of capillary hydrodynamics, which is especially important in defining processes including the dynamics of wetting, spreading and dewetting. Chemistry has achieved large success in modifying the surface chemistry of various solids in order to obtain specific wetting properties. Chemical engineering and nanotechnology have formulated new requirements, which have led to the birth of nanocapillarity. The new world of wetting and capillary phenomena has become visible due to the recent development of nano-, micro- and mini-fluidics, especially in multiphase flow, which demonstrates new phenomena (rivulets, sliding droplets, etc.) This new level in the development of the field of Colloid and Interface Science deserves special attention in the section on "Wetting and Capillary Phenomena."

2:00 Contact Angle Hysteresis and Pinning of Evaporating Charged/Uncharged Droplets On Hydrophobic Surfaces. **Jeongeun Ryu**, Hyoung Jun Park and Kwan Hyoung Kang, Pohang University of Science and Technology

2:20 Nanofluids Wetting Solid Surfaces. **Darsh T. Wasan**, Alex Nikolov and Kirti Kondiparty, Illinois Institute of Technology

2:50 Capillary Driven Flows In Tubes with Chemically Patterned Walls. **Mihail N. Popescu**, Monica Marinescu and John Ralston, Ian Wark Research Institute, University of South Australia

3:10 Delayed Coalescence of Droplets with Completely Miscible Liquids. **Hans Riegler**, Stefan Karpitschka and Paul Lazar, Max-Planck-Institute for Colloid and Interface Research

3:30 Capillary Forces and Suspension Rheology. **Norbert Willenbacher** and Bernhard Hochstein, University of Karlsruhe

3:50 Role of Capillary Interactions In Solid Stabilized Emulsions. **J. Groenewold** and W.K. Kegel, Utrecht University

4:10 Will It Float? Using Cylindrical Disks And Rods to Measure And Model Capillary Forces. **C. W. Extrand** and Sung In Moon, Entegris

4:30 Line Energy, Line Tension and Drop Size. **Rafael Tadmor**, Lamar University

4:50 Impact of Line Tension On the Contact Angle of Nano-Sized Sessile Fullerene Droplets at Solid/Gas Interfaces. **Hans Riegler** and John Berg, Max-Planck-Institute for Colloid and Interface Research

Wednesday, June 17, 2009
2:00 PM - 4:40 PM
Colloid and Surface Science in Mineral Separations and Processing III

Organizer: D. R. Nagaraj, Cytec Industries

Presiders: Stephen J. Neethling, Royal School of Mines,Imperial College London, Robert J. Pugh, Institute for Surface Chemistry

2:00 Particle-Stabilised Foams. **Diana Tran**, Catherine Whitby, Daniel Fornasiero and John Ralston, University of South Australia

2:20 Coalescence of Bubbles and Foaming in Chemical Surfactant Free Aqueous Dispersions of Mineral Particles. **Robert J. Pugh**, Institute for Surface Chemistry and Seher Ata, University of Newcastle

2:40 Models for Predicting the Evolution of the Bubble Size Distribution In Flotation Froths And Other Foams. **Mingming Tong, Dr.**, Yingjie Wang, Dr. and Stephen J. Neethling, Dr., Royal School of Mines,Imperial College London

3:00 Entrapment Efficiencies of Hydrodynamic Boundary Layers On Rising Bubbles. **Elena Mileva** and Ljubomir Nikolov, Institute of Physical Chemistry, Bulgarian Academy of Sciences

3:20 Simple Fundamentally Based Relationships for Predicting Entrainment and Froth Recovery in Flotation Cells. **Stephen J. Neethling**, Imperial College London

3:40 Cavitation Picobubble Enhanced Column Flotation of Fine Coal Particles. **Daniel Tao, Ph.D.**, Maoming Fan and Rick Honaker, University of Kentucky

4:00 Selective Separation of Fine Particles at An Air-Water Interface. **Diana Tran**, Catherine Whitby, Daniel Fornasiero and John Ralston, University of South Australia

4:20 Measurement of Collector Adsorption on Sulphide Minerals by Using Electrochemical Methods. **Esra Bagci Tekes, MSc**, Zafir Ekmekci and Kadir Pekmez, Hacettepe University

Wednesday, June 17, 2009
2:00 PM - 4:40 PM
Colloids in Non-Aqueous Media I

Organizers: Ian Morrison, Dr, Cabot Corporation, Filip Strubbe, Dr, Ghent University

2:00 Two Independent Measurements of Debye Lengths In Doped Nonpolar Liquids. **Dennis C. Prieve**, James D. Hoggard, Rong Fu and Paul J. Sides, Carnegie Mellon University

2:40 Stabilization of CeO2 Nanoparticles in a CO2 Rich Solvent. **Julian Eastoe**, University of Bristol

3:00 Ellipsoidal Inclusions in Lyotropic Nematic Liquid Crystals. Frédéric Mondiot, **Olivier Mondain-Monval** and Loudet Jean-Christophe, University of Bordeaux

3:20 Reverse Microemulsions on the Basis of Brij-30 as Mobile Phases in HPLC. **Marina D. Rukhadze**, Nino T. Lominadze and Manuchar R. Gvaramia, I.Javakhishvili Tbilisi State University

3:40 2D Self-Assembly of Charged Nanoparticles in Non-Polar Solvents. Matthew N. Martin and **Sang-Kee Eah**, Rensselaer Polytechnic Institute

4:00 Organic Phase-Directed Templated Synthesis and Characterization of Patterned Nanoporous Titania Platinum Nanocomposites. Jayashri Sarkar[1], Vijay T. John[2],

Christopher Brooks[3], **Arijit Bose**[1] and G. Ramanath[4], (1)University of Rhode Island, (2)Tulane University, (3)Honda Research Institute, (4)RPI

4:20 Novel Method Employing Inverse Polymeric Lattices to Flocculate and Separate Oil-Continuous Dispersions. **Raymond S. Farinato** and Henry Masias, Kemira Water Solutions, Inc.

Wednesday, June 17, 2009
2:00 PM - 4:50 PM
Electrokinetics & Microfluidics VI

Organizers: Leslie Yeo, Monash University, Shelley L. Anna, Assistant Professor, Carnegie Mellon University
Presider: Daniel Attinger, Columbia University

2:00 Platforms And Protocols for Multidimensional Electrophoresis And Detection of Proteins From Complex Samples Using Fluorescence And Electroactive Readout Methods. **John K. Osiri** and Steven A. Soper, Louisiana State University

2:20 Self-Assembled Multi-Particle Packed Structures for DNA Separation. **Neda Nazemifard**, Jed Harrison, Subir Bhattacharjee and Jacob Masliyah, University of Alberta

2:40 Analytes Focusing and Preconcentration Using a Combination of AC and DC Electric Fields. Nick J. Carroll[1], Krista L. Hawthorne[1], Sergio Mendez[1], Orlin D. Velev[2] and **Dimiter N. Petsev**[1], (1)University of New Mexico, (2)North Carolina State University

3:00 Redistribution And Removal of Particles From Drops Surfaces. **Sai Nudurupati, Graduate student**[1], M. Janjua[1], P. Singh[1] and N. Aubry, Professor[2], (1)New Jersey Institute of Technology, (2)Carnegie Mellon University

3:20 Effects of Slip and Double-Layer Sterics On Electrophoresis. **Todd M. Squires, Ph. D.** and Aditya S. Khair, University of California, Santa Barbara

3:40 DNA Electrophoresis In a Sparse Ordered Post Array. Jia Ou, Jaeseol Cho, Daniel W. Olson and **Kevin D. Dorfman**, University of Minnesota

4:00 Scaling Analysis of AC Electrokinetic Colloidal Motion In Microfluidic Systems. **Seungkyung Park**, Mehti Koklu and Ali Beskok, Old Dominion University

4:20 Method for Measuring Dielectrophoretic Spectra of Individual Microscopic Particles without Microelectrodes. **Xiaolu Zhu**, Hong Yi and Zhonghua Ni, Southeast University

Wednesday, June 17, 2009
2:00 PM - 4:50 PM
Emulsions III

Organizers: Stig Friberg, University of Virginia, Rong Guo, Yangzhou University
Presider: Patricia . A Aikens, BASF Corporation

2:00 Antioxidant Distributions Between Oil, Water, and Interfacial Regions of Model Food Emulsions. **Laurence S. Romsted**[1], Krishnan Gunaseelan[1], Carlos Bravo-Díaz[2] and Elisa González-Romero[2], (1)Rutgers University, (2)Universidad de Vigo

2:30 Distribution of Gallic Acid Derivatives Between the Oil, Water, and Interfacial Regions of a Model Food Emulsion. **Carlos Bravo-Díaz**[1], Losada-Barreiro Sonia[1], Sánchez-Paz Verónica[1], K. Gunaseelan[2] and Laurence S. Romsted[2], (1)Universidad de Vigo, (2)Rutgers University

2:50 Curved Space Crystallography at An Oil-Water Interface. **William T.M. Irvine**[1], Stefano Sacanna[1], Yael Roichman[1], Andrew Hollingsworth[1], Mark Elsesser[1], David Grier[1], Paul Chaikin[1] and Mark Bowick[2], (1)Center for Soft Matter Research, New York University, (2)Syracuse University

3:10 An O/LC Emulsion with Extreme O/LC Ratio; Relation to the Phase Diagram. **Yihan Liu, Dr**, Dow Corning Corporation and Stig E. Friberg, Professor, Southeast Missouri State University

3:30 Structural Modulation of the Liquid Crystals and Gel Emulsions In Presence of Glycerol. **Mohammad M. Alam** and Kenji Aramaki, Yokohama National University

3:50 Concentrated Colloidal Emulsions. Clémentine Seguimbraud, Henk Husken, Alois Popp and **Krassimir Velikov**, Unilever R&D Vlaardingen

4:10 Droplet Packing In High Internal Phase Emulsions. **Andrew J. Jackson**[1], Philip A. Reynolds[2], Duncan J. McGillivray[3] and John W. White[2], (1)National Institute of Standards and Technology, (2)The Australian National University, (3)The University of Auckland

4:30 Break.

Wednesday, June 17, 2009
2:00 PM - 4:40 PM
Energy From Fossil Fuels & Alternative Sources I

Organizers: Jae W. Lee, City College of New York, Zhenghe Xu, University of Alberta
Presider: Costas Tsouris, Georgia Institute of Technology

Session Overview: This session will address the fundamentals and applications of fossil fuels and alternative energy sources. Interfacial and transport phenomena in crude oils, oil sands, coals, natural gas, methane hydrate processing systems and alternative energy systems will be welcomed.

2:00 Surface Modification through Chemical Additives in Athabasca Oil Sands Processing. **Jacob Masliyah**, University of Alberta

2:40 Adsorption Isotherm of Sodium Dodecyl Sulfate on Hydrate Particles. **Chi Lo**[1], J. Zhang[1] and Jae W. Lee[2], (1)City College of New York, (2)The City College of New York

3:00 Development of Starch Based Additive for Stabilisation of Coal Water Slurry. **Pramila Kumari Misra Jr.**, Centre of studies of surface science, School of Chemistry,Sambalpur University, Orissa, India

3:20 Nucleation and Crystallization Kinetics of Hydrate Formation in W/O Emulsion. **Juan Ramon Avendano-Gomez**[1], Roberto Limas Ballesteros[1] and Dynora Vazquez Gurrola[2], (1)Instituto Politecnico Nacional, (2)Instituto Politecnico Nacional UPIBI

3:40 UV-Induced Modifications In Bitumen Langmuir Films. **Paolo G. Mussone, Dr**, Jacob Masliyah and Zhenghe Xu, University of Alberta

4:00 Investigation of the Demulsification Efficiency of Some Ethoxylated Polyalkylphenol Formaldhydes Based on Locally Obtained Materials to Resolve Water -in- Oil

Emulsions. **Mahmoud R. Noor El-Din**, Ahmed M.Al-SAbagh and Notela M.Nasser, Egyptian Petroleum Research Institute

4:20 Study of Bitumen-Bubble Interactions by Atomic Fore Microscopy. Sili Ren, **Zhenghe Xu** and Jacob Masliyah, University of Alberta

Wednesday, June 17, 2009
2:00 PM - 4:45 PM
Engineering at the Nano-Scale and Nano-Technology I

Organizers: Yunfeng Lu, University of California, Los Angeles, Brij Moudgil, Director, Particle Engineering Research Center, University of Florida

Session Overview: This session emphasizes design and fabrication of biological assembly and architectures.

2:00 Metabolically and Optically Defined Lithography Using Living Cells. **C. Jeffery Brinker**, Sandia National Labs / University of New Mexico

2:45 Continuous Modification of Nucleic Acids within Semipermeable Polymer Microreactors. **Andrew D. Price, Dr.** and Frank Caruso, Prof., The University of Melbourne

3:05 Biochemical-to-Optical Signal Transduction by a Nanostructured Device Assembled From a Responsive Hydrogel and Noble Metal Nanoparticles. **Ihor Tokarev**, Iryna Tokareva, Venkateshwarlu Gopishetty, Evgeny Katz and Sergiy Minko, Clarkson University

3:25 Break.

3:35 Self-Assembled Systems of Nanoparticles: Similarity with Biological Systems. **Nicholas A. Kotov**, S. Srivastava, Z. Y. Tang, J. Lee, S. Shanbhag, A. Santos and S. Glotzer, University of Michigan

4:05 Biopolymer Multilayers for Promoting Immune Cell Adhesion. **Fernando C. Vasconcellos**[1], Albert J. Swiston[2], Robert E. Cohen[2], Marisa M. Beppu[1] and Michael F. Rubner[2], (1)State University of Campinas, UNICAMP, (2)Massachusetts Institute of Technology, MIT

4:25 Hybrid Lipid/DNA Self-Assemblies. **Debora Berti**, Silvia Milani and Piero Baglioni, University of Florence and CSGI

Wednesday, June 17, 2009
2:00 PM - 4:40 PM
Environmental Colloid and Interfacial Processes IV

Organizers: Qilin Li, Rice University, V. Faye McNeill, Columbia University
Presider: Helen Nguyen, University of Illinois, Urbana-Champaign

2:00 Influence of Solution Chemistry On the Stability of Bacteriophage MS2. **Steven E. Mylon**[1], Claudia Rinciog[1], James K. Ferri[1], Leonardo Gutierrez[2], Thanh Nguyen[2], Nathan Schmidt[2] and Gerrard Wong[2], (1)Lafayette College, (2)University of Illinois

2:20 Role of Divalent Cations on Adsorption Kinetics of Bacteriophage MS2 and Rotavirus to Natural Organic Matter. **Thanh Nguyen**, Mai Pham and Leonardo Gutierrez, University of Illinois

2:40 Determining the Influence of Flagella and Growth Phase in Salmonella Enterica Transport. **Berat Haznedaroglu**[1], Jane Hill[2] and Sharon L. Walker[1], (1)University of California, Riverside, (2)University of Vermont

3:00 Adhesion and Swimming Dynamics of Flagellated Bacteria Under Laminar Flow. **Jane Hill**[1], Sharon L. Walker[2] and Berat Haznedaroglu[2], (1)University of Vermont, (2)University of California, Riverside

3:20 Bacterial Transport through Unsaturated Porous Media In the Presence of Anionic And Nonionic Surfactants. **Derick G. Brown** and Shweta Tripathi, Lehigh University

3:40 Role of Biofilm EPS On the Fate and Transport of Escherichia Coli In Porous Media. **Yang Liu**[1], Marissa Jablonski[2] and Jin Li[2], (1)University of Alberta, (2)University of Wisconsin, Milwaukee

4:00 *Escherichia coli* O157:H7 and *Cryptosporidium parvum* Oocysts Transport In Saturated Porous Media: Role of Solution Chemistry and Surface Macromolecules. **Hyunjung N. Kim**[1], Sharon L. Walker[1] and Scott A. Bradford[2], (1)University of California, Riverside, (2)USDA-ARS, US Salinity Laboratory

4:20 Sensitivity of *Aureococcus Anophagefferens* to Heavy Metals: The Effect of Metal Adsorption on Toxicity. **Bin Wang**, Lisa Axe, Liping Wei, Sima Bagheri and Zoi-Heleni Michalopoulou, New Jersey Institute of Technology

Wednesday, June 17, 2009
2:00 PM - 4:50 PM
Fabrication of Colloidal Assemblies and Devices IV: Interfacial and Convective Assembly

Organizers: Darrell Velegol, Pennsylvania State University, Orlin D. Velev, North Carolina State University

2:00 Confinement Induced Photonic Structures of Nonspherical Colloidal Building Blocks. **Chekesha M. Liddell**, Cornell University

2:30 Two-Dimensional Self-Assembled Colloidal Crystals by Fluid Interface Templating. **Bum Jun Park** and Eric M. Furst, University of Delaware

2:50 Langmuir-Blodgett Assembly of 2D Colloidal Graphite Oxide Single Layers. **Jiaxing Huang**, Laura J. Cote and Franklin Kim, Northwestern University

3:10 Electric Field-Assisted Convective Assembly of Large-Domain Colloidal Crystals. **Jairus Kleinert**, Sejong Kim and Orlin D. Velev, North Carolina State University

3:30 Direct Visualization of Convective Deposition of Microsphere Monolayers. **Pisist Kumnorkaew** and James F. Gilchrist, Lehigh University

3:50 Stripe Pattern Formation On Hydrophilic Surfaces by Evaporation-Induced Self-Assembly. **Satoshi Watanabe** and Minoru Miyahara, Kyoto University

4:10 Colloid Fabrication by Co-Extrusion. **Simeon Stoyanov**[1], Luben N. Arnaudov[1] and Martien Cohen Stuart[2], (1)Unilever Research, (2)Wageningen University

4:30 Impact of Graft Chemistry and Evaporation Rate On the Formation of 2-D Nanoparticle Assemblies. **Benjamin K. Beppler**[1], Satyajeet Ojha[2], Michael R. Bockstaller[2] and Stephen Garoff[1], (1)Carnegie Mellon University, (2)Carnegie-Mellon University

Wednesday, June 17, 2009
2:00 PM - 4:45 PM
Hydrophobic Interactions II

Organizers: William A. Ducker, Virginia Tech, Roe-Hoan Yoon, Center for Advanced Separation Technologies, Virginia Tech

2:00 Water Structure Close to Ordered and Disordered Hydrophobic Surfaces. **Eric Tyrode** and Mark Rutland, Royal Institute of Technology

2:25 Structure, Thermodynamics, and Dynamics of Hydration and Polymer Adsorption at Hydrophobic to Hydrophilic Interfaces. **Sumanth N. Jamadagni**, Rahul Godawat and Shekhar Garde, Rensselaer Polytechnic Institute

2:45 The Effect of Roughness and Wettability on the Adhesion Forces in Liquid Media. **Ana Paula Serro**[1], Rogério Colaco[1] and Benilde Saramago, Prof[2], (1)Intituto Superior Técnico, (2)Instituto Superior Técnico

3:05 Surface Forces Measured Between Hydrophobic Gold Surfaces In n-Alcohols and In Water-Ethanol Mixtures. Jialin Wang[1], **Roe-Hoan Yoon**[1], Atte Kumpulainen[2] and Jan Christer Eriksson[2], (1)Center for Advanced Separation Technologies, Virginia Tech, (2)Royal Institute of Technology

3:25 Hydrophobic Forces Between Silanated Silica Surfaces: Interactions with and without Nanoscopic Bubbles. **Naoyuki Ishida**, National Institute of Advanced Industrial Science and Technology (AIST)

3:45 Interaction Forces Between Hydrophilic and Hydrophobic Surfaces In Semi-Aqueous Systems. Lukasz Hupka, **Shoeleh Assemi**, Jakub Nalaskowski and Jan D. Miller, University of Utah

4:05 Hydrophobic Forces In Thin Aqueous Films Confined Between Air Bubbles. Liguang Wang, The University of Queensland and **Roe-Hoan Yoon**, Virginia Tech

4:25 A Comprehensive Model of the Hydrophobic Nanobubble Bridging Capillary Force. **Marc A. Hampton** and Anh V. Nguyen, University of Queensland

Wednesday, June 17, 2009
2:00 PM - 4:30 PM
Interfacial Forces and Fields VI

Organizers: Sven-Holger Behrens, Georgia Institute of Technology, Pierre M. Adler, Universite Pierre et Marie Curie, Eric R. Dufresne, Yale University

Session Overview: This symposium will survey the interaction between solid-liquid, liquid-liquid, and gas-liquid interfaces as well as the influence of external fields on colloidal interaction. Presentations in this sixth session will emphasize the effects of surface roughness and/or surface heterogeneity.

2:00 Tuning Interaction Forces: From Heterogeneous Charge Distributions to the Potentiostatic Control of Modified Electrodes. **Georg Papastavrou**, University of Geneva, Switzerland

2:30 Using Roughness-Controlled Depletion Attractions to Assemble Colloidal Particles. **Kun Zhao** and Thomas G. Mason, University of California-Los Angeles

2:50 Interparticle Forces at the Nanoscale. **Darrell Velegol**, Pennsylvania State University

3:10 Hydrodynamic Drainage Forces In the Presence of a Silica Nano-Particle Super Hydrophobic Surface Measured Using AFM. **Md. Hemayet Uddin**, Kwun L. Cho, Irving I. Liaw, Robert N. Lamb, Geoffrey W. Stevens, Franz Grieser, Derek Y.C. Chan and Raymond R. Dagastine, The University of Melbourne

3:30 Colloid Transport near Rough and Charge Heterogeneous Substrates: How Hydrodynamic and Colloidal Interactions Influence Deposit Morphologies. **Subir Bhattacharjee**, Tania Rizwan and Jeffrey A.L. Kemps, University of Alberta

3:50 Nonlinear Solute Transport Past Nanostructured Surfaces. **Vladimir Lobaskin**, University College Dublin and Roland R. Netz, Technical University Munich

4:10 Mechanical Pinning of Liquids through Inelastic Wetting Ridge Formation On Thermally Stripped Acrylic Polymers. **Gang Pu**[1], Steven J. Severtson[1], Jihui Guo[2] and Larry E. Gwin[3], (1)University of Minnesota - Twin Cities,, (2)The Dow Chemical Company, (3)Franklin International

Wednesday, June 17, 2009
2:00 PM - 4:40 PM
Interfacial Rheology I

Organizers: Gerald G. Fuller, Stanford University, Reinhard Miller, Max-Planck-Institut fuer Kolloid und Grenzflaechenforschung
Presider: Libero Liggieri, CNR - Istituto per L'Energetica e le Interfasi

Session Overview: Interfacial rheology is a relatively young scientific field, starting essentially in the sixties. Since then it developed rather slowly due to lack of professional instruments and was the domain of few specialized laboratories. In the past decade, good equipment became widely available and the number of groups involved in the characterization of interfacial mechanic properties increased significantly. This fast development is mainly caused by the fact that interfacial rheology has been understood as one of the main factors in stabilizing liquid films, foams and emulsions. The contributions of this session are dedicated to the various directions in 2D rheology research.

2:00 Dilational Rheology of Mixed Adsorption Layers at Liquid Interfaces. **Reinhard Miller**[1], Csaba Kotsmar[1], Vincent Pradines[1], Aliyar Javadi[1], Jürgen Krägel[1], V.B. Fainerman[2], Volodymyr I. Kovalchuk[3], Eugene V. Aksenenko[4], Giuseppe Loglio[5], Libero Liggieri[6], Boris A. Noskov[7] and Martin E. Leser[8], (1)MPI Colloids & Interfaces, (2)Donetsk Medical University, (3)Institute of Biocolloid Chemistry, (4)Institute of Colloid Chemistry and Chemistry of Water, (5)University of Florence, (6)Consiglio Nazionale delle Ricerche, (7)St. Petersburg State University, (8)Nestlé Research Center

2:20 Dilational Surface Viscoelasticity of Complex Fluids. **Boris A. Noskov**, St. Petersburg State University, Shi-Yow Lin, National Taiwan University of Science and Technology, Giuseppe Loglio, University of Florence and Reinhard Miller, MPI Colloids & Interfaces

2:50 Interfacial Rheology: Dilational and Shear Viscosity of Polymer Monolayers. Armando Maestro[1], Hernan Ritacco[2], Francisco Ortega[2] and **Ramon G. Rubio**[2], (1)Facultad de Quimica, Universidad Complutense, (2)Universidad Complutense

3:10 Comparison Between Shear And Dilatational Interfacial Rheology. A. Torcello-Gómez[1], Julia Maldonado-Valderrama[2], J. de Vicente[1], M.J. Gálvez-Ruiz[1], A. Martin-Rodriguez[1] and **M.A. Cabrerizo-Vilchez**[1], (1)Biocolloid and Fluid Physics Group.,, (2)Institute of Food Research

3:30 Dilational Rheology to Investigate the Dynamics of Surfactant and Particle-Laden Interfacial Layers. **Francesca Ravera**[1], Libero Liggieri[1], Michele Ferrari[1] and Eva Santini[2], (1)CNR - Istituto per L'Energetica e le Interfasi, (2)Max-Planck Institut für Kolloids und Grenzflächenforschung, Golm/Potsdam, Germany

4:00 Interfacial Rheology of Proteins, Particles and Their Mixtures. **Brent S. Murray**, Eric Dickinson, Kalpana Durga, Yiwei Wang and Anida Yusoff, University of Leeds

4:20 Evaluation of Latex Film Formation In the Presence of Inorganic Particles by Interfacial Rheology. **Herley Casanova, Dr.**[1], Jhon Wilson Pelaez[2], Beatriz Hincapie[1] and Carolina Quintero[2], (1)University of Antioquia, (2)Andercol S.A.

Wednesday, June 17, 2009
2:00 PM - 4:40 PM
Polymer Interfaces III

Organizers: Frank Blum, Missouri University of Science and Technology, Maria M. Santore, University of Massachusetts,
Presider: Spiros H. Anastasiadis, Professor, Foundation for Research and Technolgy - Hellas

2:00 Effect of Interfacial Interactions on Polymer Glass Transitions. **Frank Blum**, Missouri University of Science and Technology

2:30 Single Protein Diffusion at the Interface of Responsive Polymer Brush Thin Films. **Shengqin Wang** and Y. Elaine Zhu, University of Notre Dame

2:50 Scaling Law of Poly(ethylene oxide) Chain Permeation through the Nanoporous Wall of Polyelectrolyte Capsules. Rudra Prosad Choudhury, Alina Leson, Diptangshu Chakraborty and **Monika Schönhoff**, University of Münster

3:30 Autophobic Dewetting of Compatibilized Polymer Droplets In Immicisible Polymer Melts. Jeremy Fowler[1], **David Green**[1], Timothy E. Long[2], Tomonori Saito[2] and Renlong Gao[2], (1)University of Virginia, (2)Virginia Tech

3:50 The Redox Mediation at De-Activated Poly(o-aminophenol) (POAP) Films. **Ricardo Tucceri, Doctor**, INIFTA, Instituto de Investigaciones Fisicoquimicas Teoricas y Aplicadas

4:10 Stereospecific Interactions Between PEO And PMMA According to PMMA Tacticity. **Zomalala Ramananarivo**, Pascal Carriere and Andre Margaillan, Laboratoire des Matériaux Polymères Interfaces Environnement Marin , University of Toulon

4:30 Fracture Mechanisms at a Compatibilized Polymer/Polymer Interface. **Yongsok Seo**, Seoul National University, College of Engineering

Wednesday, June 17, 2009
2:00 PM - 4:40 PM
Surfactants and Supermolecular Assemblies: Polyelectrolyte and Polymer Assemblies in Solution

Organizers: Alexander Couzis, City College of New York, Charles Maldarelli, The City College of New York

2:00 Colloidal Interactions Mediated by Wormlike Micelles. **Matthew E. Helgeson**[1], Kerstin Weiss[2], Eric W. Kaler[3] and Norman J. Wagner[1], (1)University of Delaware, (2)RTWH Aachen University, (3)Stony Brook University

2:20 Towards the Development of Wormlike Micelles with Temperature-Insensitive Rheology. **Toufiq Ahmed** and Kenji Aramaki, Yokohama National University

2:40 Aggregation Behavior of Synperonic F127 in Aqueous Solution by Dynamic Light Scattering and Differential Scanning Calorimetry. **Juan Ramon Avendano-Gomez**, Hernández-Zarazúa Lilia Alejandra and Odin-Flores Sergio, Instituto Politécnico Nacional

3:00 Micron-Sized Capsules Assembled From pH-Responsive Block Copolymer Micelles. **Timothy W. Addison**[1], Simon R. Biggs[2], Olivier J. Cayre[2] and Steven P. Armes[3], (1)University of Leeds, (2)Institute of Particle Science and Engineering, (3)University of Sheffield

3:20 Non-Amphiphilic Assembly in Water: a Molecular Threading Model for Chromonic Liquid Crystals. Yan-Yeung Luk[1], Lei Wu[1], Jyostana Lal, Dr. [2] and **Karen A. Simon**[1], (1)Syracuse University, (2)Argonne National Laboratory

3:40 Tunable Self-Assemblies Based on Metal-Bisligand Coordination Polymer and Oppositely Charged-Neutral Block Polyelectrolytes. **Yun Yan**, Peking University

4:00 Aggregation Behavior of a Novel Tetrameric Cationic Surfactant. Yanbo Hou, Yuchun Han, Manli Deng, Jinben Wang and **Yilin Wang**, Insititue of Chemistry Chinese Academy of Science

4:20 Polyelectrolyte-Surfactant Coacervates: Equilibrium Mesophase Structures with Vestiges of Solution Precursors. Anil Kumar[1], **Paul Dubin**[1], Yajuan Li, PhD[2], JoAn Hudson[3] and Elaine Foun[1], (1)University of Massachusetts, (2)Johnson & Johnson, (3)Clemson University

Wednesday, June 17, 2009
4:45 PM - 6:15 PM
Wednesday Poster Session

Organizers: Rahul Bagwe, Cytec Industries, Inc., Tarun Bhambhani, Cytec Industries, Inc.

Also Molecules Play 'musical Chairs': Competitive Physisorption of Semiconducting Molecules at the Solid-Solution Interface. **Massimo Bonini**[1], Leszek Zalewski[1], Thomas Breiner[2], Florian Dötz[3], Marcel Kastler[2], Volker Schädler[2], Mathieu Surin[4], Roberto Lazzaroni[4] and Paolo Samorì[5], (1)Institut de Science et d'Ingénierie Supramoléculaires, (2)BASF SE, (3)BASF SE - Global Research Center Singapore/ Organic Electronics, (4)Université de Mons-Hainaut, (5)ISIS/CNRS 7006, Université Louis Pasteur

The Effect of Capillary Radius On the Oil/Water Two Phase Displacement in Micro-Scale Capillaries. **Jinfeng Dong**[1], Zhongcai Wang[1], Jiping Zhang[1], Xuefeng Li[1] and Pingcang Wu[2], (1)Wuhan University, (2)China Petroleum Cooperation

The Research of the Relaxational Processes in Pure and Nano-Modificated Oxides of Silicon. **Liliya Grin**, Russian Academy of Science

Interfacial Structure of Deamidated Wheat Protein - Dextran Conjugates and Their Effect on Emulsion Stability at Acidic pH. **Benjamin Tziak Ze Wong**, Li Day and Mary-Ann Augustin, Food Science Australia

Bioactivated Microfluidic Channels for Electrical Detection of Cancer Biomarkers and Characterization of Ligand Interactions. **Mehdi Javanmard, PhD** and Ronald W. Davis, Stanford University

Multilayer Nanoneedle Array in Microfluidic Platform for Real-Time Monitoring of Single Antibody-Antigen Interaction. **Hesaam Esfandyarpour**, Rahim Esfandyarpour, Mehdi Javanmard, PhD, Laurent Giovangrandi, R.F.W. Pease and Ronald W. Davis, Stanford University

Higher Order Assembly of Micelles Via Metal Coordination. **Yan Geng**, University of Georgia

Unique Foam Boosting Behavior of Novel Nonionic Surfactant. **Ryosuke Fujii**, Hiromoto Mizushima, Hiroyuki Terazaki, Yoshinori Tamura and Yasuhiro Doi, Kao Corporation

Tunable Parameters for Structural Variation of Reverse Micelles In Nonionic Surfactant/Oil Systems: A SAXS Study. **Lok Kumar Shrestha**[1], Takaaki Sato[2], Otto Glatter[3] and Kenji Aramaki[1], (1)Yokohama National University, (2)Shinshu University, (3)Karl-Franzens University Graz

Evaporation Rates of Aqueous Solutions of Non-Ionic Surfactants. **Gemma Gutierrez**[1], Jose Manuel Benito[2], Carmen Pazos[1] and Jose Coca[1], (1)University of Oviedo, (2)University of Burgos

Accelerated Evaluation of Long Term Stability of Model Emulsions. Titus Sobisch[1], **Dietmar Lerche**[1], Gabriela G. Badolato[2], Freddy Aguilr[2] and Heike P. Schuchmann[2], (1)L.U.M. GmbH, (2)University of Karlsruhe

Behavior of PEG-8-L Surface Modified Liposomes During Incorporation and Permeation through Membranes as Analysed by Surface Tension, Mean Diameter and Distribution and Morphology. B. Zanchetta[1], T. P. Rigoletto[1], D. S. Monteiro[2], M. E. D. Zaniquelli[2] and **M. H. A. Santana**[1], (1)School of Chemical Engineering, University of Campinas, (2)Universidade de São Paulo (USP)

Molecular Arrangement and Photocurrent Generation In Monolayers of HBC Derivatives. **Chika Akabane**, Mitsuru Suzuki and Ken-ichi Iimura, Utsunomiya University

Combined Effects of Formulation And Shear Conditions On O/W Emulsion Drop Size Using a Couette Cell. **Víctor M. Guédez**, Rafael Santos, María-Teresa Celis and Ana M. Forgiarini, University of Los Andes

Vegetable Proteins as Emulsifiers for Obtaining Novel Foods. Cristina Losada[1], Jose Maria Gutierrez[1], Alicia Maestro[1], Ingrid Farré[2], Pere Castells[2], Jaume Biarnes[2] and **Carme Gonzalez**[1], (1)Universitat de Barcelona, (2)Fundacio Alicia

Surface Hybridization Thermodynamics of DNA and Neutral Analogues at Low Surface Coverages. **Kang Wang**[1], Ping Gong[2] and Rastislav Levicky[1], (1)Polytechnique Institute of New York University, (2)Columbia University

Lipase Biocatalysis as a Self-Regulated Process. **Pedro Reis, Dr**, Baylor College of Medicine and Lausanne University

Performance and Application of Aerated O/W Emulsion USING Conventional Static Mixing Technologies for Workover Operations in Low-Pressure. **Jose Blanco Sr.** and Abel Ojeda, PDVSA - INTEVEP

Molecular-Scale Detection of Antigen-Antibody Reaction on 2D Arrayed Gold Nanorods. **Hiroshi Nakashima**, Kazuaki Furukawa, Youichi Shinozaki, Koji Sumitomo and Keiichi Torimitsu, NTT Basic Research Labs

The Growth of Complex Nanostructures: Synergism of Dipolar Force and Stacking-Defects in Anisotropic Self-Assembly. **Xueyun Gao**, Institute of High Energy Physics

Nanostructure Characterization at the Solid-Liquid Interface by Dual Polarization Interferometry. **Mark Gostock**, Farfield Scientific Inc

Phase Behavior and Rheological Properties of Bowl-Shaped Particle Dispersions. **Yoshimune Nonomura**, Takehide Ikeda, Takashi Taniguchi and Masataka Sugimoto, Yamagata University

Gold Nanoparticle Synthesis Using SURFONAMINE in Aqueous Media. **Mai Ishigaki**, Tomohiko Okada, Shozi Mishima and Toshio Sakai, Shinshu University

Preparation of Insoluble Assemblies of Amphiphilic Block Copolymers in Water. **Hiroyoshi Kurosawa**, Tomohiko Okada, Shozi Mishima and Toshio Sakai, Shinshu University

Synthesis of Dual-Functional Amine Oxide Type Amphoteric Surfactants and Measurement of Their Physical Properties. **JongChoo Lim**[1], JiSung Kim[1], In-Sik Cho[2], DongSung Han[2] and GyeongYup Chi[2], (1)Dongguk University, (2)Aekyung

Particle Size Effect on Emulsion Stability of Deformable Droplets. **Jhoan Toro-Mendoza, PhD**, Maximo Garcia-Sucre and German Urbina-Villalba, Instituto Venezolano de Investigaciones Cientificas

Dynamic Surface Pressure of Poly (n-hexyl isocyanate) Films at the Air - Water Interface. **Takako Morioka** and Masami Kawaguchi, Professor, Mie University, School of Engineering

Influence of the Formulation on Characterization of Emulsions from Transmission Spectra. **Maria T. Celis, Professor Ph.D**[1], Luis H. Garcia-Rubio, Professor Univer[2], Ana Forgiarini, Professor Doctor[1] and Laura Marquez, Professor Doctor[1], (1)University of The Andes, (2)University of South Florida

Nanoemulsion Formation by a Transitional Inversion Indirectly Driven by a Compositional Change: Effect of n-Alcohols. **Ana Forgiarini**, María-Teresa Celis, Laura Márquez and Jean-Louis Salager, University of The Andes

The Influence of the Soft Template on the Nanostructure of Polyaniline Obtained Via Microemulsion Assisted Polymerization. Cristian Petcu, R&D National Research Institute for Chemsitry and Petrochemsitry ICECHIM Bucharest, Marius Ghiurea, R&D National Research Institute for Chemsitry and Petrochemsitry ICECHIM Bucharest, Bucharest, Romania and **Ludmila Otilia Cinteza**, University of Bucharest

Interaction of Three-Block Copolymers with Phosphatidylcholines in Monolayers and Foam Films. **Georgi As. Georgiev**[1], R.I. Gurov[1], Z.I. Lalchev[1], C.St. Vassilieff[2], A. G. Jordanova[3] and A. Tsanova[4], (1)Sofia University, (2)Sofia University "St. Kliment Ohridski", Faculty of Chemistry, (3)Bulgarian Academiy of Science, Institute of Biophysics, (4)Sofia University "St. Kliment Ohridski", Faculty of Medicine

Resonance Shear and Fluorescence Lifetime Measurements to Evaluate Local Viscosity of Confined Liquid Between Mica Sheets. **Motohiro Kasuya**, Daisuke Fukushi, Hiroshi Sakuma and Kazue Kurihara, Institute of Multidisciplinary Research for Advanced Materials,Tohoku University

Discriminatory Protein Adsorption in a NanoPatterned Polymer Brush. **Saugata Gon**, University of Massachusetts Amherst and Maria M. Santore, University of Massachusetts

Photoimmobilization of Polysaccharides Onto Gold Using Phthalimide SAM. **Ellane J. Park**, Jeffrey T. Koberstein and Nicholas Turro, Columbia University

Proton Ions Induce Vesicle Formation in Protein/Single-Chained Anionic Surfactant/H2O System. S. Y. Zheng, **X. Guo** and R. Guo, Yangzhou University

Volumetric Study of Alcohol Binding to Molecular Surface of Globular Proteins. **Michio Yamanaka** and Hideyuki Maekawa, Faculty of Sciences, Kyushu University

Palladium Nanoparticles in Graphite Oxide: Mild and Highly Selective Catalysts for Alkyne Semihydrogenation. Ágnes Mastalir[1], Mária Benkő[1], **Zoltán Király**[1], Imre Dékány[1] and Pablo L.'Argentiere[2], (1)University of Szeged, (2)Instituto de Investigaciones en Catálisis y Petroquímica (FIQ-UNL, CONICET)

Thermodynamics of Micelle Formation of a Novel Gemini Surfactant and Its Dynamic Adsorption on Sandstone. Annamária B. Páhi[1], **Zoltán Király**[1], József Dudás[2], Sándor Puskás[3], Árpád Vágó[3] and Ágnes Mastalir[1], (1)University of Szeged, (2)University of Pannonia, (3)E&P, New Technologies and R&D

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Rheological and Interfacial Properties of Pickering Emulsions Prepared by Fumed Silica Suspensions Pre-Adsorbed Poly(N-isopropylacrylamide). **Tomoyuki Suzuki** and Masami Kawaguchi, Professor, Mie University, School of Engineering

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Molecular Gels of Mixed Surfactant Systems of Cetylpyridinium Chloride and 6-Aminocaproic Acid for Fullerene C_{60} Encapsulation. **Illa Ramakanth** and Archita Patnaik, Indian Institute of Technology Madras

Phase Separation Kinetics of Maya Asphaltene Emulsion and Free-to-Bound Water Transformation. **Francesca Ridi**[1], Nina Verdal[2], Piero Baglioni[1] and Eric Y. Sheu[3], (1)University of Florence and CSGI, (2)IPNS, (3)Vanton Research Laboratory Inc.

Preparation of Mesoporous Silica Microcapsules Using Layer-by-Layer Method. Tomohiro Ishii and **Noritaka Kato, Dr**, Meiji University

Facile Synthesis of Aluminum Hydroxides Nanorods and Formation of Urchin Shaped Hollow Particles. **Sang Man Koo**, Chan Yoon Jung, Jeong Hyeon Na and Jung Soo Kim, Hanyang University

Development of Nanoemulsions with Sesame Oil and Bixa Orellana (urucum) Oil. **Orlando D. H. Santos**[1], Mateus M. Bergamaschi[2], Monica Maruno[2] and Pedro A. Rocha-Filho[2], (1)Federal University of Ouro Preto, (2)University of Sao Paulo

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STM Study of Self-Assembled Monolayers of Hydrogen Bonded Phenylene-Thiophene-Thiophene-Phenylene (PTTP) Derivatives at the Solid-Liquid Interface. **Massimo Bonini**[1], Leszek Zalewski[1], Thomas Breiner[2], Florian Dötz[3], Marcel Kastler[2], Volker Schädler[2] and Paolo Samorì[4], (1)Institut de Science et d'Ingénierie Supramoléculaires, (2)BASF SE, (3)BASF SE - Global Research Center Singapore/ Organic Electronics, (4)ISIS/CNRS 7006, Université Louis Pasteur

Pre-Programmed Bicomponent Porous Networks at the Solid-Liquid Interface: The Low Concentration Regime. **Massimo Bonini**[1], Carlos-Andres Palma[2], Anna Llanes-Pallas[3], Thomas Breiner[4], Maurizio Prato[3], Davide Bonifazi[5] and Paolo Samorì[2], (1)Institut de Science et d'Ingénierie Supramoléculaires, (2)ISIS/CNRS 7006, Université Louis Pasteur, (3)Università degli Studi di Trieste, (4)BASF SE, (5)& University of Namur, Department of Chemistry, Namur, Belgium

Langmuir Films of Mixtures of An Azopolymer and Poly(dodecylmethacrylate). **Lucineia Ceridorio, PhD student**[1], Débora Balogh[1], Luciano Caseli[2] and Osvaldo Novaes Oliveira Jr[1], (1)University of São Paulo, (2)Federal University of Sao Paulo - Campus Diadema

Photoluminescent Silicon Nanocrystals (Quantum Dots): Synthesis And Properties. **Alexander Kamyshny**[1], Keren Ben-Ami[1], Shlomo Magdassi[1], Valery Zakharov[2], Maxim Zakharov[2] and Leonid Aslanov[2], (1)The Hebrew University of Jerusalem, (2)Moscow State University

Biologically Designed Assembly of Au Nanorods. **Marc R. Knecht**, Manish Sethi and GaEun Joung, University of Kentucky

Highly Surface-Activated Barium Titanate Nanoparticles to Enhance Its Modification Capability and Dispersion Property in Organic Media. **Chia-Chen Li**[1], Wei-Sheng Liao[1] and Jyh-Tsung Lee[2], (1)National Taipei University of Technology, (2)National Sun Yat-Sen University

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Universal Platform For Preparation Of Functional Block Co-Polymers. **Patrick A. McCarthy, PhD**[1], Nicolay V. Tsarevsky[1], Wojciech Jakubowski[1] and Krzysztof Matyjaszewski[2], (1)ATRP Solutions, Inc., (2)Carnegie Mellon University

Correlating Obstructed Diffusion with Obstacle Morphology Using Single Molecule Tracking In Supported Lipid Bilayers. **Michael J. Skaug**, Roland Faller and Marjorie L. Longo, University of California Davis

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Surfactant Modification of Superparamagnetic Iron Oxide Nanoparticles. **Aaron L. Routzahn**, James D. Rall, M. S. Seehra and R. Lloyd Carroll, West Virginia University

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Colloidal Rheology of Zirconia Suspensions for Preparation of Ceramics by Slip Casting Method. **Jana Andertova**, Institute of Chemical Technology Prague,

Synthesis of Novel Sugar-Based Hetero-Gemini Surfactants. **Wataru Matsuda**[1], Yuichiro Takamatsu[2], Kenichi Sakai[1], Hideki Sakai[1] and Masahiko Abe[1], (1)Tokyo University of Science, (2)Miyoshi Oil & Fat Co., Ltd.

Removing of Natural Organic Matters IN Presence of Hydrogen Peroxide by Oxidized Activated CARBON. **Ivan Kozyatnyk**, Tetiana Poliakova and Ludmila Savchyna, Institute of Colloid Chemistry and Chemistry of Water, Ukrainian National Academy of Sciences

The Liquid-Liquid Transition - Fact or Fiction? Novel Phase Behaviour In Colloid Polymer Mixtures. **Rebecca Jane Rice** and Paddy Royall, University of Bristol

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An Investigation of the Mobility and Deliverability of Nano-Scale Zero Valent Iron for Source Zone Remediation. **Chris Kocur**[1], Denis M. O'Carroll, Ph.D., P.Eng.[1], Nataphan Sakulchaicharoen, Ph.D.[1] and Brent Sleep, Ph.D.[2], (1)University of Western Ontario, (2)University of Toronto

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Highly Tailorable Core/Shell Heterodimers for Hot-Spot Raman-Based Single DNA Detection. **Dong-kwon Lim**[1], ki-Seok Jeon[2], Yung Doug Suh[2] and Jwa-Min Nam[1], (1)Seoul National University, (2)Korea Research Institute of Chemical Technology

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A New Approach for a Stability of Copper Phthalocyanine Dispersion In Organic Medium. **Won-Jae Choi**, Yong-Geun Lee and Seong-Geun Oh, Hanyang University

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2D Particles Arrays Formed at Air-Binary Liquids Interfaces. **Masashi Mizukami** and Kazue Kurihara, Tohoku University

Water Macroclusters Formed On Silica Surface In Cyclohexane. **Atsushi Kobayashi**, Masashi Mizukami and Kazue Kurihara, Tohoku University

Size Effect of Poly(amino acid) Derivatives Coated Iron Oxide Nanoparticles for MRI Contrast Agent. **Hee-Man Yang** and Jong-Duk Kim, KAIST

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Interactions Between Dmpc Liposomes and Lanthanide Ions. **Prieto Gerardo**, Toimil Paula, Ruso Juan M., Verdes Pedro V., Sabín Juan, Blanco Elena and Sarmiento Félix, University of Santiago de Compostela

Adsorption Dynamics and Foam Film Kinetics of Aqueous Solutions of Hexadecyltrimethylammonium Chloride. Dimi Arabadzhieva[1], Plamen Tchoukov[1], **Elena Mileva**[1], Borislav Soklev[1] and Reinhard Miller[2], (1)Institute of Physical Chemistry, Bulgarian Academy of Sciences, (2)MPI Colloids & Interfaces

Surface Rheology of Proteins In Biointerface Models. Thatyane Morimoto Nobre[1], **Luciano Caseli Sr.**[2] and Maria Elisabete Darbello Zaniquelli[1], (1)Universidade de São Paulo, (2)Universidade Federal de Sao Paulo

Emulsions Stabilized by Thermoresponsive Microgels. **Mathieu Destribats**[1], Véronique Lapeyre[2], Valérie Ravaine[1] and Véronique Schmitt[3], (1)Centre de Recherche Paul Pascal, (2)Institut des Sciences Moléculaires, (3)Université Bordeaux 1

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Vegetable Proteins as Foaming Agents IN the NEW Cuisine. Cristina Losada[1], **Jose Maria Gutierrez**[1], Alicia Maestro[1], Ingrid Farré[2], Jaume Biarnes[2], Pere Castells[2] and Carmen Gonzalez[1], (1)Universitat de Barcelona, (2)Fundacio Alicia

High Loading of HfO2 Nanoparticles In Organic Solvent. **Shu Li**, Michael Steigerwald, Nicholas Turro and Louis Brus, Columbia University

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Bio-Surface Engineering for Investigating and Regulating Cellular Responses. **Aniruddh Solanki**[1], Shreyas Shah[1], John Kim[1], Sung Young Park[2], Seunghun Hong[2] and Kibum Lee[1], (1)Rutgers University, Piscataway, (2)Seoul National University

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Protein Adsorption In PLG Microsphere Delivery Systems: Impact of Protein PEGylation. **Sheetal S. Pai**, Todd M. Przybycien and Robert D. Tilton, Carnegie Mellon University

Gold Nanoparticles In PAH/PAA-Based Multilayers. **Giovanna Machado, PhD**[1], Marisa M. Beppu, PhD[2], Arthur Thompson[1], Adriano Feil[3] and Liane Rossi[4], (1)Universidade Caxias do Sul, (2)Universidade Estadual de Campinas, (3)Universidade Federal do Rio Grande do Sul, (4)Universidade de São Paulo

Plasmatic Protein Adsorption On Chitosan Membranes. **Rodrigo Silveira Vieira**, Universidade Federal do Ceará, Marisa M. Beppu, PhD, Universidade Estadual de Campinas and Marcelo Ganzolli de Oliveira, State University of Campinas

Silver Nanoparticles Obtained In PAH/PAA-Based Multilayers by Photoinduction. **Giovanna Machado, PhD**[1], Janaina S. Crespo[1], Nicolle Dal Acqua[1], Carlos Figueroa[1], Marisa M. Beppu, PhD[2] and Ricardo Rego B. Correia, PhD[3], (1)Universidade Caxias do Sul, (2)Universidade Estadual de Campinas, (3)Universidade Federal do Rio Grande do Sul,

Poly(acrylic acid)-Sodium Carbonate Interactions In Concentrated Salt Solutions. **Xiaohua Fang** and Ponisseril Somasundaran, Columbia University

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Patterning of a Bifunctional SAM as a Template for a Microfluidic Screening Array. **Thomas F. Leary**, City College of New York, Charles Maldarelli, City College and the Graduate Center of the City University of New York and Alex Couzis, The Graduate Center, The City University of New York

The Effect of Particle Size and Interaction Range On the Rheological Properties of Colloidal Gels. **P. H. S. Santos**, M. A. Carignano and O. H. Campanella, Purdue University

Ph- and Salt-Induced Swelling of Multilayers Build up From Weak Polyelectrolytes: A QCM-D and ATR-FTIR STUDY. Peter Plaspohl, Nils Hambach, Katja Hoffmann and **Monika Schönhoff**, University of Münster

Humidity Dependence In Conductivity Spectra of Polyelectrolyte Multilayers: Implications for Charge Carrier Mobility and Density. Yahya Akgöl, Cornelia Cramer and **Monika Schönhoff**, University of Münster

QCM Studies of the pH-Dependent Behaviour of Polyelectrolyte Multilayers for Application IN Surface Molecular Imprinting. Jan Gauczinski[1], Xi Zhang[2], Zan Liu[2] and **Monika Schönhoff**[1], (1)University of Münster, (2)Tsinghua University

NMR Study of the Water Diffusivity and Mobility In a Microporous Polyelectrolyte Multilayer Film. Christina Wende and **Monika Schönhoff**, University of Münster

Stability of a Cyclodextrin- Adamantyl Hydrogel Under the Influence of Additives: A PFG- NMR Diffusion Study. Sebastian Jeremias[1], Nora Sporenberg[1], Carsten Koopmans[2], H. Ritter[2] and **Monika Schönhoff**[1], (1)University of Münster, (2)Heinrich Heine Universität Düsseldorf

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Laser Micro-Rheology Using MultiSpeckle DWS for the Study of the Visco-Elastic Properties of Fluids. Christelle Tisserand[1], **Yoann Lefeuvre**[2] and Laurent Brunel[1], (1)Formulaction, (2)FORMULACTION, Inc.

Self-Assembled Sugar-Based Nano-Gels. **George John**, The City College of New York

REGULATION of the Zeta Potential in Semi-Concentrated Dispersions of METAL Oxides in Polar Organic Solvents. **Marek Kosmulski**[1], Jarl B. Rosenholm[1] and Piotr Prochniak[2], (1)Åbo Akademi University, (2)Lublin University of Technology

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Self-Assembly of Colloids with Liquid Protrusions. **Daniela J. Kraft**, Carlos M. van Kats, Dr., Wessel S. Vlug, Alfons van Blaaderen, Dr. , Arnout Imhof, Dr. and Willem K. Kegel, Dr., Utrecht University

Controlling the Mechanical Properties of Polymer Films Prepared Using Poly(butadiene/methacrylic acid) Dispersions. **Orawan Pinprayoon**[1], Alberto Saiani[1], Robert Groves[2] and Brian Saunders[1], (1)School of Marterials, The University of Manchester, (2)Synthomer Ltd.

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Competing Interactions as Stabilization Mechanism for Hollow Spherical Structures. **Ethayaraja Mani**[1], Eduardo Sanz[2] and Willem K. Kegel[1], (1)Utrecht University, (2)University of Edinburgh

Sedimentation of Fractal Aggregates. Calculation And Measurement. **Frank Babick**[1], Michael Stintz[1] and Frédéric Gruy[2], (1)Technische Universität Dresden, (2)National Supérieur des Mines de Saint-Etienne

Effect of Particle Surface And Material Properties On the Aggregate Formation Under Static And Flow Conditions. **Miroslav Soos**, Cornelius Gauer, Hua Wu and Massimo Morbidelli, ETH Zurich

The Effect of Long-Range Interactions On Inter-Phase Line Tension In Liquid Crystalline Langmuir Films. Richelle Teeling[1], Pritam Mandal[1], Fanindra Bhatta[1], James C. Alexander[2], Andrew J. Bernoff[3], J. Adin Mann[2] and **Elizabeth K. Mann**[1], (1)Kent State University, (2)Case Western Reserve University, (3)Harvey Mudd College

Orientational Ordering of and Spontaneous Formation of the Chirality In the Langmuir Monolayer at the Air/Water Interface. **Yi Rao, Ph.D.**, Yanyan Xu, Ph.D. and Hongfei Wang, Ph.D., Molecular Reaction Dynamics Laboratory

Synthesis of Shape-Controlled Metal Nanocrystals. **Victor Mosquera, Professor**, Pablo Taboada, Sonia Goy, Emilio Castro, Josué Juárez, Adriana Cambón and Víctor Mosquera, Faculty of Physics, University of Santiago de Compostela

Hiearchy of Structure Development in Coacervation. **Ebru Kizilay**[1], A.D. Dinsmore[1], Paul L. Dubin[1], Elaine Foun[1] and JoAn Hudson[2], (1)University of Massachusetts, (2)Clemson University

Comprehensive Ionic Charge Sensing for Macromolecules and Particles. **Hanno R. Wachernig**, Particle Metrix GmbH, Meerbusch, Germany

Using Moran I And Geary C Spatial Autocorrelation Statistics to Differentiate Between Evaporative Residue Distributions. **Scott Pierce**, Kwaichow Chan and Yunji Mi, Albany State University

Sensitive Detection of Chiral Crystals by Second Harmonic Generation Microscopy. **Garth J. Simpson**, Purdue University

Microemulsion Templated Highly Porous Sugar-Nano-Foams. **Michael Klostermann**, Thomas Sottmann and Reinhard Strey, University of Cologne

Kinetically Controlled Adsorption to Freshly Formed Microscale Interfaces. Nicolas J. Alvarez, Lynn M. Walker and **Shelley L. Anna**, Carnegie Mellon University

Effect of Plasma Concentration On the Nature of the Protein Corona around Two Common Nanomaterials. **Abigail Campbell**, Dorota Walczyk, Marco Monopoli, Martin Lundqvist, Iseult Lynch, Kenneth A. Dawson and Giuliano Elia, University College Dublin

Surface Properties of Lipid Raft Langmuir Monolayer and Its Interaction with Aâ (1-40). **Garima Thakur**, University of Miami

Kinetic Analysis of the Sedimentation of a Charge-Regulated Colloid toward a Charged Surface. **Kuan-Liang Liu** and Jyh-Ping Hsu, National Taiwan University

Concentrated Colloids in a Nematic Solvent. **Tiffany A. Wood** and Wilson C. K. Poon, The University of Edinburgh

Effect of Temperature and Pressure On the Structure and Phase Behavior of Water Confined by Hydrophobic, Hydrophilic, and Heterogeneous Surfaces. **Nicolas Giovambattista**, Brooklyn College of the City University of New York, Peter Rossky, The University of Texas at Austin and Pablo Debenedetti, Princeton University

Thursday, June 18, 2009

Thursday, June 18, 2009
8:00 AM - 9:10 AM
Plenary Lecture

Thursday, June 18, 2009
9:10 AM - 9:30 AM
Coffee Break

Thursday, June 18, 2009
9:30 AM - 12:20 PM
Biointerfaces V: Lipids/Proteins at the Air-Water Interface

Organizers: Marjorie Longo, University of California, Davis, Ka Yee Lee, University of Chicago
Presider: Chad Leidy, Universidad de los Andes

9:30 Analogies Between Competitive Adsorption and Colloid Stability. **Joeseph A. Zasadzinski**[1], Ian Shieh[1], Patrick Stenger[1] and Jonathan G. Fernsler, Ph. D. [2], (1)University of California, Santa Barbara, (2)California Polytechnic University, San Luis Obispo

10:00 Complex Formation And Phase Transformations In Saturated Phosphatidylcholine/DSPE-PEG2000 Langmuir Monolayers And Microbubble Shells. **Marjorie L. Longo** and Monica M. Lozano, PhD, University of California, Davis

10:20 Simulation Studies On the Properties of Lipid Monolayers at the Stability Limit. **Svetlana Baoukina** and D. Peter Tieleman, University of Calgary

10:40 Break.

11:00 AFM Examination Of Pulmonary Surfactant At Low Surface Tensions. **Yi Y. Zuo**, University of Hawaii at Manoa, Nils O. Petersen, National Institute for Nanotechnology, National Research Council Canada and Fred Possmayer, University of Western Ontario

11:20 Evaluation of Lung Surfactant Inhibition, Resistance And Reversal Using New ADSA-CSD Methodology. **Sameh M. I. Saad**, Zdenka Policova, Andrew Dang, Edgar J. Acosta and A. Wilhelm Neumann, University of Toronto

11:40 Thermodynamic Analysis of Rationally Designed Peptides at the Air/Water Interface. **Lorraine F. Leon Gibbons**, The City College & the Graduate Center of the City University of New York and Raymond S. Tu, The City College of The City University of New York

12:00 Using Langmuir Monolayers to Mimic Interactions of Chitosan in Biointerfaces: Action on Lipids and Whey Proteins. Felippe José Pavinatto[1], **Luciano Caseli**[2], Thatyane Morimoto Nobre[1], Heurison Sousa Silva[1], Adriana Pavinatto[1], Paulo Barbeitas Miranda[1], Maria Elisabete Darbello Zaniquelli[1], Tapani Viitala[3] and Osvaldo Novais Oliveira Junior[1], (1)University of Sao Paulo, (2)Federal University of Sao Paulo - Campus Diadema, (3)KSV Instruments

Thursday, June 18, 2009
9:30 AM - 12:10 PM
Capillary and Wetting Phenomena II

Organizer: S. S. Dukhin, New Jersey Institute of Technology
Presiders: Mohamed E. Labib, Novaflux Technologies, Boryan Radoev, University of Sofia

9:30 Spreading of Evaporating Droplets In Presence of Surfactants. **Boryan Radoev**, University of Sofia

9:50 The Autophilic Effect: Wetting of Hydrophobic Surfaces by Surfactant Solutions. Andrew J. B. Milne and **A. Amirfazli, Associate Professor**, University of Alberta

10:10 Wetting Dynamics On Micropatterned Surfaces. **Melissa A. Yaklin** and Carlton F. Brooks, Sandia National Laboratories

10:30 Wetting by Non-Newtonian Fluids. Yuli Wei[1], Pilgyu Kang[1], Shelley L. Anna, Assistant Professor[1], **S. Garoff**[1], E. Rame[2] and Lynn M. Walker[1], (1)Carnegie Mellon University, (2)National Center for Space Exploration Research

10:50 Effect of the Surface-Stimulated Mode On the Kinetics of Homogeneous Crystal Nucleation In Droplets. **Yuri Djikaev**, SUNY at Buffalo

11:10 Condensation of Single Drops on Rigid and Elastic Hydrophobic Surfaces. **Mordechai Sokuler, Mr**, Günter K. Auernhammer and Hans-Jürgen Butt, Max Planck Institute for Polymer Research

11:30 Evaporation of Water/Ethanol Drops in a Controlled Environment. **Chuanjun Liu**, Elmar Bonaccurso and Hans-Jürgen Butt, Max Planck Institute for Polymer Research

11:50 Retarded Evaporation of Water Microdrops from Hydrophilic Surfaces. **Elmar Bonaccurso**, Dmytro S. Golovko and Hans-Jürgen Butt, Max Planck Institute for Polymer Research

Thursday, June 18, 2009
9:30 AM - 12:00 PM
Colloid and Surface Interactions in Water I

Organizers: Ludmila Boinovich, Russian Academy of Sciences, John Y. Walz, Virginia Tech
Presider: Ludmila Boinovich, Frumkin Institute of Physical Chemistry and Electrochemistry, Russian Academy of Sciences

9:30 Force Measurements Between Colloidal Particles In Water. **Darrell Velegol**, Pennsylvania State University

10:00 AFM Studies On the Colloidal Force Arising From Nanoparticle Halos. **Clayton T. McKee** and John Y Walz, Virginia Tech

10:20 A New Look at Nanoparticle Haloing Using Direct Force Measurements and Modeling. Xiaoting Hong and **Gerold Willing**, University of Louisville

10:40 Flattened Polymer Colloids And Resulting Assemblies. **Laura Mely Ramirez**, Darrell Velegol and Ralph Colby, Pennsylvania State University

11:00 Understanding the Impact of Chemical Patterns on the Interactions and Self-Assembly of Organic Nanostructures. **Claribel Acevedo-Velez**, William C. Pomerantz, Juan J. de Pablo, Samuel H. Gellman and Nicholas L. Abbott, University of Wisconsin-Madison

11:20 Force and Friction Between Fibres and Human Hairs Studied by AFM. Gustavo Luengo[1], Hiroyasu Mizunol[2] and **Mark Rutland**[2], (1)L'Oréal Recherche, (2)Royal Institute of Technology

11:40 Stability of Aqueous Binary Suspensions of Fumed Oxides. Karina Paciejewska, **Frank Babick**, Michael Stintz and Rüdiger Lange, Technische Universität Dresden

Thursday, June 18, 2009
9:30 AM - 11:50 AM
Colloids in Non-Aqueous Media II

Organizers: Ian Morrison, Dr., Cabot Corporation, Filip Strubbe, Dr, Ghent University

9:30 Impact of ATRP Initiator Carbon Spacer Length On Grafting Poly(Styrene) From Silica Nanoparticles. **Danial Sunday**, David Green, Kendra Woodberry and Sara Curras, University of Virginia

9:50 Transparent TiO2/Epoxy Composites Prepared by Using a Surfactant with Hydrophilic and Hydrophobic Chains. **Motoyuki Iijima**, Miwa Yamazaki and Hidehiro Kamiya, Tokyo University of Agriculture and Technology

10:10 A Test of Pairwise Additivity In Colloidal Electrostatics at Low Ionic Strength. **Jason W. Merrill**[1], Sunil K. Sainis[2] and Eric R. Dufresne[1], (1)Yale University, (2)Harvard University

10:30 Electrical Charging In Nonpolar Liquids Due to Nonionic Suriactants. **Qiong Guo**, Virendra Singh and Sven H. Behrens, Georgia Institute of Technology

10:50 Foam Stability of Non-Aqueous Liquids. **Stig E. Friberg, Professor**, Southeast Missouri State University

11:10 Adding Water to a Hydrocarbon/Surfactant Solution Will Reduce the Surface Tension?. **Stig E. Friberg, Professor**, Southeast Missouri State University

11:30 New Fluorinated Surfactants for Nanogel Preparation. **David Alaimo, PhD student**[1], Jutta Rieger, Doctor[1], Guy Broze, Doctor[1], Alexandre Beigbeder, Doctor[2], Philippe Dubois, Professor[2], Christine Jérôme, Professor[1] and Bruno Grignard, Doctor[1], (1)University of Liège, (2)University of Mons-Hainaut

Thursday, June 18, 2009
9:30 AM - 12:10 PM
Complex Systems and Polymer Interfaces

Organizers: Frank Blum, Missouri University of Science and Technology, Maria M. Santore, University of Massachusetts,
Presiders: Millicent A. Firestone, Argonne National Laboratory, Frank Blum, Missouri University of Science and Technology

9:30 Imaging Amphiphilic Block Copolymer Interactions with Model Lipid Bilayers. Byeongdu Lee and **Millicent A. Firestone**, Argonne National Laboratory

9:50 Bilayer Lamellar Phases Doped with Polymeric Additives: Detailed SANS And SAXS Studies. **Verena Posselt**[1], Thomas Sottmann[1], Reinhard Strey[1], Juergen Allgaier[2], Henrich Frielinghaus[2], Sandra Engelskirchen[3] and Otto Glatter[3], (1)University of Cologne, (2)Research Center Juelich, (3)Karl-Franzens University Graz

10:10 Giant Phospholipid/Block Copolymer Hybrid Vesicles: Mixing Behavior And Domain Formation. **Jin Nam**, Paul Beales and Kyle Vanderlick, Yale University

10:30 Disjoining Pressure of Bonded Perfluoropolyether (PFPE) Thin Films Revealed by AFM. **James W. Schneider**[1], Adam Bowles[1] and Lee R. White[2], (1)Carnegie Mellon University, (2)University of South Australia

10:50 Effect of pH Value on the Facilitation Efficiency of Oligonucleotide on Vesicle Formation from Single-Chained Cationic Surfactant. B. Cui, **X. Guo** and Rong Guo, Yangzhou University

11:10 Impact of Solvent Quality On Nanoparticle Dispersion In Semidilute and Concentrated Polymer Solutions. **Nupur Dutta** and David Green, University of Virginia

11:30 Effect of Organic Polymers on the Cement Hydration Reaction: Thermodynamic and Structural Aspects. **Francesca Ridi**, Paola Luciani, Emiliano Fratini and Piero Baglioni, University of Florence and CSGI

11:50 Mechanisms Governing Interfacial Behavior of Organic/Inorganic Silicone Polymers. **Parag S. Purohit**[1], Ponisseril Somasundaran[1] and Ravi Kulkarni[2], (1)Columbia University, (2)Elkay Silicones Ltd.

Thursday, June 18, 2009
9:30 AM - 12:00 PM
Dynamics I

Organizers: Nicholas Turro, Columbia University, Jeffrey T. Koberstein, Columbia University

9:30 Dynamics of Pathological Crystallization. **Michael D. Ward**, New York University

10:10 Dynamics at Interfaces Probed by Sum-Frequency Generation Spectroscopy. **Dana D. Dlott**, University of Illinois at Urbana-Champaign

10:50 Break.

11:00 Patterning Thin Polymer Films Driven Via Electric Fields:Instability, Pattern Selection, and Coarsening. **William B. Russel**, Princeton University

11:40 Photo-Induced Electron Transfer at Liquid Interfaces with Time-Resolved Sum Frequency Generation. **Yi Rao, Ph.D.**, Man Xu, Ph.D., Nicholas J. Turro and Kenneth B. Eisenthal, Mark Hyman Professor of Chemistry, Columbia University

Thursday, June 18, 2009
9:30 AM - 12:20 PM
Emulsions IV

Organizers: Stig Friberg, University of Virginia, Rong Guo, Yangzhou University
Presider: Laurence S. Romsted, Rutgers University

9:30 Oscillation Instability in Phase Separation of Binary Mixtures. **Doris Vollmer**, Auernhammer Guenter, Hayase Yumino and Kobayashi Mika, Max Planck Institute

10:00 Dynamic Emulsification Processes. **Christophe Baravian**[1], Julien Mougel[2], Alain Durand[2] and Francois Caton[3], (1)CNRS-Nancy Université UMR 7563, (2)Nancy Unuiversity, (3)INPG

10:20 Drop Breakage During Emulsification - Experiments and Data Interpretation. Slavka Tcholakova[1], **Nikolai D. Denkov**[1], Nina Vankova[1] and Thomas Danner[2], (1)Laboratory of Chemical Physics & Engineering, (2)BASF

10:40 Break.

11:00 Non-Coalescence of Oppositely Charged Drops. **William D. Ristenpart**[1], Andrew Belmonte[2], James C. Bird[3], Franklin Dollar[3] and Howard A. Stone[3], (1)University of California at Davis, (2)Pennsylvania State University, (3)Harvard University

11:20 W/O Emulsions with Peptide/Silicone Hybrid Polymers as Active Interfacial Modifier (AIM). **Kenichi Sakai**[1], Ryosuke Ikeda[1], Suraj C. Sharma[1], Hideki Sakai[1], Masahiko Abe[1], Kazutami Sakamoto[1], Naoko Otani[2], Yuka Ueda[2] and Masato Yoshioka[2], (1)Tokyo University of Science, (2)Seiwa Kasei Co., Ltd.

11:40 Characterisation and Stabilisation of Nanoemulsions Produced by the PIC Method. **Michael Gradzielski** and Peggy Heunemann, Technische Universität Berlin

12:00 Nano-Emulsion Formation In Ionic Surfactant Systems by the Phase Inversion Composition (PIC) Method. **Isabel Solè**[1], Carme González[1], Alicia Maestro[1], Conxita Solans[2] and José María Gutiérrez[1], (1)Universitat de Barcelona, (2)Consejo Superior de Investigaciones Científicas (CSIC)

Thursday, June 18, 2009
9:30 AM - 12:10 PM
Energy From Fossil Fuels & Alternative Sources II

Organizers: Jae W. Lee, City College of New York, Zhenghe Xu, University of Alberta
Presiders: Prof. Raymond S. Tu, City College of New york, Ilona Kretzschmar, City College of City University of New York

Session Overview: This session will address the fundamentals and applications of fossil fuels and alternative energy sources. Interfacial and transport phenomena in crude oils, oil sands, coals, natural gas, methane hydrate processing systems and alternative energy systems will be welcomed.

9:30 Alkali-Surfactant Processes for Enhanced Oil Recovery. Shunhua Liu[1], Ibrahim Kayali[2], George J. Hirasaki[3] and **Clarence A. Miller**[3], (1)Occidental Oil and Gas Corp., (2)Al-Quds University, (3)Rice University

10:10 Permanent Alteration of Porous Media Wettability from Liquid Wetting to Intermediate Wetting by Fluoropolymer Treatment. **Stanley Wu** and Abbas Firoozabadi, Reservoir Engineering Research Institute

10:30 Adsorption of Sodium Dodecyl Sulfate at Cyclopentane Hydrate/Liquid Interface. **Junshe Zhang**[1], Chi Lo[1], Ponisseril Somasundaran[2], Shaohua Lu[2], Alexander Couzis[3] and Jae W. Lee[1], (1)City College of New York, (2)Columbia University, (3)The City College of New York

10:50 Adsorption of Petroleum Macromolecules (Asphaltenes and Resins) Onto Reservoir Rock Sands. **Roman M. Balabin**[1], Renato Zenobi[1], Rustem Z. Syunyaev[2] and J. O. Safieva[3], (1)ETH Zurich, (2)Gubkin Russian State University of Oil and Gas, (3)Emanuel Institute of Biochemical Physics RAS

11:10 Swapping Phenomena In Deep-Sea Gas Hydrates. **Youngjune Park**, Kyuchul Shin, Jiwoong Seol, Minjun Cha and Huen Lee, Korea Advanced Institute of Science and Technology

11:30 Rheology of CP Hydrate-Forming Emulsions. **Prasad U. Karanjkar**[1], Jorge Peixinho[2], Jae W. Lee[2] and Jeffrey F. Morris[3], (1)The Graduate Center and City College of New York, (2)City College of New York, (3)City University of New York

11:50 Effect of Surface Active Agents On Electronkinetic and Wettability Changes of Reservoir Rocks. **S.E. El-Mofty**, Cairo University and E.M. El-Shokir, King Saud University

Thursday, June 18, 2009
9:30 AM - 12:20 PM
Engineering at the Nano-Scale and Nano-Technology II

Organizers: Yunfeng Lu, University of California, Los Angeles, B. M. Moudgil, University of Florida

9:30 Meniscus-Directed Assembly of Structured Films, Lines and Self-Contained Clusters From Microparticles, Nanoparticles and Biomolecules. **Orlin D. Velev**, North Carolina State University

10:00 Mechanisms of Nano- and Micro-Particle Self-Assembly in Two-Dimensional Structures in a Wedge Film. Alex Nikolov and **Darsh Wasan**, Illinois Institute of Technology

10:20 A Method of Improving the Electrical Conductivity of Pt/TiO2 Nanocomposite. **Qi Long**[1], Mei Cai[2], Jinru Li[1], Huilin Rong[1] and Long Jiang[1], (1)Institute of Chemistry, Chinese Academy of Sciences, (2)Research and Development Center, General Motors Corporation

10:40 A Concerted Self-Assembly Pathway of Dendrimers Produces Versatile Nanocapsules. **Yan Geng**, University of Georgia

11:00 Break.

11:10 Molecularly Sculpted Nanostructures and Interfaces: Directed Synthesis and Novel Properties. **G. Ramanath**, RPI

11:40 Electrochemical Water Splitting Using Mixed Metal Oxide Nanoparticulate Composite Electrodes. Hyunwoong Park[1], Chad D. Vecitis[2] and **Michael R. Hoffmann**[2], (1)Kyungpook National University, (2)California Institute of Technology

12:00 Magnetic Janus Particles: Investigation of Their Magnetic Properties and Controllable Autonomous Motion. **Shengrong Ye** and R. Lloyd Carroll, West Virginia University

Thursday, June 18, 2009
9:30 AM - 12:25 PM
Environmental Colloid and Interfacial Processes V

Organizer: V. Faye McNeill, Columbia University
Presiders: Qilin Li, Rice University, Helen Nguyen, University of Illinois, Urbana-Champaign

Session Overview: The rapidly increasing production and application of a variety of nanomaterials raises concern on their potential environmental impact. This session will discuss the environmental fate and transport as well as the ecotoxicity of nanomaterials.

9:30 Welcoming Remarks.

9:35 Coupled Modeling And Experimental Investigations of Nanocarbon Transport In Subsurface Media. **Linda M. Abriola**[1], Yusong Li[2], Yonggang Wang[3] and Kurt D. Pennell[1], (1)Tufts University, (2)University of Nebraska-Lincoln, (3)Georgia Institute of Technology

10:15 Influence of Solution Chemistry On the Deposition Kinetics of Oxidized Multi-Walled Carbon Nanotubes On Silica Surfaces. **Kai Loon Chen**, Peng Yi, Billy Smith Jr. and Howard Fairbrother, Johns Hopkins University

10:35 The Role of Solution Chemistry on the Deposition and Detachment of Quantum Dots in Model Groundwater Environments. **Ivan R. Quevedo** and Nathalie Tufenkji, McGill University

10:55 Break.

11:05 Transport of Carbon and Metal-Oxide Nanoparticles in Soils. **Lunliang Zhang**[1], Mason B. Tomson[2], Jesse Farrell[2], Ping Zhang[2], Wei Chen[1] and Amy T.Kan[2], (1)Nankai University, (2)Rice University

11:25 Single-Walled Carbon Nanotubes Exhibit Limited Transport In Soil Columns. **Deb P. Jaisi** and Menachem Elimelech, Yale University

11:45 The Stability and Mobility of Surface-Modified Iron Nanoparticles In Soil Column Tests. **Bahngmi Jung**[1], Denis O'Carroll[2] and Brent Sleep[1], (1)University of Toronto, (2)University of Western Ontario

12:05 Two-Dimensional Transport of Polyelectrolyte-Modified Fe0 Nanoparticles In Heterogeneous Saturated Sand: Effects of Particle Concentration, Excess Polymer, Fe0 Content, And Adsorbed Polymer Layer Properties. **Tanapon Phenrat**[1], Fritjof Fagerlund[2], Hye-Jin Kim[1], Robert D. Tilton[1], Tissa Illangasekare[2] and Gregory V. Lowry[1], (1)Carnegie Mellon University, (2)Colorado School of Mines

Thursday, June 18, 2009
9:30 AM - 12:10 PM
Fabrication of Colloidal Assemblies and Devices V: Functional Assemblies

Organizers: Darrell Velegol, Pennsylvania State University, Orlin D. Velev, North Carolina State University

9:30 Using Solid-Stabilised Emulsion Templates for the Preparation of Functional Microcapsules. **Olivier J. Cayre** and Simon Biggs, Institute of Particle Science and Engineering

9:50 DNA-Coated Colloidal Particles for Self-Replication. **Remi Dreyfus**[1], Mirjam E. Leunissen[1], Roujie Shah[2], Alexei Tkachenko[3], Nadrian C. Seeman[2], David J. Pine[1] and Paul M. Chaikin[1], (1)Center for Soft Matter Research, New York University, (2)New York University, (3)University of Michigan

10:10 Obtaining Conductive Patterns by Two-Dimensional Aggregation and Coalescence. **Shlomo Magdassi, Prof**[1], Michael Grouchko[1], Alexander Kamyshny[1] and Oleg Berezin[2], (1)The Hebrew University of Jerusalem, (2)Mobichem

10:30 Simple Fabrication of Phototaxing Motors. **Neetu Chaturvedi**[1], Darrell Velegol[2], Yiying Hong[1] and Ayusman Sen[2], (1)The Pennsylvania State University, (2)Pennsylvania State University

10:50 Self-Oscillating Particles with Ionic-Exchange Particle And Responsive Polymer. Guanqun Wang[1], Andres Mejia[1], Srinivasa Pullela[1], Manuel Marquez[2], Dazhi Sun[3], Sue Hung-jue[2] and **Zhengdong Cheng**[1], (1)Texas A&M University, (2)Arizona State University, (3)TAMU

11:10 Structural Color of Biological and Biomimetic Amorphous Nanostructures. **Jason D. Forster**, Heeso Noh, Vinodkumar Saranathan, Hui Cao, Simon Mochrie, Chinedum Osuji, Richard O. Prum and Eric R. Dufresne, Yale University

11:30 Real-Time Impedimetric Characterization of Molecular Self-Assembly Onto and Between Gold Nanoparticles Dispersed On Dithiol Modified Gold Surfaces. Anders O. Lundgren[1], **Julia Hedlund**[2] and Hans Elwing[1], (1)Gothenburg University, (2)Midorion AB

11:50 Stimuli Responsive Nanoparticles: Hierarchical Assembly and Ultrahydrophobic Surfaces From Water Born Dispersions. **Mikhail Motornov**[1], Roman Sheparovych[1], Robert Lupitskyy[1], Emily MacWilliams[1] and Sergiy Minko[2], (1)Clarkson Uninersity, (2)Clarkson University

Thursday, June 18, 2009
9:30 AM - 12:10 PM
Interfacial Rheology II

Organizers: Gerald G. Fuller, Stanford University, Libero Liggieri, CNR - Istituto per L'Energetica e le Interfasi
Presider: Reinhard Miller, Max-Planck-Institut fuer Kolloid und Grenzflaechenforschung

9:30 On the Possible Role of the Surface Elasticity in Emulsion and Foam Stability. Daniela Georgieva[1], **Dominique Langevin**[1], Alain Cagna[2], Veronique Schmitt[3] and Fernando Leal Calderon[4], (1)Laboratoire de Physique des Solides, Université Paris Sud 11, Orsay, France, (2)Teclis-IT Concept parc de Chancolan, (3)Centre de Recherche Paul Pascal, Université Bordeaux 1 CNRS UPR 8641, (4)TREFLE, Université Bordeaux 1, CNRS UMR 8508

10:00 Impact of Aphiphilic Nanostructures On Rheology of Interfacial Layers and Foam-Film Drainage. **Elena Mileva**[1], Dimi Arabadzhieva[1], Plamen Tchoukov[1], Reinhard Miller[2], Francesca Ravera[3], Libero Liggieri[3] and Dotchi Exerowa[1], (1)Institute of Physical Chemistry, Bulgarian Academy of Sciences, (2)MPI Colloids & Interfaces, (3)CNR - Istituto per L'Energetica e le Interfasi

10:20 Surfactant Mixtures with High Surface Modulus – Characterization and Application in Foam Studies. **Nikolai D. Denkov**[1], D. Dimitrova[1], S. Tcholakova[1], K. Marinova[1], Libero Liggieri[2] and Francesca Ravera[2], (1)Laboratory of Chemical Physics & Engineering, (2)CNR - Istituto per L'Energetica e le Interfasi

10:40 Mobility of Surfactants and Proteins at the Oil-Water Interface. **Robert Walder, PhD** and Daniel Schwartz, University of Colorado at Boulder

11:10 Microparticles at Fluid Interfaces: Structure, Dynamics and Their Use as Probes for Monolayer Microrheology. Laura J. Bonales, Hernan Ritacco, Ramon G. Rubio and **Francisco Ortega**, Universidad Complutense

11:30 On the Diffusion of Circular Domains on a Spherical Vesicle. Pietro Tierno[1], **Thomas M. Fischer**[2], Saeedeh Aliaskarisohi[2], Prajnaparamita Dhar[3] and Ziad Khattari[4], (1)University of Barcelona, (2)University of Bayreuth, Germany, (3)University of California, Santa Barbara, (4)Hashemite University

11:50 A Novel Technique for Interfacial Microrheology. **Siyoung Q. Choi**, Andrew J. Pascall and Todd M. Squires, University of California, Santa Barbara

Thursday, June 18, 2009
9:30 AM - 12:10 PM
Surfactants and Supermolecular Assemblies: Langmuir and Gibbs Monolayers

Organizers: Alexander Couzis, City College of New York, Charles Maldarelli, The City College of New York

9:30 Kinetic Processes In Interfacial Adsorption Layers. **Libero Liggieri**[1], Francesca Ravera[1], Michele Ferrari[1] and Reinhard Miller[2], (1)CNR - Istituto per L'Energetica e le Interfasi, (2)Max-Planck-Institut fuer Kolloid und Grenzflaechenforschung

10:10 Surfactant Transport From a Micellar Solution to An Air-Water Interface. **Nikhil S. Bhole**, Fenfen Huang and Charles Maldarelli, City College and the Graduate Center of the City University of New York

10:30 Reversible Light-Induced Critical Separation. **Julian Eastoe** and Rico Tabor, University of Bristol

10:50 Nanolithography at the Air/Water Interface. Roman Volinsky and **Raz Jelinek**, Ben Gurion University

11:10 Characterization of Hydrogenated/Fluorinated Surfactant Films by Experimental Methods and Molecular Dynamics Simulations. **Juan M. Ruso, Dr.**[1], Elena Blanco[1], Angel Piñeiro[1], Paula Toimil[1], Pedro Verdes[1], Gerado Prieto[1], Felix Sarmiento[1] and

Reinhard Miller[2], (1)University of Santiago de Compostela, (2)MPI Colloids & Interfaces

11:30 Phase-Separation In Mixed Hydrogenated-Perfluorinated Fatty Acid Langmuir Blodgett Thin Films. **Matthew F. Paige, Associate Professor** and Shatha E. Qaqish, University of Saskatchewan

11:50 Selective Surface Modification with Two-Dimensional Micro-Templates Formed In Mixed Langmuir Monolayers. **Ken-ichi Iimura**, Tomomi Yuzawa and Takayuki Ito, Utsunomiya University

Thursday, June 18, 2009
9:30 AM - 12:00 PM
Theory and Computer Simulations in Interfacial and Colloidal Systems I

Organizers: Ramanathan Nagarajan, Natick Soldier Research, Development & Engineering Center, Shyam Vyas, Accelrys Inc.

9:30 Self-Assembly And Mechanical Properties of Block-Copolymer Gels. **Jan Andzelm, Ph.D.**, Yelena Sliozberg and Mark VanLandingham, Army Research Laboratory

10:00 Large-Scale Lattice-Boltzmann Simulations of Amphiphilic Liquid Crystal Self-Assembly and Rheology. **Radhika S. Saksena**, University College London and Peter V. Coveney, Professor, university College London

10:20 The Long and Winding Road. Multiscale Molecular Modeling Approach to the Self-Assembly of Di/Triblock Copolymers for Drug Delivery in Aqueous Solution. Paola Posocco, Maurizio Fermeglia and **Sabrina Pricl**, University of Trieste

10:40 Prediction of Drug Miscibility In Mixed Solvents: Developing Workflows for Miscibility Prediction with Molecular Dynamics Simulations. **Nicholas M. Reynolds**, Shyam Vyas and Max Petersen, Accelrys

11:00 Density Functional Calculations of Surface Interactions In Polydisperse Polymer Solutions. **Jan Forsman**, Lund University and Clifford E. Woodward, UNSW, ADFA

11:20 Phase Behavior of Colloidal Spheres + Polymers in Good and Theta Solvents. **Remco Tuinier**, DSM Research and Gerard J. Fleer, Wageningen University

11:40 A Mean Field Model of Polymer A - Polymer B - Diblock Copolymer XY Microemulsion. **Ramanathan Nagarajan**, Natick Soldier Research, Development & Engineering Center

Thursday, June 18, 2009
9:30 AM - 12:15 PM
Tribology and Adhesion I

Organizers: Girma Biresaw, Ph.D., USDA-ARS-, Anil N. Netravali, Cornell University

Session Overview: This symposium deals with recent advances in surface and colloid science as it pertains to three important scientific disciplines: tribology, adhesion, and the interface between tribology and adhesion. Papers in one or more of these sub-topic areas are solicited. Abstract submitted to this symposium will be grouped under each of these three sub-topic areas and presented in successive sessions.

9:30 Adhesion Science: Recent Developments and Prospects. **Kash Mittal, Dr.**, Editor-in-Chief, Journal of Adhesion Science and Technology

9:50 Designing Functional and Responsive Organic Surfaces by Chemical Vapor Deposition Category Selection: Adhesion and Polymer Surface Patterning. Karen K. Gleason, Ph.D. and **Sung Gap Im**, MIT

10:10 Adhesion Measurement on Micro-Patterned Surfaces. **Yasuhisa Ando**, Miki Nakano and Koji Miyake, National Institute of Advanced Industrial Science and Technology

10:30 Adsorption Isotherms of Water and Alcohol Vapor on Silicon Oxide Surfaces and Their Effects on Nano-Asperity Adhesion. **Seong Han Kim**, Penn State University

10:50 Photo-Initiated Surface Modification of Textile Fibers for Increased Adhesion. **Thomas Bahners** and Eckhard Schollmeyer, Deutsches Textilforschungszentrum Nord-West e.V.

11:10 On the Adhesive Interaction Between Polyelectrolyte Multilayers of Polyallylamine Hydrochloride and Polyacrylic Acid. **Erik Johansson**, Eva Blomberg, Rikard Lingström and Lars Wågberg, Royal Institute of Technology

11:30 Adhesion of Highly Fluorinated Rubbers with the Aid of UV-Curable Resins. **Roberta Bongiovanni**[1], Lara Jabbour[1], Andrea Medici[1] and Claudio Tonelli[2], (1)Politecnico di Torino, (2)Solvay Solexis

11:50 Photochemical Surface Functionalization of Polyolefins. **Klaus Opwis, Dr** and Eckhard Schollmeyer, Deutsches Textilforschungszentrum Nord-West e.V.

12:10 Surface Forces, Adlayers, Responsive Films and Friction. **Mark Rutland**, Royal Institute of Technology

12:30 Adhesion of Highly Fluorinated Rubbers with the Aid of UV-Curable Adhesives. **Roberta Bongiovanni**[1], Lara Jabbour[1], Andrea Medici[1] and Claudio Tonelli[2], (1)Politecnico di Torino, (2)Solvay Solexis

12:50 break.

1:10 Break.

Thursday, June 18, 2009
2:00 PM - 4:30 PM
Biointerfaces VI: General Biointerfaces

Organizers: Marjorie Longo, University of California, Davis, Ka Yee Lee, University of Chicago
Presider: Svetlana Baoukina, University of Calgary

2:00 Texture of Membrane Domains. **Adam Cohen Simonsen, PhD**, Jonathan Brewer, Uffe Bernchou and Henrik Midtiby, University of Southern Denmark

2:30 Characterization of Peptide-Decorated Interfaces Using near Edge X-Ray Absorption Fine Structure Spectroscopy: Effects of Phosphorylation On Peptide Conformation. **Yiqun Bai**, Xiaosong Liu, Paul Bertics, Franz Himpsel and Nicholas Abbott, University of Wisconsin- Madison

2:50 Experimental Study of Artificial Cells Adhesion Under Flow. **Jitka Cejkova** and Frantisek Stepanek, Institute of Chemical Technology, Prague

3:10 Carbon-On-Metal Substrates for the Fabrication And Analysis of Biomolecule Arrays. **Matthew R. Lockett** and Lloyd M. Smith, University of Wisconsin - Madison

3:30 Break.

3:50 Nanoscale Investigation of Force Interactions Between AFM Tips and Hydrophobic Bacteria Using DLVO Theory. **Loredana S. Dorobantu**, Murray R. Gray, Subir Bhattacharjee and Julia M. Foght, University of Alberta

4:10 Compared Effects of Monovalent Salt, Mono- And Oligonucleotide On Structure And Stability of Cationic Vesicles. **Julio H. K. Rozenfeld, PhD student** and Ana M. Carmona-Ribeiro, Full professor, Biocolloids Lab, Universidade de São Paulo, Instituto de Química

Thursday, June 18, 2009
2:00 PM - 4:45 PM
Capillary and Wetting Phenomena III

Organizers: S. S. Dukhin, New Jersey Institute of Technology, Mohamed E. Labib, Novaflux Technologies
Presiders: Charles Maldarelli, City College and the Graduate Center of the City University of New York, Emil J. Chibowski, University professor, Maria Curie-Sklodowska University, Faculty of Chemistry

2:00 Molecular Dynamics Simulations Of The Wetting Of Water Nanodroplets On Surfaces Of Prescribed Polarity: Contact Angle And Line Tension Calculations On Surfaces Chemically Uniform And Heterogeneous, And Droplet Motion In Wettability Gradients. **Charles Maldarelli**[1], Alexander Couzis[1], Joel Koplik[2] and John Halverson[3], (1)City College and the Graduate Center of the City University of New York, (2)Physics Department, (3)Max Planck Institute for Polymer Research

2:20 Surface Free Energy of Polypropylene and Polycarbonate Solidifying at Different Solid Surfaces. **Emil J. Chibowski, University professor** and Konrad Terpilowski, assistant, Maria Curie-Sklodowska University, Faculty of Chemistry

2:40 Single and Mixed Surfactants Solutions at Superhydrophobic Surfaces. **Michele Ferrari**, Libero Liggieri and Francesca Ravera, CNR

3:00 Superhydrophobic Surfaces: Applicability of the Wenzel And Cassie-Baxter Equations. **H. Yildirim Erbil** and C. Elif Cansoy, Gebze Institute of Technology

3:20 Surface-Initiated Growth of Superhydrophobic Polymer Films. **G. Kane Jennings, Associate Professor**, Juan C. Tuberquia and Robin J. Spears, Vanderbilt University

3:40 Heterogeneous Surface Coatings: Water Contact Angle and Wetting Hysteresis Relation with the Foul-Release Properties of Marine Organisms. **H. Yildirim Erbil**, I Orkan-Ucar, C. Elif Cansoy, N. Gengec, M Dandan and U Cengiz, Gebze Institute of Technology

4:10 Manipulation of the Association of Two Components In Drying Liquid Drops – Tools for Enhanced Biodelivery Formulations. **M.A. Faers**[1], K. Tsangaris[1], R. Pontzen[1] and A. Bismarck[2], (1)Bayer CropScience AG, (2)Imperial College

4:30 Airflow Induced Shedding of Drops On Surfaces of Various Hydrophobicities. **Andrew J. B. Milne** and A. Amirfazli, Associate Professor, University of Alberta

Thursday, June 18, 2009
2:00 PM - 4:40 PM
Colloid and Surface Interactions in Water II

Organizers: Ludmila Boinovich, Russian Academy of Sciences, John Y. Walz, Virginia Tech

2:00 Interaction of Cationic Hydrophobic Surfactants at Negatively Charged Surfaces Investigated by Atomic Force Microscopy. **Cathy E. McNamee**[1], Hans-Jürgen Butt[2], Ko Higashitani[3], I.U. Vakarelski[3] and Michael Kappl[2], (1)Shinshu University, (2)Max Planck Institute for Polymer Research, (3)Kyoto University

2:20 Colloidal Sticky Spheres - Inter-Particle Potential Spanning the Fluid/Gel Phase Transition. **Aaron P. R. Eberle** and Norman J. Wagner, University of Delaware

2:40 Hydroxide Ions at Hydrophobic Interfaces Explained by a New Fluctuation Force. **James K. Beattie** and Angus Gray-Weale, University of Sydney

3:00 Deposition of Modified Nanometer Silica Particles on Hydrophilic Silica Surface. **Caroline Hall**[1], Jordan Petkov[1], I. Tucker[2] and Jian Lu, Prof.[3], (1)Unilever R&D, (2)Unilever Research and Development Laboratory, Port Sunlight, (3)Manchester University

3:20 The Role of Cation Dehydration On Cation Binding to Polyelectrolytes. **Hugh D. Burrows**[1], Diana Costa[1], Maria G Miguel[1], Alberto ACC Pais[1], M. Luisa Ramos[1], M Helena Teixeira[1], Artur JM Valente[1], Margarida Bastos[2] and Guangyue Bai[2], (1)Universidade de Coimbra, (2)Universidade do Porto

3:40 Sol-Gel And Isotropic/Nematic Transitions In Aqueous Suspensions of Swelling Clay Minerals: a Structural And Rheological Study On Size-Selected Particles. **Laurent J. Michot**[1], Isabelle Bihannic[1], Erwan Paineau[1], Solange Maddi[1], Jerome F.L. Duval[1], Christophe Baravian[2], Patrick Davidson[3] and Pierre Levitz Sr.[4], (1)CNRS-Nancy Université UMR 7569, (2)CNRS-Nancy Université UMR 7563, (3)CNRS-Université Paris-Sud UMR 8502, (4)Ecole Polytechnique - CNRS

4:00 Interaction Forces Between a Particle And a Planar Surface In Water. **Eunhyea Chung**[1], Patricia Taboada-Serrano[1], Sotira Yiacoumi[1] and Costas Tsouris[2], (1)Georgia Institute of Technology, (2)Oak Ridge National Laboratory

4:20 Computer Simulations of Interfacial Water: From Hydration Repulsion to Hydrophobic Attraction. **Fernando Bresme, PhD**, Imperial College

Thursday, June 18, 2009
2:00 PM - 4:00 PM
Colloids in Non-Aqueous Media III

Organizers: Ian Morrison, Dr, Cabot Corporation, Filip Strubbe, Dr, Ghent University

2:00 Probing the Physics of Nonpolar Colloids Using Microresonators. **Sunil K. Sainis** and Frank Vollmer, Harvard University

2:20 Viscosities of Heavy Oils-In-Toluene And Partially Deasphalted Heavy Oils-In-Heptol In a Study of Asphaltenes Self-Interactions. **Chandra W. Angle, Sr. Research Scientist**, CanmetENERGY

2:40 Studies of Stability of Water In Diluted Athabasca Bitumen Emulsions Using Electric Polarization of a Single Emulsion Film. **Plamen Tchoukov**[1], Jan Czarnecki[2] and Tadeusz Dabros[1], (1)Natural Resources Canada, (2)University of Alberta

3:00 Effect of Dispersants On Asphaltene Suspensions In Crude Oil. **Sara Hashmi**, Yale University and Abbas Firoozabadi, Reservoir Engineering Research Institure

3:20 Transient Electrokinetics of Colloidal Particles In Nonpolar Liquids Containing Charged Inverse Micelles. **Filip Strubbe**, Filip Beunis, Matthias Marescaux, Bart Verboven and Kristiaan Neyts, Ghent University

3:40 Impact of Initiator Carbon Spacer Length On Grafting Poly(Styrene) From Silica Nanoparticles. **David Green**, Chinlun Huang, Tyler Tassone and Kendra Woodberry, University of Virginia

Thursday, June 18, 2009
2:00 PM - 4:50 PM
Dynamics II

Organizers: Jeffrey T. Koberstein, Columbia University, Nicholas J. Turro, Columbia University

2:00 Dynamic Aspects of Particle-Surface Interactions: From Capture Kinetics to Motion Signatures. **Maria Santore** and Surachate Kalasin, University of Massachusetts

2:40 Interfacial Issues And Dynamics In Nanoparticle Self-Assembly. **Robert K. Prud'homme**, Princeton University

3:20 Break.

3:30 Creation And Reorganization of Functional Polymer Surfaces. **Jeffrey T. Koberstein**, Columbia University

4:10 Functionalization of ZnO Nanorods And Nanoparticles with Dyes And Biomolecules. **Elena Galoppini**, Rutgers-Newark

Thursday, June 18, 2009
2:00 PM - 3:00 PM
Emulsions V

Organizers: Stig Friberg, University of Virginia, Rong Guo, Yangzhou University
Presider: Nikolai D. Denkov, Laboratory of Chemical Physics & Engineering

2:00 Effect of Hydrophilic and Amphiphilic Additives on the Stability of Internally Self-Assembled Emulsions. **Sandra Engelskirchen**, Reinhard Maurer and Otto Glatter, Karl-Franzens University Graz

2:20 Amphiphile-Free Templated Synthesis: Water-in-Water Emulsions and Heterogenous Biocatalysts. **Yan-Yeung Luk**, Karen A. Simon and Erik A. Burton, Syracuse University

2:40 Effect of Droplet Size Distribution On Ostwald Ripening In Emulsions with and without Micelles. **Stephanie R. Dungan**, University of California and Suwimon Ariyaprakai, Assumption University

Thursday, June 18, 2009
2:00 PM - 4:40 PM
Energy From Fossil Fuels & Alternative Sources III

Organizers: Jae W. Lee, City College of New York, Zhenghe Xu, University of Alberta
Presider: Alissa Park, Columbia University

Session Overview: This session will address the fundamentals and applications of fossil fuels and alternative energy sources. Interfacial and transport phenomena in crude oils, oil sands, coals, natural gas, methane hydrate processing systems and alternative energy systems will be welcomed.

2:00 Hydrophobic Interactions in the Processing of Energy Minerals. **Roe-Hoan Yoon**, Center for Advanced Separation Technologies, Virginia Tech

2:40 Effect of Surfactants On CO2 Enclathration. **Junshe Zhang** and Jae W. Lee, City College of New York

3:00 Impact of Asphaltenes And Naphthenates On the Phase Behavior of Solvent-Bitumen-Water Systems. **Sumit K. Kiran, BASc**[1], Edgar J. Acosta, Ph.D[1] and Kevin Moran, Ph.D, P.Eng[2], (1)University of Toronto, (2)Syncrude Canada Ltd.

3:20 Effect of Network Geometry On Electron Transport within TiO2 Photoanode. **Sonia S. Mathew** and Ilona Kretzschmar, City College of New York (CUNY)

3:40 Electrochemical Impedance Spectroscopy Investigation of Transport Limitations In Enzyme Fuel Cells. **Douglas Aaron**[1], Abhijeet P. Borole[2], Choo Y. Hamilton[2], Sotira Yiacoumi[1] and Costas Tsouris[1], (1)Georgia Institute of Technology, (2)Oak Ridge National Laboratory

4:00 Sustainable Energy Conversion Systems Based On Chemical Looping and Carbon Mineral Sequestration Technologies. **Alissa Park**, Columbia University and Hyung Ray Kim, Ohio State University

4:20 Water - Fuel Microemulsions. Pascal Wulff[1], Lada Bemert[1], **Sandra Engelskirchen**[2] and Reinhard Strey[1], (1)University of Cologne, (2)Karl-Franzens University Graz

Thursday, June 18, 2009
2:00 PM - 4:50 PM
Engineering at the Nano-Scale and Nano-Technology III

Organizers: Yunfeng Lu, University of California, Los Angeles, B. M. Moudgil, University of Florida

2:00 Multiphase Self-Assembly Approaches for Advanced Energy Storage. **Jun Liu**, Pacific Northwest National Laboratory

2:30 Patterned Polymer-Templated Nanostructures for Surface-Enhanced Raman Scattering. **Kyle C. Bantz** and Christy L. Haynes, PhD, University of Minnesota

2:50 Facile Preparation of Highly-Scattering Metal-Nanoparticle Coated Polystyrene Latex Beads. **Jung-Hyun Lee**, Carson J. Meredith, Mahmoud A. Mahmoud, Valerie Sitterle and Jeffrey Sitterle, Georgia Institute of Technology

3:10 Break.

3:20 Hierarchically Structured ZnO/TiO2 Films for Dye-Sensitized Solar Cells. **Guozhong Cao**, University of Washington

3:50 Wet Chemical Approaches To Patterned Arrays Of Well-Aligned ZnO Nanopillars Assisted By Monolayer Colloidal Crystals. **Cheng Li** and Limin Qi, Peking University

4:10 Preparation of ITO Nanoparticles Precisely Controlled in Size and Shape. **Atsushi Muramatsu**, Yosuke Endo, Takafumi Sasaki and Kiyoshi Kanie, Tohoku University

4:30 Liquid Crystal-Capped Gold Nanoparticles by Ligand-Exchange Reactions. **Jonathan Milette**, Bruce Lennox and Linda Reven, McGill University

Thursday, June 18, 2009
2:00 PM - 4:50 PM
Environmental Colloid and Interfacial Processes VI

Organizer: V. Faye McNeill, Columbia University
Presiders: Qilin Li, Rice University, Helen Nguyen, University of Illinois, Urbana-Champaign

Session Overview: The rapidly increasing production and application of a variety of nanomaterials raises concern on their potential environmental impact. This session will discuss the environmental fate and transport as well as the ecotoxicity of nanomaterials.

2:00 Aggregation And Bacterial Cytotoxicity of Carbon-Based Nanomaterials In Aquatic Environments. **Menachem Elimelech**[1], Seoktae Kang[1], Navid Saleh[1] and Kai Loon Chen[2], (1)Yale University, (2)Johns Hopkins University

2:40 Bacterial Toxicity Of Silver Nanoparticles In Simulated Water Chemistries. **Xue Jin** and Eric M.V. Hoek, University of California, Los Angeles

3:00 Size Distribution And Dissolution Characteristics of Nano CuO Suspensions Relative to Bacterial Toxicity. **Wenjie Huang**[1], William P. Johnson[1] and Anne J. Anderson[2], (1)University of Utah, (2)Utah State University

3:20 Break.

3:30 Influence of Surface Oxides On the Aqueous Colloidal Stability of Multi-Walled Carbon Nanotubes: A Structure-Property Relationship for Engineered Nanomaterials. **Billy Smith Jr.**, Kevin Wepasnick, William Ball, Charles o'Melia and Howard Fairbrother, Johns Hopkins University

3:50 Chemistry of NOM-C60 Interactions And Its Impact On C60 Environmental Fate. **Yu Sik Hwang**, William C. Hockaday, Carrie A. Masiello and Qilin Li, Rice University

4:10 Analysis of Single-Walled Carbon Nanotube Transformations Following Limited And Extended Exposure to Aqueous Environments. Smileysusanna Gadde[1], Morgane Baeckeroot[1], **Kenya Crosson, Ph.D.**[1], Barbara Panessa-Warren, Ph.D.[2] and John Warren, Ph.D.[2], (1)University of Dayton, (2)Brookhaven National Laboratory

4:30 Microbial Cytotoxicity of Carbon-Based Nanomaterials: From the Laboratory to Natural And Engineered Aquatic Systems. **Seoktae Kang**, Menachem Elimelech and Meagan S. Mauter, Yale University

Thursday, June 18, 2009
2:00 PM - 4:50 PM
Fabrication of Colloidal Assemblies and Devices VI: Patterned and Janus Particles

Organizers: Darrell Velegol, Pennsylvania State University, Orlin D. Velev, North Carolina State University

2:00 Assembly of Divalent Particles and Their Properties. **Francesco Stellacci**, Massachusetts Institute of Technology

2:30 Fabrication of Novel Magnetic Janus Microparticles. Amro Dyab, The University of Minia and **Vesselin N. Paunov**, The University of Hull

2:50 Pickering Miniemulsions As a Template To Synthesize Janus Colloidosomes. **Neeraj P. Pardhy** and Bridgette M. Budhlall, University of Massachusetts

3:10 Colloidal Surfactant:Janus Particle Having Both Hydrophobic And Hydrophilic Surface. **Kisun Yoon**, Harvard university and David A. Weitz, Harvard University

3:30 Harnessing 2D Assembly of Spherical Particles to Create Anisotropic Particle Arrays. **Pushkar Lele** and Eric M. Furst, University of Delaware

3:50 Nanoparticle Superstructure Arrangements by the Cooperative Self-Assembly of Nanoparticles with Amphiphilic Molecules. **Takuya Harada** and T. Alan Hatton, Massachusetts Institute of Technology

4:10 Engineering Patchy Particles through a Site Protection Route. **Emily J. Gardel**, Adeline Perro and Vinothan Manoharan, Harvard University

4:30 Synthesis and Assembly of Colloidal Particles with the Morphology of Water Molecules. **Jin-Gyu Park**, Jason D. Forster, Alla Shundrovsky and Eric R. Dufresne, Yale University

Thursday, June 18, 2009
2:00 PM - 5:00 PM
Future Directions in Colloid and Surface Science I

Organizers: K. P. Ananthapadmanabhan, Unilever, Nikolai D. Denkov, Laboratory of Chemical Physics & Engineering
Presider: Martin Vethamuthu, Unilever

2:00 Challenging Problems in the Future World of Two Dimensions with Multi Dimensional Applications. **Ponisseril Somasundaran**, Columbia University

2:30 Selection of Surfactants for Improved Foam Properties. **Nikolai D. Denkov**[1], Slavka Tcholakova[1], K. P. Ananthapadmanabhan[2] and Alex Lips[2], (1)Laboratory of Chemical Physics & Engineering, (2)Unilever

2:55 Structure Property Relationships of Novel N-Lauroyl Amino Acid Esters as Lipophilic Surfactants. **Bruce Gesslin**, Koichiro Sagawa and Kseniya Popova, Ajinomoto Inc.

3:20 Surface Properties of Cationic Silicone Copolymers. **Anne D. Dussaud** and Uche K. Anyanwu, Momentive Performance Materials

3:45 The Present and Future Green Surfactant Landscape. **Michael Coxey**, Cognis Corp.

4:10 Innovative Processes for the Sustainable Production of Surfactants. **Oliver Thum**, Evonik Goldschmidt GmbH

4:35 A Tale of Two Surfactants: Combining Light And Neutron Scattering with Rheology to Understand Shear Banding And Shear Induced Phase Transitions In Wormlike Micellar Solutions. **Norman J. Wagner**[1], Mathew E. Helgeson[1], Prachi Thareja[1], Matthew W. Liberatore[2], Florian Nettesheim[1] and Eric W. Kaler[3], (1)University of Delaware, (2)Colorado School of Mines, (3)Stony Brook University

Thursday, June 18, 2009
2:00 PM - 4:40 PM
Interfacial Rheology III

Organizers: Gerald G. Fuller, Stanford University, Libero Liggieri, CNR - Istituto per L'Energetica e le Interfasi, Reinhard Miller, Max-Planck-Institut fuer Kolloid und Grenzflaechenforschung
Presider: Dominique Langevin, Laboratoire de Physique des Solides, Université Paris Sud 11, Orsay, France

2:00 Combining Interfacial Rheology And Atomic Force Microscopy: a New Perspective On Human Digestion of Emulsions. **Julia Maldonado-Valderrama**, A. P. Gunning, N. C. Woodward, P. J. Wilde and V. J. Morris, Institute of Food Research

2:30 Interfacial Rheology of Protein-Surfactant Interactions In Immunoassay Reagents. **Shyam V. Vaidya, Ph.D.** and Alfredo R. Narvaez, Ph.D., Abbott Diagnostics

2:50 Linear Viscoelastic Model for Interfaces and Membranes. **Alejandro Rey, Professor**, McGill University

3:10 Experimental Measurement of Interfacial Rheology. **Anne M. Grillet**, Timothy P. Koehler, Melissa A. Yaklin, Edna S. Wong, Carlton F. Brooks and Lisa A. Mondy, Sandia National Laboratories

3:40 Interfacial Rheology at the Water/Supercritical Carbon Dioxide Interface. **Frank Boury**, University of Angers, Frédéric Tewes, University of Poitiers and Marie-Pierre Krafft, Institute Charles Sadron

4:00 Interfacial Rheology And Mass Transfer Kinetics In Complex Flow. **Jeffrey D. Martin** and Steven D. Hudson, NIST

4:20 Marangoni Flow Revisited. **Rafael Tadmor**, Lamar University

Thursday, June 18, 2009
2:00 PM - 5:00 PM
Surfactants and Supermolecular Assemblies: Micelles and Microemulsions

Organizers: Alexander Couzis, City College of New York, Charles Maldarelli, The City College of New York

2:00 A Monte Carlo Study of Self-Assembling of Bolaform Amphiphiles Into Associates with Helical Superstructure. **H.-J. Mögel**, M. Wahab, P. Schiller and R. Schmidt, University of Mining and Technology Freiberg

2:20 Structure of Ethoxylated Nonyl Phenol Micelles. Simulation of the Ethoxy Corona. **Szabolcs Vass**[1], Jan S. Pedersen[2], Gerhard Meier[3] and István Lakatos[1], (1)University of Miskolc, (2)University of Aarhus, (3)Research Centre Jülich

2:40 Evidence of Premicellization Phenomena for Short Length Ionic Surfactants. **Gaëlle M. Roger**, Serge Durand-Vidal, Olivier Bernard and Pierre Turq, Université Pierre et Marie Curie-Paris 6

3:00 Thermal Behaviour of Hierarchical Self Assembly Processes. **Ger JM Koper**, Christophe B Minkenberg and Jan H van Esch, TU Delft

3:20 Kinetics of Micelle Breakdown. **Daniel Colgate**[1], Colin D. Bain[1] and Ian Griffiths[2], (1)Durham University, (2)University of Oxford, Oxford Centre for Industrial and Applied Mathematics

3:40 Control Over Microemulsions with Solvent Blends. **Olesya Myakonkaya**, Julian Eastoe and Kevin Mutch, University of Bristol

4:00 Structure And Dynamics of Balanced Supercritical CO2-Microemulsions. Michael Klostermann[1], **Thomas Sottmann**[1], Lorenz G. A. Kramer[1], Reinhard Strey[1], Peter Lindner[2], Ralf Schweins[2], Olaf Holderer[3] and Dieter Richter[3], (1)University of Cologne, (2)Institut Laue – Langevin, (3)Forschungszentrum Juelich

4:20 Reverse Microemulsion Characterization for a Better Understanding of Nanoparticle Synthesis. **Jean-Luc Lemyre**, Sébastien Lamarre, Ariane Beaupré and Anna M. Ritcey, Université Laval

4:40 Simultaneous Effect of Microemulsions and Phase-Transfer Agents On Organic Reactivity. **Moises Perez-Lorenzo, Dr.**[1], Luis Garcia-Rio, Prof.[2] and Juan C. Mejuto, Dr.[1], (1)University of Vigo, (2)University of Santiago de Compostela

Thursday, June 18, 2009
2:00 PM - 4:40 PM
Theory and Computer Simulations in Interfacial and Colloidal Systems II

Organizers: Ramanathan Nagarajan, Natick Soldier Research, Development & Engineering Center, Shyam Vyas, Accelrys Inc.

2:00 MOMA: Multiscale Molecular Modeling of Nanocomposite Materials. the Self-Assembly of Nanoparticles in Diblock Polymeric Matrices. Marek Maly[1], Paola Posocco[2], Martin Lisal[3], Maurizio Fermeglia[2] and **Sabrina Pricl**[2], (1)J. E. Purkinje University, (2)University of Trieste, (3)Academy of Sciences of the Czech Republic

2:30 Multiscale Modeling of Supported Bilayers. Chenyue Xing[1], Matthew Hoopes[2] and **Roland Faller**[2], (1)UC Davis, (2)University of California Davis

2:50 Van Der Waals Interactions Between Nanoparticles. **Kirill A. Emelyanenko**, Alexandre Emelyanenko and Ludmila Boinovich, Frumkin Institute of Physical Chemistry and Electrochemistry, Russian Academy of Sciences

3:10 Colloidal Silica Gelation Dynamics: Simulation And Experiment. **Xiujuan Cao**, The City University of New York, Herman Cummins, PhD, City College of New York and Jeffrey F. Morris, City University of New York

3:30 Computer Simulations of the Translocation Mechanism of Arginine Rich Cell Penetrating Peptides. **Angel E. Garcia** and Henry Herce, Rensselaer Polytechnic Institute

4:00 Computational Studies of Colloidal Dynamics In Entropic Fields. **Bryce D. Sturtevant** and David S. Corti, Purdue University

4:20 Surface Interactions Mediated by Polyelectrolyte Solutions. **Martin Turesson**[1], Jan Forsman[2], Torbjörn Åkesson[2] and Clifford E. Woodward[3], (1)Bourgogne University, (2)Lund University, (3)UNSW, ADFA

Thursday, June 18, 2009
2:00 PM - 4:45 PM
Tribology and Adhesion II

Organizers: Girma Biresaw, Ph.D., USDA-ARS-, Anil N. Netravali, Cornell University

2:00 Mechanical Stability of Solid Surfaces in Surface-Active Media. **Eugene D. Shchukin, Prof.**, Johns Hopkins University and Vladislav I. Savenko, Frumkin Institute of Physical Chemistry and Electrochemistry of the Russian Academy Sciences

2:40 Effects of Organic Vapor Adsorption on Friction and Wear of Silicon Oxide Surfaces – from Fundamentals to MEMS Applications. **Seong Han Kim**, Penn State University and Michael T. Dugger, Sandia National Laboratories

3:00 Nanolubrication for Microsystems. **Sujeet K. Sinha, Dr.**, National University of Singapore

3:20 The Lateral Force Between a Particle And a Substrate In Atmospheric Systems. **Hyojin Kweon**, Eunhyea Chung, Sotira Yiacoumi and Costas Tsouris, Georgia Institute of Technology

3:40 Ultra Low Friction Under Repulsive Van Der Waals Forces. **Adam Feiler, Dr**, Institute for Surface Chemistry, Lennart Bergström, Professor,, Stockholm University and Mark Rutland, Royal Institute of Technology

4:00 Mechanisms of Synovial Fluid Lubrication in Artificial Hip Joints. **Rowena Crockett, Dr**[1], Marcella Roba[1], Marco Naka[2] and Nicholas D. Spencer, Prof.[2], (1)Empa, (2)ETH Zürich

4:20 Cellular Probe Force Microscopy and the Pathogenesis of Pneumothorax. **Scott C. Brown, Ph.D.**, Y. I. Rabinovich, Ph.D., K. A. Mohammed, Ph.D., Najmunnissa Nasreen, Ph.D., V. B. Antony, M.D. and B. M. Moudgil, Eng.Sc.D, University of Florida

4:40 The Tribological Performance of Nano-Diamond Added Polymer Coatings. **Dae-Soon Lim** and Jun-Sung Park, Korea university

5:00 Surface and Tribological Properties of Seed Proteins. **Girma Biresaw** and Abdellatif A Mohamed, USDA - ARS

Thursday, June 18, 2009
5:15 PM - 6:15 PM
Victor K. Lamer Award Presentation & Lecture

Thursday, June 18, 2009
6:15 PM – 7:15 PM
Award Reception

Thursday, June 18, 2009
7:30 PM - 10:00 PM

Award Banquet

Friday, June 19, 2009

Friday, June 19, 2009
8:00 AM - 9:10 AM
Plenary Lecture

Friday, June 19, 2009
9:10 AM - 9:30 AM
Coffee Break

Friday, June 19, 2009
9:30 AM - 11:50 AM
Advances in Cellulose Based Technology I

Organizers: Scott Rosencrance, Kemira, Steven J. Severtson, University of Minnesota

Session Overview: Surface and colloid topics related to isolation and/or modification of chemicals and materials from cellulose-containing sources will be considered for this session. Of particular interest are: isolation/dispersion cellulose crystallites; cellulose derived crystallites as matrix reinforcements;modification of cellulose fibers and fiber networks; adsorption and adhesion to cellulose; advances in processing of cellulose fiber for pulp and papermaking; extraction of biomass-derived polymers for alternative applications such as energy. The goal of this session is to encompass items of technical and industrial significance in relation to effectively utilizing cellulosic biomass in either a direct or indirect manner.

9:30 Patterning of Superhydrophobic Paper Surfaces to Control the Mobility of Liquid Drops for Microfluidic Applications. Balamurali Balu, Dennis W. Hess and **Victor Breedveld**, Georgia Institute of Technology

9:50 Functionalization of Cellulose Fibers by Adsorption of Organic Polymers Nanoparticles. **Pierre Sarrazin**[1], Davide Beneventi[1], Didier Chaussy[1] and Olivier Stephan[2], (1)Laboratory of Pulp and Paper Science and Graphic Arts, Grenoble Institute of Technology, (2)Laboratory of Spectrometry and Physics

10:10 Modification of Cellulose by UV-Grafting. Alexander Bismarck[1], Jonny J. Blaker[1], **Roberta Bongiovanni**[2], Piero M. Serafini[2] and Elisa Zeno[3], (1)Imperial College, (2)Politecnico di Torino, (3)Centre Technique du Papier (CTP)

10:30 Thin Film Patterns in High-Molecular Poly(styrene-maleic anhydride) Copolymers. **Pieter Samyn**[1], Gustaaf Schoukens[1], Marlies Deconinck[1] and Henk Van den Abeele[2], (1)Ghent University, (2)Topchim NV

10:50 Characterization of Poly(3,4-ethylenedioxythiophene)-Poly(styrene sulfonate) (PEDOT:PSS) Adsorption On Cellulosic Materials. **Elson Montibon**, Lars Järnström and Magnus Lestelius, Karlstad University

11:10 Interactive Nano Fibrils. **Simon Utsel**, Eva Malmström, Anna Carlmark and Lars Wågberg, Royal Institute of Technology

11:30 Ordering and Gelation of Anionic and Cationic Cellulose Nanocrystal Aqueous Suspensions. **Derek G. Gray**, McGill University

Friday, June 19, 2009
9:30 AM - 12:20 PM
Biointerfaces VII: Proteins at Interfaces

Organizers: Marjorie Longo, University of California, Davis, Ka Yee Lee, University of Chicago
Presider: Adam Cohen Simonsen, PhD, University of Southern Denmark

9:30 "Proteins and Interfaces: Stability and Function (Keynote)". **Georges Belfort**, Rensselaer Polytechnic Institute

10:00 Diffusing Nanoparticle Measurements of Protein-Carbohydrate Interactions. **Shannon L. Eichmann** and Michael A. Bevan, Johns Hopkins University

10:20 Immune Complement Activation On Noble Metals Measured with Quartz Crystal Microbalance (QCM-D). **Mats Hulander**[1], Marcus Andersson[1], Mattias Ohrlander[2], Frida Gervén[1] and Hans Elwing[1], (1)Gothenburg University, (2)Bactiguard AB

10:40 Interaction Forces Between Hydrophilic Surfaces Adsorbed with Apolipoprotein AII Alpha Helices. **José Campos-Terán**[1], Salvador Ramos[2], Jaime Mas-Oliva[3], Tommy Nylander[4] and Rolando Castillo[2], (1)Universidad Autónoma Metropolitana-Cuajimalpa, (2)Universidad Nacional Autónoma de México, Instituto de Física, (3)Universidad Nacional Autónoma de México, Instituto de Fisiología Celular, (4)Lund University

11:00 Break.

11:20 Anti-Thrombogenic Properties of Blended Poly(vinyl alcohol)/Chitosan Film. **Rodrigo Silveira Vieira**[1], Maira Martins de Sousa Godoy Simões[2] and Marcelo Ganzolli de Oliveira[2], (1)Universidade Federal do Ceará, (2)State University of Campinas

11:40 Interaction of Short Peptides with TiO2 in Aqueous Solutions: A Liquid Chromatography Study. **Golan Gertler**[1], Gideon Fleminger[2] and Hanna Rapaport[1], (1)Ben Gurion University of the Negev, (2)Tel Aviv University

12:00 Alternatives to the Use of Biomolecules for Cell-Level Binding Selectivity. **Surachate Kalasin** and Maria Santore, University of Massachusetts

Friday, June 19, 2009
9:30 AM - 11:30 AM
Biology and Health Sciences I

Organizers: Martin Malmsten, Prof., Uppsala University, Kyriakos Papadopoulos, Tulane University

9:30 Designer Nanoparticles for Quantitative Bionano Interactions. **Iseult Lynch, PhD**, Dorota Walczyk, Abigail Campbell, Marco Monopoli and Kenneth A. Dawson, University College Dublin

9:50 In Situ Raman Monitoring of the Thermo-Optical Effect of Gold Spec Silica Particles On Cancer Cells (A549). **Georgios Pyrgiotakis**, Parvesh Sharma, Scott C. Brown, Amit Singh, Nobutaka Iwakuma, Stephen R. Grobmyer and Brij M. Moudgil, University of Florida

10:10 Toxicity of Nano Aluminum Particles: Impact of Thorough Characterization. **Maria Palazuelos, Ph.D.**, Kevin W. Powers, Ph.D., Kerry Siebein, David S. Barber, Ph.D., Stephen M. Roberts, Ph.D. and Brij M. Moudgil, Eng.S.D, University of Florida

10:30 Protein Screening And Bacterial Detection Using Lipid/Polymer Chromatic Films. Sarit Friedman[1], Thomas Schrader[2] and **Raz Jelinek**[1], (1)Ben Gurion University, (2)University of Marburg

10:50 Immunoglobulin Affinity Adsorption On Silica Surfaces Modified with Peptide Ligands. **Fei Shen**[1], Jan Genzer[1], Orlando J. Rojas[1], Patrick Gurgel[2] and Ruben G. Carbonell[1], (1)North Carolina State University, (2)ProMetic Life Sciences Inc.

11:10 Combinatorial Micro-/Nanoarrays of Microenvironmental Signals Regulating Stem Cell Fate. **Ki-Bum Lee**[1], Sung Young Park[2], Aniruddh Solanki[1], Shreyas Shah[1] and Seunghun Hong[2], (1)Rutgers, The State University of New Jersey, (2)Seoul National University

Friday, June 19, 2009
9:30 AM - 12:10 PM
Capillary and Wetting Phenomena IV

Organizers: S. S. Dukhin, New Jersey Institute of Technology, Mohamed E. Labib, Novaflux Technologies
Presiders: Yakov I. Rabinovich, Professor, Dr., University of Florida, Rafael Tadmor, Lamar University

9:30 Diffusion Kinetics and the Development of Capillary Forces. **Yakov I. Rabinovich, Professor, Dr.**, Scott C. Brown, Amit Singh and Brij M. Moudgil, University of Florida

9:50 Imbibition and Dissolution of a Multi Scale Porous Active Medium. Nelly Brielles[1], Paul Branlard[1], Marylène Viana[2], Dominique Chulia[2], Francois Lequeux[3] and **Olivier Mondain-Monval**[4], (1)EUROTAB Company, (2)GEFSOD, EA2631, (3)E.S.P.C.I., (4)University of Bordeaux

10:10 Surfactant Influence On the Onset of Annular Film Flow, Rivulet-Droplet Flow, And Rivulet Fragmentation In Mini-Tubes And Capillaries. **Mohamed E. Labib**[1], S. S. Dukhin[2] and Joseph Murawski[1], (1)Novaflux Technologies, (2)New Jersey Institute of Technology

10:30 Meniscus Interaction In the Vicinity of a Moving Three-Phase Contact Line with Micron or Sub-Micron Particles Attached to a Solid Surface. Mohamed E. Labib[1], **S. S. Dukhin**[2], Joseph Murawski[1] and Yacoob Tabani[1], (1)Novaflux Technologies, (2)New Jersey Institute of Technology

10:50 Drop Retention Force as a Function of Resting Time. **Rafael Tadmor**, Lamar University

11:10 Marangoni Driven Spreading of Aqueous Surfactant Solutions On Entangled Polyacrylamide and Mucin Solutions. Beautia Dew, C-H. Chung, **Stephen Garoff**, Todd Przybycien and Robert D. Tilton, Carnegie Mellon University

11:30 Thermodynamic Stability Analysis for Capillary Condensation. **Janet A. W. Elliott** and Ovidiu Voitcu, University of Alberta

Friday, June 19, 2009
9:30 AM - 12:00 PM
Colloid and Surface Interactions in Water III

Organizers: Ludmila Boinovich, Russian Academy of Sciences, John Y. Walz, Virginia Tech
Presider: Gerold Willing, University of Louisville

9:30 The Peculiarities of Interaction of Lyophobic Nanoparticles In Liquid Media. **Ludmila Boinovich**, Frumkin Institute of Physical Chemistry and Electrochemistry, Russian Academy of Sciences

10:00 Attraction Between Patterned Surfaces: Going beyond the Van Der Waals Interaction. **Ionel Popa**, Georg Papastavrou and Michal Borkovec, University of Geneva, Switzerland

10:20 Microstructure of State Behavior of Polymer Suspension. **So Youn Kim** and Charles F. Zukoski, University of Illinois at Urbana-Champaign

10:40 Effects of Electrostatic Repulsion On the Drying of Colloidal Dispersions. **Alexander M. König**[1], Kerstin von der Ehe[1], Joseph L. Keddie[2], Irina Nikiforow[1], Alexander F. Routh[3], Tecla G. Weerakkody[2] and Diethelm Johannsmann[1], (1)Clausthal University of Technology, (2)University of Surrey, (3)University of Cambridge

11:00 Behavior of Metallic Colloids near Bubbles of Boiling Water. **Hitesh Bindra** and Barclay G. Jones, University of Illinois at Urbana Champaign

11:20 Accounting for Counterion Association In Prediction of Colloidal Stability. Lyonel Ehrl[1], Zichen Jia[2], Hua Wu[1], **Marco Lattuada**[1], Miroslav Soos[1] and Massimo Morbidelli[1], (1)ETH Zurich, (2)Novartis Pharma AG

11:40 Particle Interactions Between Colloids at Liquid-Liquid Interfaces. Kasper Masschaele, Jan Fransaer and **Jan Vermant**, KULeuven

Friday, June 19, 2009
9:30 AM - 12:20 PM
Engineering at the Nano-Scale and Nano-Technology IV

Organizers: Yunfeng Lu, University of California, Los Angeles, B. M. Moudgil, University of Florida

9:30 Sol-Gel Electrospinning for Nanowire Synthesis. **Arijit Bose**, Sam Matus, Amy Gibson and Evan Wujcik, University of Rhode Island

10:00 Designing Functional and Responsive Organic Surfaces by Chemical Vapor Deposition. Karen K. Gleason, Ph.D. and **Sung Gap Im**, MIT

10:20 Low-Adhesive Nanostructures Responsive Coatings. **Sergiy Minko**[1], Roman Sheparovych[2] and Mikhail Motornov[2], (1)Clarkson University, (2)Clarkson Uninersity

10:40 Break.

10:50 Nanoscale Multifunctional Materials for Targeting and Remediation of Environmental Contaminants. **Vijay T. John**, Tulane University

11:20 Nanopatterned Biomimetic Surfaces: Protein Nanoarrays for Cell Adhesion Studies. **Matteo Palma**, Justin Abramson, Mark Schvartman, Shalom Wind, Michael Sheetz and James Hone, Columbia University

11:40 Impacts of Nanoparticle Properties and Interfacial Polymerization Conditions on Thin Film Nanocomposite Membranes. **Mary Laura Lind**, Asim K Gosh, Anna Jawor, Xiaofeih Huang, William Hou and Eric MV Hoek, University of California Los Angeles

Friday, June 19, 2009
9:30 AM - 12:05 PM
Environmental Colloid and Interfacial Processes VII

Organizers: V. Faye McNeill, Columbia University, Helen Nguyen, University of Illinois, Urbana-Champaign
Presider: Qilin Li, Rice University

Session Overview: This session will focus on the colloidal and interfacial phenomena in membrane filtration systems.

9:30 Welcoming Remarks.

9:35 Interfacial Forces in Membrane Fouling: Past, Present, and Future. **Eric MV Hoek**, University of California Los Angeles

10:15 Fundamental Mechanism of Three-Component Combined Fouling of Membranes with Experimental Verification. **Albert Kim**[1], Alison E. Contreras[2], Qilin Li[2] and Rong Yuan[1], (1)University of Hawaii at Manoa, (2)Rice University

10:35 Break.

10:45 A TEM Study of the Combined Fouling Layers Formed During Nanofiltration and Reverse Osmosis of Colloidal and Organic Solutions. **Alison E. Contreras** and Qilin Li, PhD, Rice University

11:05 Investigating Membrane Organic Fouling and Chemical Cleaning Using Model Functionalized Surfaces and QCMD. **Alison E. Contreras**[1], Miao Jing[2], Roni Kasher[2] and Qilin Li[1], (1)Rice University, (2)Ben Gurion University of the Negev

11:25 Effect of Polymer Flocculants On Microfiltration Membrane Flux. **Sen Wang**[1], Charles Liu[2] and Qilin Li[1], (1)Rice University, (2)Pall corporation

11:45 Properties of Copper and Mercury Adsorption On Chemically-Modified Chitosan Membranes. **Rodrigo Silveira Vieira**, Universidade Federal do Ceará, Eric Guibal, École des Mines dxAlés and Marisa M. Beppu, PhD, Universidade Estadual de Campinas

Friday, June 19, 2009
9:30 AM - 12:10 PM
Fabrication of Colloidal Assemblies and Devices VII: Fundamentals of Colloidal Assembly

Organizers: Darrell Velegol, Pennsylvania State University, Orlin D. Velev, North Carolina State University

9:30 Electric Field and Depletion Attraction Mediated Colloidal Crystal Assembly. **Michael A. Bevan**, Johns Hopkins University

9:50 Protected Peptide Nanoparticles: Experiments And Brownian Dynamics Simulations of the Energetics of Assembly. Ting Chen[1], **Suzanne M. D'Addio**[2], Michael T. Kennedy[3], Aleksander Swietlow[3], Ioannis G. Kevrekidis[2], Athanassios Z. Panagiotopoulos[2] and Robert K. Prud'homme[2], (1)University of California, (2)Princeton University, (3)Amgen Inc.

10:10 Fabrication of Gold-Silicon-Silver Colloidal Trimers. **Joseph J. McDermott** and Darrell Velegol, Penn State University

10:30 Reinventing Chemistry: Bond Strength And Steric Hindrance at the Nanoscale. **Kyle J.M. Bishop**, Yanhu Wei, Jiwon Kim and Bartosz A. Grzybowski, Northwestern University

10:50 Controlled Association of Colloidal-Particle Mixtures Using pH-Dependent Hydrogen Bonding. **Pierre Starck**, University of Melbourne and William Ducker, Virginia Tech

11:10 Dynamically Controlling All Degrees of Freedom of Freely Suspended Spherical Particles. **Randall Erb**[1], Nathan J. Jenness[1], Robert L. Clark[2] and Benjamin B. Yellen[1], (1)Duke University, (2)University of Rochester

11:30 Stability of DNA-Linked Magnetic Colloidal Chains. **Dichuan Li** and Sibani Lisa Biswal, Rice University

11:50 High Refractive Index Nanocomposite Fluids for Immersion Lithography. Leon Bremer[1], **Remco Tuinier**[1] and Shahab Jahromi[2], (1)DSM Research, (2)Knowfort Technologies BV

Friday, June 19, 2009
9:30 AM - 12:25 PM
Future Directions in Colloid and Surface Science II

Organizers: K. P. Ananthapadmanabhan, Unilever, Nikolai D. Denkov, Laboratory of Chemical Physics & Engineering
Presider: Eugene Pashkovski, Unilever R&D

9:30 Biomimetic Membranes to Investigate the Interplay Between Specific Proteins And Lipids with Actin. **Laurence Ramos**[1], Kevin Carvalho[1], Christian Roy[2] and Catherine Picart[2], (1)University of Montpellier and CNRS, (2)Dynamique des Interactions Membranaires Normales et Pathologiques

9:55 Effects of Farnesol And Farnesylated Peptides On Biomembrane Physical Properties. **Amy C. Rowat, PhD**, Harvard University

10:20 Transport And Structure In Responding Lipid Membranes. **Emma Sparr**[1], Christoffer Åberg[1], Håkan Wennerström[1], Fatima Costa-Balogh[2], Stephane Douzan[1] and Lars Wadsö[1], (1)Lund University, (2)Coimbra University

10:45 Membrane Interactions with Detergents, Surfaces, And Proteins. **P. D. Olmsted, Professor**, University of Leeds

11:10 Resolving Long-Range Spatial Correlations In Jammed Colloidal Systems Using Photon Correlation Imaging. **Luca Cipelletti**[1], Agnes Duri[1], David Sessoms[2] and Veronique Trappe[2], (1)University of Montpellier and CNRS, (2)University of Fribourg

11:35 Lateral Adhesion Balance (LAB) – a Novel Surface Characterization Technique. **Rafael Tadmor**, Lamar University

12:00 Imaging Interfacial Stresses In Colloidal Coatings. **Eric R. Dufresne**[1], Wilfried C Engl[1], Kevin J. Wallenstein[2], Larry Wilen[3] and Ye Xu[1], (1)Yale University, (2)Princeton University, (3)Unilever

Friday, June 19, 2009
9:30 AM - 11:30 AM
General Papers I

Organizers: S. A. Ravishankar, Cytec Industries, Fernando Galembeck, University of Campinas - UNICAMP

9:30 Transport and Deposition of Titanium Dioxide Nano- and Micro-Particles in Model Subsurface Environments. **Adamo R. Petosa** and Nathalie Tufenkji, McGill University

9:50 Nanoparticles And Nanostructures for Environmental Remediation of MTBE And 4-Chlorophenol. **Alexander Orlov, Ph.D.**, State University of New York, Stony Brook and Richard Lambert, Ph.D., University of Cambridge, UK

10:10 Investigation Into Behaviour And Use of Hydrophobically Modified Polymers as Reactive Dispersants. **Alexander Lincoln, BSc**, University of Leeds

10:30 Multifunctional Nanocolloids for Environmental Remediation of Cholorinated Hydrocarbons. **Jingjing Zhan**, Bhanukiran Sunkara, Tonghua Zheng, Gerhard Piringer, Gary L. McPherson and Vijay T. John, Tulane University

10:50 Comparative Study of Cr (III) Removal by the Cation Exchangers. **Khizar Hussain Shah Sr., M.Phil, Ph.D**, Syed Mustafa, Syed Mustafa, Abdul Naeem and Abdul Naeem, University of Peshawar,Pakistan

11:10 Interfacial Phenomena In the Sulfur-PTFE-Water System Under Hydrothermal Conditions. **Reuben John Mathew** and Eduard Guerra, Ph.D., P.Eng., Laurentian University

Friday, June 19, 2009
9:30 AM - 11:30 AM
R. L. Rowell Symposium I

Organizers: Raymond S. Farinato, Kemira Water Solutions, Inc., A. Morfesis, Malvern Instruments, Ltd.

9:30 Role of Zeta Potential In Water Production Optimization. **A. Morfesis**[1], U. Nobbmann[1], K.R. Gertig[2], J.A. Billica[2] and A. M. Jacobson[3], (1)Malvern Instruments, Inc., (2)Fort Collins Water Treatment Facility, (3)Carnegie Mellon University

9:50 The Deviant Behavior of Labile Polyelectrolytes – Do We Need a New Theory?. **Robert Pelton**, McMaster University

10:10 New Advances In the Treatment of Storm Water Runoff. **Stephen R. Vasconcellos, PhD**, Narain Madhavan and Seetha Suresh, GE Water and Process Technologies

10:30 Supracrystals of Inorganic Nanocrystals: a New Class of Material. **Marie-Paule Pileni**, University Pierre & Marie Curie

10:50 Capillary Electrophoresis for Elucidating the Role of Charge Heterogeneity in Protein-Glycosaminoglycan Recognition. **Paul L. Dubin**, University of Massachusetts

11:10 Dynamic Electrophoretic Mobility Studies in the Development of Charge-Based Strategies to Combat HIV. **David Fairhurst**, International Partnership for Microbicides, R. Rowell, University of Massachusetts and A. Morfesis, Malvern Instruments, Ltd.

Friday, June 19, 2009
9:30 AM - 11:30 AM
Surfactants and Supermolecular Assemblies: Complexes of Peptides and Proteins with Amphiphiles

Organizers: Alexander Couzis, City College of New York, Charles Maldarelli, The City College of New York

9:30 Adsorption of "Block Copolymers" Prepared by Grafting Poly(Ethylene Glycol) to Compact Globular Proteins. Sheetal S. Pai, Todd M. Przybycien and **Robert D. Tilton**, Carnegie Mellon University

10:10 Enzymes Wrapped in Polymeric Micelles. **Saskia Lindhoud, MSc**, Willem Norde and Martien A. Cohen Stuart, Wageningen University

10:30 A Peptide Nanotube Nematic Phase. **Seyda Bucak**[1], Celen Cagri Cenker[2], Irem Nasir[1], Ulf Olsson[2] and Malin Zackrisson[3], (1)Yeditepe University, (2)University of Lund, (3)Université de Fribourg

10:50 DNA-Separation by Rationally Designed Self-Assembling α-Helical Peptide. **Vikas Jain**, The City College of The City University of New York, Charles Maldarelli, The City College of New York and Prof. Raymond S. Tu, City College of New york

11:10 Biocompatible Surfactant Mixtures. **Jian Lu, Prof.**[1], Maria Rodriguez-Rius[1], Jordan Petkov[2] and Ian Tucker[3], (1)Manchester University, (2)Unilever R&D, (3)Unilever Research and Development

Friday, June 19, 2009
9:30 AM - 12:10 PM
Theory and Computer Simulations in Interfacial and Colloidal Systems III

Organizers: Ramanathan Nagarajan, Natick Soldier Research, Development & Engineering Center, Shyam Vyas, Accelrys Inc.

9:30 Density Functional Theories of Surface Interactions In Salt Solutions. **Jan Forsman**, Lund University

9:50 Electro-Optical Properties of DNA Fragments In Aqueous Solutions. **Jorge A. Bertolotto Sr.**, Roston Graciela B. and Farias de la Torre Ernesto M., Facultad de Ciencias Exactas y Naturales, UNLPam

10:10 Molecular Dynamics Simulations of Water Droplets On Hydrophilic Silica Surfaces. Harvey A Zambrano[1], **Jens H. Walther**[1] and Richard L. Jaffe[2], (1)Technical University of Denmark, (2)NASA Ames Research Center

10:30 Ion-Ion Correlations And Charge Reversal at Titrating Solid Interfaces. **Christophe Labbez**, Institut Carnot de Bourgogne, UMR 5209 CNRS - Université de Bourgogne, Bo Jönsson, Chemical Center, Lund University and Michal Borkovec, University of Geneva, Switzerland

10:50 Charge Inversion Induced by Specific Ion-Interface Interactions. **Carles Calero** and Jordi Faraudo, Institut de Ciència de Materials de Barcelona (ICMAB-CSIC)

11:10 A Thermodynamically Consistent Description of Ions In Bulk and at Interfaces. **Dominik Horinek**, Shavkat Mamatkulov and Roland R. Netz, Technical University of Munich

11:30 Interactions Between Surfaces Immersed In a Macroionic Solution. **Martin Trulsson**, Bo Jönsson, Jan Forsman and Torbjön Åkesson, Lund University

11:50 Modeling Salt-Specific Colloidal Interactions. **Dusan Bratko**, Virginia Commonwealth University

Friday, June 19, 2009
9:30 AM - 11:50 AM
Thermodynamics & Adsorption I

Organizer: Lei Zhang, AkzoNobel

9:30 Adsorption of Zinc Ion on Single-Walled Carbon Nanotubes by Atomic Absorption Spectroscopy. K. Zare[1], M. Monajjemi[2], H Aghaei[2], K. Majlesi[2] and **O. Moradi**[2], (1)Shahid Beheshti University, (2)Science and Research Camps Islamic Azad University

9:50 Comparison of Different Methods for the PZC Determination of NiO. **Muhammad Tahir Saddique, Ph.D**, A. Naeem, S. Mustafa, K.H Shah and Dilara B, Peshawar University

10:10 Effect of pH and Temperature on Sorption of Ni2+ Ions Onto SiO2. **Dilara Begum**[1], S Mustafa[1], A Naeem[1] and Muhammad Tahir Saddique, Ph.D[2], (1)University of Peshawar, (2)Peshawar University

10:30 Local Equilibrium of the Surface at Non-Equilibrium Conditions. **Kirill Glavatskiy** and Dick Bedeaux, Norwegian University of science and technology

10:50 Surface Induced First Order Phase Transitions. Ludmila Boinovich and **Alexandre Emelyanenko**, Frumkin Institute of Physical Chemistry and Electrochemistry, Russian Academy of Sciences

11:10 Broadening of Solid–Liquid Phase Transitions Due to Interfacial Pre-Melting. **Hans Riegler** and Radu-Cristian Mutihac, Max-Planck-Institute for Colloid and Interface Research

11:30 Interfacial Characteristics of Polymeric Coatings for Archeological Stones Conservation. **S.E. El-Mofty**, Cairo University, M.K. Khallaf, Fayoum University and S.M. El-Sabagh, Egyptian Petroleum Research Institute

Friday, June 19, 2009
9:30 AM - 12:15 PM
Tribology and Adhesion III

Organizers: Girma Biresaw, Ph.D., USDA-ARS-, Anil Netravali, Cornell University

9:30 Adhesion and Friction of Aromatic Self-Assembled Monolayers. **Marina Ruths** and Yutao Yang, University of Massachusetts Lowell

9:50 Characterization of Interparticle Forces in Aqueous and Nonaqueous Dispersions Using Multisample Analytical Centrifugation. Titus Sobisch and **Dietmar Lerche**, L.U.M. GmbH

10:10 Effect of Common Lubricant Additives on the Properties of Surface/ Liquid and Air/Liquid Interfaces. **Mark T. Devlin**, Jeffrey M. Guevremont, Kenneth Garelick, Karen Hux, Amber Smith and Tze-Chi Jao, Afton Chemical Corporation

10:30 Formation of Surfactant-Stabilised Silica Organosols. **Rico Tabor** and Julian Eastoe, University of Bristol

10:50 Surface Force Measurements of Superhydrophobicity by Atomic Force Colloidal Probe Microscopy and Influence of Surfactant on the Long-Range Interaction. **Agne Swerin** and Martin Wåhlander, YKI, Institute for Surface Chemistry

11:10 A Novel Route to Synthesize Stable Superhydrophobic Surface and Its Bouncing Ability. **Ya-Pu Zhao**, Institute of Mechanics, Chinese Academy of Sciences

11:30 Time-Resolved Small-Angle Neutron Scattering. **Julian Eastoe** and Rico Tabor, University of Bristol

11:50 The Improvement In the Tribology of Self-Assembled Layers Via Intermolecular Hydrogen Bonding Construction. **Junyan Zhang, Proffessor of Chemistry**, State Key Laboratory of Solid Lubrication

Friday, June 19, 2009
2:00 PM - 4:20 PM
Advances in Cellulose-Based Technology II

Organizers: Scott Rosencrance, Kemira, Steven J. Severtson, University of Minnesota

Session Overview: Surface and colloid topics related to isolation and/or modification of chemicals and materials from cellulose-containing sources will be considered for this session. Of particular interest are: isolation/dispersion cellulose crystallites; cellulose derived crystallites as matrix reinforcements;modification of cellulose fibers and fiber networks; adsorption and adhesion to cellulose; advances in processing of cellulose fiber for pulp and papermaking; extraction of biomass-derived polymers for alternative applications such as energy. The goal of this session is to encompass items of technical and industrial significance in relation to effectively utilizing cellulosic biomass in either a direct or indirect manner.

2:00 Cellulose Nanocrystals In Nanocomposites. Justin O. Zoppe, Maria S. Peresin, Youssef Habibi and **Orlando J. Rojas**, North Carolina State University

2:20 Adsorption Behavior, Structural and Adhesive Properties of Cationic/Anionic Microfibrillated Cellulose Multilayers. **Christian Aulin**[1], Erik Johansson[1], Lars Wågberg[1] and Tom Lindström[2], (1)Royal Institute of Technology, (2)STFI-Packforsk AB

2:40 Deswelling of Nanometer Thin Films of Cellulose upon Polyelectrolyte Adsorption. **Lars-Erik Enarsson** and Lars Wågberg, KTH, Royal Institute of Technology

3:00 Effect of Stability of Colloidal Pigments On the Strength of Wet Paper. **Alvaro Tejado**, Marcius H. de Oliveira and Theo G.M. van de Ven, Pulp and Paper Research Centre, McGill University

3:20 Characterization of Cellulose Degradation by Second Harmonic Generation Microscopy. **Garth J. Simpson**, Jeremy T. Madden and Nathan S. Mosier, Purdue University

3:40 Visualizing the Location of Polymeric And Colloidal Retention Aids In a Paper Sheet Using Confocal Fluorescence Microscopy. **Tiffany E. Bohnsack**[1], Andrei S. Zelenev[2], Timothy S. Keizer[1] and Bruce A. Keiser[1], (1)Nalco Company, (2)CESI Chemical, a Flotek Company

4:00 Contact Angle Hysteresis and Surface Free Energy of Smooth Nanocrystalline Cellulose (I) Thin Films. **Theresa Dankovich** and Derek G Gray, McGill University

Friday, June 19, 2009
2:00 PM - 4:50 PM
Biointerfaces VIII: DNA at Interfaces

Organizers: Marjorie Longo, University of California, Davis, Ka Yee Lee, University of Chicago
Presiders: Kalle M. Levon, Polytechnic University, Yan Geng, University of Georgia

2:00 Interactions Of DNA With Cationic Surfactants And Proteins: Gels, Gel Nano-Particles, Microstructure And Phase Separation. **Björn Lindman**, Maria Miguel, Rita Dias, Diana Costa, Dan Lundberg and Carmen Moran, Lund University and Coimbra University

2:30 Surface Hybridization with Charge-Neutral DNA Analogues. **Ping Gong**[1], Kang Wang[2], Napoleon E. Tercero[1], Kenneth L. Shepard[1] and Rasti Levicky[2], (1)Columbia University, (2)Polytechnic University

2:50 Self-Protected Interactions in DNA-Functionalized Colloids: Nano Contact Glue. **Mirjam E. Leunissen**[1], Remi Dreyfus[1], Ruojie Sha[2], Nadrian C. Seeman[2], David Pine[2] and Paul M. Chaikin[1], (1)Center for Soft Matter Research, New York University, (2)New York University

3:10 DNA Condensation And Packaging Via Combinative Self-Assembly. **Yan Geng**, University of Georgia

3:30 Break.

3:50 Morpholino Monolayers: Platforms for Label-Free Detection of DNA Molecules. **Napoleon E. Tercero**[1], Ping Gong[1], Kang Wang[2] and Rastislav Levicky[2], (1)Columbia University, (2)Polytechnique Institute of New York University

4:10 Oligonucleotide Hybridization at Electrolyte/Semiconducting Polymer Interface. **Kalle Levon**, New York University

4:30 Compactation Mechanism of DNA by Cationic Vesicles: An Experimental And Theoretical Approach. **Alberto Martin-Molina**[1], Alberto Rodríguez-Pulido[2], Oscar Llorca[3], César Rodríguez-Beas[1], Emilio Aicart[2] and Elena Junquera[2], (1)University of Granada, (2)Universidad Complutense de Madrid, (3)Centro de Investigaciones Biológicas, CSIC

Friday, June 19, 2009
2:00 PM - 3:40 PM
Biology and Health Sciences II

Organizers: Martin Malmsten, Prof., Uppsala University, Kyriakos Papadopoulos, Tulane University

2:00 A Novel Screening Method of Endocrine Disrupting Chemicals (EDCs) Based on Their Interaction to Small Uni-Lamellar Liposome. **Izumi Kubo** and Yuko Nakane, Faculty of Engineering, Soka University

2:20 Detailed Study of Mixed DPPC/DPPG Films at Very High Film Compression. **Sameh M. I. Saad**, Zdenka Policova, Edgar J. Acosta and A. Wilhelm Neumann, University of Toronto

2:40 Key Mechanism Triggering Cell-Penetrating Peptide to Cross Membrane. **Kazutami Sakamoto**, Tokyo University of Science

3:00 Skin Lipid Conformation Changes In Porcine Skin with Prolonged Hydration. **Grace Tan**, Peng Xu, Louise B. Lawson, Jibao He, Lucia C. Freytag, John D. Clements and Vijay T. John, Tulane University

3:20 Interfacial Dissolution of Inhaled NO2. **Shinichi Enami**, Michael R. Hoffmann and Agustin J. Colussi, California Institute of Technology

Friday, June 19, 2009
2:00 PM - 4:40 PM
Capillary and Wetting Phenomena V

Organizers: S. S. Dukhin, New Jersey Institute of Technology, Mohamed E. Labib, Novaflux Technologies
Presider: Benilde Saramago, Prof, Instituto Superior Técnico

2:00 Steric Effects of Ions in the Charge-Related Wetting Phenomena. Chang Ku Hua[1], Kwan Hyoung Kang[1], **In Seok Kang**[1] and Howard A. Stone[2], (1)Pohang University of Science and Technology, (2)Harvard University

2:20 AC Electrowetting And Nanodrop Ejection On Parallel Conducting Electrodes. **Lu Zhang**, Nishant Chetwani, Peter Mushenheim, Hsueh-Chia Chang and Y. Elaine Zhu, University of Notre Dame

2:40 Analysis of Electrowetting-Driven Spreading and Switching Time of Electrowetting-Based Devices. Jiwoo Hong[1], Jung Min Oh[2], Sung Hee Ko[1] and **Kwan Hyoung Kang**[1], (1)Pohang University of Science and Technology, (2)University of Twente

3:00 Electrowetting of Ionic Liquids: Contact Angle Saturation and Irreversibility. **Benilde Saramago, Prof**[1], José Restolho[1] and José L. Mata[2], (1)Instituto Superior Técnico, (2)Academia Militar and Instituto Superior Técnico

3:20 Experimental Evidence On Contact Angle Saturation by Trapping of Charge In Electrowetting. **Jeongeun Ryu** and Kwan Hyoung Kang, Pohang University of Science and Technology

3:40 Jumping of a Droplet On a Superhydrophobic Surface In AC Electrowetting. **Seung Jun Lee**[1], Jun Kwon Park[1], Jung Min Oh[2] and Kwan Hyoung Kang[1], (1)Pohang University of Science and Technology, POSTECH, (2)University of Twente

4:00 Capillary Condensation and Nanoscale Electrowetting. Rohini Gupta and **Joelle Frechette**, Johns Hopkins University

4:20 Infiltration Kinetics of Polymers Into Porous Agglomerates. Céline Roux, Patrick Navard and **Edith Peuvrel-Disdier**, Mines-ParisTech

Friday, June 19, 2009
2:00 PM - 4:40 PM
Colloid and Surface Interactions in Water IV

Organizers: Ludmila Boinovich, Russian Academy of Sciences, John Y. Walz, Virginia Tech
Presider: John Y. Walz, Virginia Tech

2:00 The Interaction Between Polyelectrolyte Complexes and Silicon Oxide Surfaces. **Sedat Ondaral**[1], Caroline B. Ankerfors[2], Lars Wågberg[2] and Lars Ödberg[2], (1)Karadeniz Technical University, (2)Royal Institute of Technology

2:20 Adsorption of Submicrometer-Sized Cationic Sterically-Stabilized Polystyrene Latex at the Air-Water Interface: Foam Behavior And Contact Angle Determination by Ellipsometry. Timothy N. Hunter[1], **Damien Dupin**[2], Graeme J. Jameson[3], Steven Peter Armes[2] and Erica J. Wanless[3], (1)University of Leeds, (2)University of Sheffield, (3)The University of Newcastle

2:40 Non-Amphiphilic Assembly in Water: Thermodynamic Incompatibility of Water-Soluble Molecules. Yan-Yeung Luk, Lei Wu and **Karen Simon**, Syracuse University

3:00 Formulation And Stability of Itraconazole And Odanacatib Nanoparticles: Governing Physical Parameters. **Varun Kumar**[1], Lei Wang[2], Hsien-Hsin Tung[2] and Robert K. Prud'homme[1], (1)Princeton University, (2)Merck Research Laboratory

3:20 Quantitative Analysis of Platelet Exfoliation In Water And Platelet Aspect Ratio Distribution. **Harry J. Ploehn**, Chunyan Liu, Peter Barber, Hongsheng Gao and Hans-Conrad zur Loye, University of South Carolina

3:40 Chain End of the Core Block Influences Colloidal Stability In Poly(ethylene oxide)-Block-Poly(caprolactone) Micelles. **Georgios Rizis**, Theo van de Ven and Adi Eisenberg, McGill University

4:00 Interaction of Paclitaxel-Loaded Nanoparticles with Lipid Monolayer at Air/Water Interface as Model Biomembrane: Effect of Emulsifier and Coating Components. **Lingyun Zhao**[1], Xueli Neo[2] and Si-Shen Feng[2], (1)Tsinghua University, (2)National University of Singapore

4:20 Breakup of Colloidal Aggregates In Turbulent Flows. **Matthäus U. Bäbler**, Miroslav Soos, Massimo Morbidelli and Marco Mazzotti, ETH Zurich

Friday, June 19, 2009
2:00 PM - 4:10 PM
Engineering at the Nano-Scale and Nano-Technology V

Organizers: Yunfeng Lu, University of California, Los Angeles, B. M. Moudgil, University of Florida

2:00 Structure and Colloidal Stability of Nanosized Zeolite Beta Precursors. **Nathan D. Hould**, University of Delaware

2:20 Synthesis and Characterization of Surface-Functionalized Inorganic-Organic Multilayer Particles. **Camille Dagallier**, Hervé Dietsch and Frank Scheffold, University of Fribourg

2:40 Organic-Inorganic Functional Microcapsules – Preparation and Characterization. **Yue Long**[1], Jon A Preece[1], David York[2] and Zhibing Zhang[1], (1)Univeristy of Birmingham, (2)P&G Technical Centre Ltd

3:00 Synthesis And Characterization of Various Porous Silica Materials through Self-Assembly of Surfactants In Strong Acid Condition. **Seong-Geun Oh** and Jae-Hyung Park, Hanyang University

3:20 Break.

3:30 A Novel Oil-In-Water Microemulsion Reaction Method for the Synthesis of Nanocrystalline CeO_2. **Margarita Sanchez-Dominguez, Ph.D.**[1], Conxita Solans, Ph.D.[1] and Magali Boutonnet, Ph.D.[2], (1)CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS (CSIC), (2)ROYAL INSTITUTE OF TECHNOLOGY (KTH)

3:50 Latex-Vesicle Templated Synthesis of Hollow Inorganic Nanoparticles. **Spyros Monastiriotis**, The Graduate Center & The City College of City University of New York and Alexander Couzis, City College of New York

Friday, June 19, 2009
2:00 PM - 4:40 PM
Environmental Colloid and Interfacial Processes VIII

Organizer: V. Faye McNeill, Columbia University
Presiders: Qilin Li, Rice University, Helen Nguyen, University of Illinois, Urbana-Champaign

Session Overview: The colloidal and interfacial processes in the subsurface porous media will be discussed in this session.

2:00 Effect of Surface Heterogeneity On Colloid Deposition. **Eddy Pazmino** and William P. Johnson, University of Utah

2:20 Non-Uniform Particle Size Explains Reduction in Filtration Rates with Transport Distance in Porous Media. **Gaurav Saini**[1], Jean Elkhoury[2], Patricia J. Culligan[3], J. T. Germaine[4], Timothy R. Ginn[5], Murat Hamderi[6], Rishi Parashar[7], Guoping Tang[8], Daniel M. Tartakovsky[9], Son-Young Yi[1] and Feng Yue[10], (1)Oregon State University, (2)California Institute of Technology, (3)Columbia University, (4)Massachusetts Institute of Technology, (5)University of California, (6)Drexel University, (7)Desert Research Institute, (8)Oak Ridge National Laboratory, (9)University of California, San Diego, (10)University of Illinois, Urbana-Champaign

2:40 In Situ Measurement of the Fractal Dimension of Colloid Deposits In Porous Media. **David C. Mays**[1], Orion T. Cannon[1], Adam W. Kanold[1], Kevin Harris[1], Tim C. Lei[1] and Benjamin Gilbert[2], (1)University of Colorado Denver, (2)Lawrence Berkeley National Laboratory

3:00 Break.

3:20 Alternative Geometric Models to Predict Colloidal Deposition in Porous Media. **Huilian Ma** and William P. Johnson, University of Utah

3:40 Tracking Colloid Transport In Porous Media Using Discrete Flow Field Derived From Lattice-Boltzmann Method. **Xiqing Li**, Zhelong Li and Dongxiao Zhang, Peking University

4:00 Removal of Aqueous Phase Pollutants through Entrapment In Surfactant Assemblies Followed by Encapsulation In Templated Mesoporous Materials. Jia Zhou[1], Dimitris Vavlekas[1], Jingjing Zhan[1], Grace Tan[1], Bhanukiran Sunkara[1], **Vijay T. John**[1], Gary L. McPherson[1], Yunfeng Lu[1] and Arijit Bose[2], (1)Tulane University, (2)University of Rhode Island

4:20 Sorption and Abiotic Transformation Behavior of Sulfadiazine on Soil Components. **Erwin Klumpp**, Nan Meng, Anne Berns, Hans Lewandowski, Roy Kasteel, Hans-Dieter Narres, Diana Hofmann and Harry Vereecken, Research Centre Juelich

Friday, June 19, 2009
2:00 PM - 4:50 PM
Fabrication of Colloidal Assemblies and Devices VIII: Templated and Biological Assembly

Organizers: Darrell Velegol, Pennsylvania State University, Orlin D. Velev, North Carolina State University

2:00 Programming the Isothermal Disassembly of DNA-Linked Colloidal Particles. **Valeria T. Milam**, Christopher K. Tison, James O. Hardin and Sonya T. Parpart, Georgia Institute of Technology

2:30 Particles with Hierarchical Porosity Derived by Microemulsion Templating. **Dimiter N. Petsev**, Nick J. Carroll, Svitlana Pylypenko and Plamen Atanassov, University of New Mexico

2:50 Synthesis of Microcapsules through Layer by Layer Assembly of Polyelectrolytes In Oil-In-Water Emulsions. **Sachin Khapli**, Jin Ryoun Kim, Jin Kim-Montclare, Rastislav Levicky, Maurizio Porfiri and Stavroula Sofou, Polytechnic Institute of New York University

3:10 Closed Nanoconstructs Assembled by Step-by-Step Ss-DNA Coupling Assisted by Phospholipid Membranes. **Debora Berti**[1], Francesca Baldelli Bombelli[1], Martina Banchelli[1], Filippo Gambinossi[1], Gabriella Caminati[1], Piero Baglioni[1] and Tom Brown, Prof[2], (1)University of Florence and CSGI, (2)University of Southampton

3:30 Packing Efficiency of Small Silica Particles On Large Latex Particles. **Jennifer A. Balmer**, Steven P. Armes and Patrick W. Fowler, University of Sheffield

3:50 Formation of Colloidosomes From Particle-Covered Bubbles Exposed to Surfactants. **Anand B. Subramaniam**[1], Jolet de Ruiter[2], Jordan Petkov[3], Donald Gregory[3] and Howard A. Stone[2], (1)Harvard University, (2)School of Engineering and Applied Sciences, Harvard University, (3)Unilever R&D

4:10 Structured Colloidal Materials From Block Copolymers. **Gi-Ra Yi**[1], Seog-Jin Jeon[2], Seung-Man Yang[2] and David Pine[3], (1)Korea Basic Science Institute, (2)Korea Advanced Institute of Science and Technology, (3)New York University

4:30 Using Double-Stranded DNA Probes In Nucleic Acid Target Detection And Colloidal Satellite Assembly. **Bryan A. Baker** and Valeria T. Milam, Georgia Institue of Technology

Friday, June 19, 2009
2:00 PM - 4:05 PM
Future Directions in Colloid and Surface Science III

Organizer: K. P. Ananthapadmanabhan, Unilever
Presider: Nikolai D. Denkov, Laboratory of Chemical Physics & Engineering

2:00 Conservation of Cultural Heritage: There Is a Plenty of Room for Colloids Science. **Piero Baglioni, Prof.**, University of Florence and CSGI

2:25 Solid Phase Organocatalysis. **Finn K. Hansen**, Tore Hansen and Tor Erik Kristensen, University of Oslo

2:50 Molecular Diagnostics, Opportunities for Colloid and Surface Science. **Darby Kozak**, Annie Chen, Lionel Marcon and Matt Trau, The University of Queensland

3:15 Remote Controlled and Feedback Systems of Polymer/ Nanoparticle Composites. **Helmuth Moehwald**, D. Shchukin and A. Skirtach, MPI of Colloids and Interfaces

3:40 Colloidal Ag Nanocrystals: Single Molecule Raman Scattering, Photovoltage, and Light Driven Nanocrystal Growth. **Louis Brus**, Columbia University

Friday, June 19, 2009
2:00 PM - 5:00 PM
General Papers II

Organizers: S. A. Ravishankar, Cytec Industries, Fernando Galembeck, University of Campinas - UNICAMP

2:00 Variational Implicit Solvation Model (VISM) for Biomolecular Solvation. **Joachim Dzubiella**, Technical University Munich

2:20 Bioremoval of Arsenite Ions by Acidithiobacillus Ferrooxidans. **Chandraprabha M N**, M.S. Ramaiah Institute of Technology and Natarajan K a., Indian Institute of Science

2:40 Cactus Mucilage: Using a Natural Hydrocolloid to Remove Arsenic from Drinking Water. **Dawn I. Fox**, Thomas Pichler, Daniel Yeh and Norma Alcantar, University of South Florida

3:00 Colloidal Characterisation of Melbourne's Drinking Water. **Ian H. Harding, Assoc Prof**, Swinburne University of Technology

3:20 Molecular Interactions at the Ionic Liquid – Alcohol Interface. **Peixi Zhu**[1], Curt Campbell[2], Michael Driver[2], Tom Harris[2], Lawrence Pratt[1] and Kyriakos Papadopoulos[1], (1)Tulane University, (2)Chevron

3:40 Dislocation Interactions In Crystals of Colloidal Dimers. **Sharon J. Gerbode**, Stephanie H. Lee, Desmond Ong, Chekesha M. Liddell and Itai Cohen, Cornell University

4:00 Nanomembranes at Fluid-Fluid Interfaces: Fabrication and Characterization Using Pendant Drops. **James K. Ferri**, Lafayette College

4:20 Microparticle Analysis by Applying Magnetic Field and Nano-Gap Device. **Hitoshi Watarai**, Osaka University

4:40 Nanostructured Media Improve Reaction Selectivity. **Sunil S. Bhagwat**, Deemed University

Friday, June 19, 2009
2:00 PM - 4:00 PM
R. L. Rowell Symposium II

Organizers: A. Morfesis, Malvern Instruments, Ltd., Raymond S. Farinato, Kemira Water Solutions, Inc.

2:00 Scattering Tools in the Study of Telechelic Hydrophobically-Modified Polymers. **Françoise M. Winnik**, University of Montreal

2:20 Graft Copolymer-Liposome Complexes Enhance Delivery of Antisense Oligonucleotides. **David Devore**, Nicole Harris, Lavanya Peddada and Charles M. Roth, Rutgers University

2:40 Measurement of Bulk Viscosity, Longitudinal Viscosity and Compressibility by Means of Acoustic Spectroscopy. "How Prof. Rowell Helped Us to Bring Ultrasound as a Tool for Colloid Science". **Andrei Dukhin**, Dispersion Technology Inc.

3:00 Automatic Continuous Online Monitoring of Late-Stage Polycondensation Reactions in Polyamine Synthesis. **Raymond S. Farinato**[1], Joe Calbick[1], Wayne Reed[2], Gina A. Sorci[3] and Alina Alb[4], (1)Kemira Water Solutions, Inc., (2)Tulane University, (3)Millsaps College, (4)PolyRMC

3:20 Antimicrobial Poly(arylene ethynylene) Polyelectrolytes: Interactions with Model Phospholipid Membrane Systems and Biocidal Activity. **David G. Whitten**[1], Liping Ding[1], Eva Chi[1], Sireesha Chemburu[1], Gabriel P. Lopez[1], Eunkyung Ji[2] and Kirk S. Schanze[2], (1)University of New Mexico, (2)University of Florida

3:40 Supramolecular Amphiphiles for Controlled Self-Assembly. **Xi Zhang**, Yapei Wang and Chao Wang, Tsinghua University

Friday, June 19, 2009
2:00 PM - 4:45 PM
Surfactants and Supermolecular Assemblies: Manipulating Supramolecular Structures

Organizers: Alexander Couzis, City College of New York, Charles Maldarelli, The City College of New York

2:00 Sonolytic Decomposition of Oxalate by Ozone at Cavitation Bubble Interfaces. Timothy Lesko, Agustin J. Colussi and **Michael R. Hoffmann**, California Institute of Technology

2:20 Influence of Surfactants And Water-Soluble Polymers On Stability of Water-Coal Suspensions. **Kuanyshbek Musabekov**[1], Moldir Kerimkulova[1], Sagadat Tajibayeva[1] and Kusainova Zhenis[2], (1)al-Faraby's Kazakh national university, (2)S.Asfendiyarov's Kazakh national medical university

2:40 Manipulation And Assembly of Functional Molecules And Macromolecules In AC-Electric Fields. **Y. Elaine Zhu**, University of Notre Dame

3:20 Facile Alignment of Non-Ionic Lyotropic Lamellar and Hexagonal Mesophases Using Magnetic Fields. **Chinedum O. Osuji** and Pawel Majewski, Yale University

3:40 Tuning the Microstructure And Understanding Structure/ Rheology Relationship of Alkyl Poly-Oxyethylene Sulfate Surfactant Micelles. **Travis K. Hodgdon**, Procter & Gamble and Eric W. Kaler, Stony Brook University

4:00 Modifying the Properties of Liquid CO_2. **Kieran Trickett**[1], Julian Eastoe[1], Robert Enick[2] and Dazun Xing[3], (1)University of Bristol, (2)US DOE NETL and University of Pittsburgh, (3)University of Pittsburgh

4:20 Probing Association Colloids Properties Using the Chemical Trapping Method—What Has Been Learned. **Laurence S. Romsted**, Rutgers University

4:40 Self-Assemblies of Clofarabine Amphiphilic Derivatives: Effects of Polar Head Architecture And of Thermal History. Peter Sandin[1], Francesca Baldelli Bombelli[1], Piero Baglioni[1], Juergen Obermeier[2] and **Debora Berti**[1], (1)University of Florence and CSGI, (2)Heidelberg Pharma

5:00 Dielectrophoresis And AC-Field Induced Encapsulate Release of Micelles In Aqueous Suspensions. **Victoria E. Froude** and Y. Elaine Zhu, University of Notre Dame

Friday, June 19, 2009
2:00 PM - 4:40 PM
Theory and Computer Simulations in Interfacial and Colloidal Systems IV

Organizers: Ramanathan Nagarajan, Natick Soldier Research, Development & Engineering Center, Shyam Vyas, Accelrys Inc.

2:00 Modeling of Adhesive Colloidal System Deformation. **Robert Botet**, Universite Paris-Sud and Bernard Cabane, Ecole superieur de physique et de chimie industrielles

2:20 Computational Study of Lubrication Forces Between Colloidal Particles and Planar Surfaces. **Bryce D. Sturtevant** and David S. Corti, Purdue University

2:40 Evaluation of a Discrete Sedimentation Model of Monodisperse Suspensions with An Exponential Decay Drag Force Function. **Herley Casanova, Dr.**[1], Cesar Perez[1], Cesar Restrepo[1] and Juan Carlos Gonzalez[2], (1)University of Antioquia, (2)Empresas Publicas de Medellin

3:00 Mechanism Identification of Metal Nano Particle Precipitation. **Roberto Irizarry, PhD**[1], Miguel Castro[2] and Madeline Leon[2], (1)Dupont Electronics Technologies, (2)The University of Puerto Rico at Mayaguez

3:20 Modelling of the Precipiation of Zinc Oxide Semiconductor Nanoparticles. **Doris Segets** and Wolfgang Peukert, University of Erlangen-Nuremberg

3:40 Using STM to Identify Chemical Species Via a Novel Contrast Mechanism. **Na Guo**, University of Delaware

4:00 Speciation of Adsorbed Species On Oxide Hematite Nanoparticles In Water Using FTIR Spectroscopy and Quantum Chemistry Modeling. **Irina Chernyshova**, Sathish Ponnurangam and Ponisseril Somasundaran, Columbia University

4:20 Pattern Formation During the Evaporation of a Colloidal Nanoliter Drop: a Numerical and Experimental Study. Rajneesh Bhardwaj, Xiaohua Fang and **Daniel Attinger**, Columbia University

Friday, June 19, 2009
2:00 PM - 4:40 PM
Thermodynamics & Adsorption II

Organizer: Lei Zhang, Akzo Nobel

2:00 Adsorption Properties of Mixed b-Lactoglobulin – Alkyltrimethylammonium Bromide Layers at the Water/Oil Interface. **Vincent Pradines**[1], V.B. Fainerman[2], Jürgen Krägel[1] and Reinhard Miller[1], (1)MPI Colloids & Interfaces, (2)Donetsk Medical University

2:20 Corrosion Inhibition Efficiency of Some New Imadozoline Based Surfactants for Pipeline Carbon Steel. **Rasha Abdel Azim El-Ghazawy**[1], Ahmed Al-Sabagh[1], Mohamed Abdel Raouf[1] and HAssan Abdel Bary[2], (1)Egyptian Petroleum Research Institute, (2)Al-Azhar University

2:40 The Effect of Micromilled Features On the Adsorption of Serum Proteins to Polystyrene. **William Hum** and Todd M. Przybycien, Ph.D., Carnegie Mellon University

3:00 Investigations of Kinetic And Thermodynamic Factors Regulating the Properties of Organic Doped Aqueous Aerosol Droplets. Adèle M.C. Laurain and **Jonathan P. Reid**, University of Bristol

3:20 Determination of the Surface Tension of Polycrystalline Cu, Au, And Ni Surfaces. Hadi Ghasemi and **Charles A. Ward**, University of Toronto

3:40 Adsorption of Bt Toxin Monomer And Oligomers On Mica And Glass Studied by Scanning Confocal Fluorescence. Jean-Marc Janot[1], Thierry Thami[1], Nordine Helassa[2], Emmanuel Tronel-Peyroz[1], Michel Boissière[3], Sylvie Noinville[4], Madeleine Revault[4], Hervé Quiquampoix[2], Siobhan Staunton[2] and **Philippe Déjardin**[1], (1)Université Montpellier 2, (2)INRA, (3)Université de Cergy-Pontoise, (4)LADIR

4:00 Heterogeneous Adsorption of An Anionic Surfactant On Surface of Functionalized Nanoparticles and Correlation to Particle Stability. **Paolo Arosio**, Hua Wu, Alessio Zaccone, Marco Lattuada and Massimo Morbidelli, ETH Zürich

Friday, June 19, 2009
2:00 PM - 4:45 PM
Tribology and Adhesion IV

Organizers: Girma Biresaw, Ph.D., USDA-ARS-, Anil N. Netravali, Cornell University

2:00 Tribological Behavior of Polyelectrolyte Brushes in Aqueous Media. **Atsushi Takahara**, Yuki Terayama, Hiroki Yamaguchi and Motoyasu Kobayashi, Kyushu University

2:20 Control of Surface Properties of Nanostructured Polymer Thin Films. Benoît Liberelle, Xavier Banquy, Béatrice Lego and **Suzanne Giasson**, Université de Montréal

2:40 Frictional Properties of Physisorbed Layers of Self-Organized Phthalocyanine Derivatives. **Koji Miyake**[1], Miki Nakano[1], Yukari Hori[2], Taichi Ikeda[3], Masumi Asakawa[1] and Toshimi Shimizu[1], (1)National Institute of Advanced Industrial Science and Technology, (2)Oita Industrial Research Institute, (3)National Institute for Materials Science

3:00 Chain Mobility and Functional Group Effects in Micro-Scale Friction. **Steven G. Vilt** and G. Kane Jennings, Associate Professor, Vanderbilt University

3:20 Friction and Wearing of Silica Surfaces in Electrolyte Solutions. **Ko Higashitani**, Kyoto University, Ivan U. Vakarelski, The University of Melbourne and Cathy E. McNamee, D.Sc., Shinshu University

3:40 Nanomechanical Properties of Water and Lipid Membranes. **Mathew Goertz** and Xiaoyang Zhu, Professor, University of Minnesota

4:00 Improving Organic Friction Modifier and Anti-Wear Additive Technology for Automotive Applications. **Frank J. DeBlase, Sr. Research Sci**, Chemtura Corporation

4:20 Design of Surfactants and Properties of Colloidal Nanoparticles Used In Lubricant Additive Formulations. **Peter J. Dowding**, Infineum UK Ltd

4:40 Characterization of Interface Properties of Clay Nanoplatelets Filled Epoxy Resin and Carbon Fiber by Single Fiber Composite Technique. **Hanumanthaiah Kumar, Ph.D.**[1], Anil Netravali[1] and Mahesh Hosur, PhD[2], (1)Cornell University, (2)Tuskegee University

5:00 Effect of Protein Content In Soy Protein Resins On Their Interfacial Shear Strength with Ramie Fibers. **JunTae Kim, Ph.D.** and Anil Netravali, Cornell University

5:20 Tribological Characteristics of Positive and Negative Copper Sulfide Micropatterns on Self-Assembled Monolayers. **Junhong Jia** and Yongjun Lu, Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences

5:40 Bacterial Surface Properties and Their Adhesion to Abiotic Surfaces. **Jingcheng Zhang**, Harbin Institute of Technology and Gang Chen, Florida State University