



AES Electrophoresis Society Program Grid



Annual Meeting 2012, Pittsburgh PA, October 28 - November 2, 2012

Monday, October 29		Tuesday, October 30		Wednesday October 31		General Announcements			
Room 408 Convention Center		Room Fayette, Westin		Room 410 Convention Center		Room 406 Convention Center		Room 410 Convention Center	
(8) - T3006 Advances In Electrokinetics and Electrophoresis: Fundamentals		(#185) - T3006 Advances in Electrophoresis for Protein Separation and Analysis		(#224) - 01J06 Microfluidic and Microscale Flows 1		(#420) - T3009 Electrokinetic Behavior of Micro- and Nano-Particles: Directed Assembly Under Electric Fields		(#435) - 01J10 Microfluidic and Microscale Flows II	
Chairs: Blanca H. Lapizco-Encinas and Mark Hayes		Chairs: Tom Berkelman and Phil Beckett		Chairs: Aditya S. Khair and Susan Daniels		Chairs: Christopher L. Wirth and Stuart J. Williams		Chairs: Aditya S. Khair and Susan Daniels	
M. Hayes	Advantages of Microgradients for Steady State Separations	J. Minden	High Dynamic Range Proteomics	D. L. Koch	Hydrodynamic Instabilities of Chemotactic Bacteria	S. Gangwal	Programmed Assembly of Janus, Patchy and Mixed Strongly Interacting Particles by Electric Fields	S. Murthy	Bioactive Surfaces in Microfluidic Devices
G. Azadi	Surfactant Induced Electroosmotic Flow in Microfluidic Capillaries	F. Jahnke	isoelectric Focusing without Carrier Ampholytes	T. Savin	Occlusive Flow of a Red Blood Cell	E. M. Furst	Nanoparticle Directed Assembly Using Electric Fields	C. Galletti	Effect of the Inlet Conditions on the Mixing Efficiency of a T-Shaped Microfluidic Device
P.V. Jones	Bioparticle Capture in a Sawtooth Dielectrophoretic Microchannel	N. Kendrick	Dielectrophoretic Focusing of Proteins to Improve Resolution on 2D Gels	N. Alvarez	The continuous Chromatographic Separation of Molecules/Particles Using Optical Electric Fields	C. S. Dutcher	A Health-to-Disorder Transition in Colloidal Crystals near Electrodes: Stronger Flow Yields Less Order	K.W. Bong	Stop Flow Lithography Beyond PDMS Microfluidic Devices
A. Gencoglu	Electrochemical Aging Effects of Pt Thin Film Electrodes under Microfluidic Device Conditions	P.A. Dimaggio Jr.	An Innovative LC-MS/MS Workflow for the Characterization of Combinatorial Post-Translation Modifications	C.M. Schroeder	Micro and Nanoparticle Trapping and Manipulation with Fluid Flow	F. Ma	New "Chemistry" of Colloidal Particles Induced by the Electric Field - Surprisingly New Results from an Old Experiment	D. Toller	Scalping and Atomizing Pinned Drops with Localized Acoustic Pressures of Surface Acoustic Waves, Especially
V.H. Perez-Gonzalez	C-MEMS based Electrodes for the Dielectric Characterization of Microparticles Employing Dielectrophoresis	L.-J. Cheng	Single Stream Free Flow Isoelectric Focusing with pH Gradients Induced by Water Spillings Bipolar Membranes-Integrated Microfluidic Devices	A. Priye	Mapping Chaotic Flow States in Microscale Rayleigh-Benard Convection to Identify Regimes of Accelerated DNA	J.S. Park	Direct Numerical Simulations of Colloidal Assembly by Electrophoretic Deposition	M. Sun	Microfluidic Static Droplet Arrays with Tunable Concentration Gradients
A. Nakano	Temperature Measurement in a Microfluidic Device for Insulator-Based Dielectrophoretic Applications	G. Azadi	Rapid Detection and Quantification of Specific Proteins by Immunoprecipitation and Microfluidic Separation	G. Wang	Electrokinetically Driven Micro-Turbulence in Ionofluidics with Re in the Order of 1	M. J. Heller	Large Scale Electric Field Array Device for Directed Self-Assembly of Multilayer Nanoparticle Materials	T. Moyle	Modeling, Predicting, and Controlling Microscale Topstreaming
D.E. Posluszny	Electrophoresis in Complex (non-newtonian) Fluids: Theory and Experiments	E. Pryor	The Use of Microchannel Electrophoresis to Detect Early Stages of Amyloid Beta Aggregation	M. C. Fechtlmann	Mixing Enhancement in Three-Dimensional Helical Microchannels	A. Work, Jr.	Patterning Simple Geometries with Colloids Using a Scanning Laser	V. van Steijn	Block-and-Break Generation of Microdroplets with Fixed Volume
M.J. Heller	Dielectrophoretic Isolation of DNA and Nanoparticles from Whole Blood	S. Bandhakavi	Evaluation of Stain-Free Chemistry for Gel Electrophoresis Based Shotgun Proteomic Workflows	S. Velanchar	Two Phase Microfluidics with Molten Polymers	J. Wang	Low Frequency Dielectric Response of a Single Particle in Aqueous Suspensions	X. Chen	Microfluidic Arrays Formed by Flow Entrapment in a Microfluidic Cell and the Effect of the Trap Geometry on Pore Sizes
W.-I. Wu	Field Effect Flow Control	A. Nakano	Protein Streaming Via Insulator-Based Electrodes in a Microfluidic Platform			R.M. Rock	Ensemble Average Electrochemical TRM: The Impact of Potential Distribution On Electrokinetic Forces	J. S. Pauselian	Microfluidic Hydrogel Structures for Controlled Concentration Gradients and Fast Solution Switching
A. Kale	Three-Dimensional Numerical Modeling of Electrothermal Flows in Insulator-Based Dielectrophoresis Microdevices	R. C. Baliban	High-Throughput Proteomics and Mixed-Integer Linear Programming						
Monday, October 29		Room Fayette, Westin		Room 406, Convention Center		Room 406, Convention Center			
Room 408 (#85) - T3003 Electrokinetics in Non-Polar Media		Room 406 (65) - T3002 Advances in Electrokinetics and Electrophoresis: Bioanalytical, Biosensing, and Biomedical Applications		(#224) - T3008 Nanoscale Electrokinetics		(#468) - T3000 Award Session of the American Electrophoresis Society in Honor of Nancy Stellwagen			
Chairs: Paul Sides and Ben Freireich		Chairs: Edgar D. Goluch and Alexandra Ros		Chairs: Gurion Wang and Chen-Pin Chen		Chairs: A. Minnerick and E.D. Goluch			
S.H. Behrens	Surfactant Induced Electroosmotic Flow in Microfluidic Capillaries	E. Savage	Multi-Layer Contactless Dielectrophoresis Using Thin Polyimide Films	J. Schffbauer	Role of Electro-Osmosis in Microchannel-Nanochannel Impedance Response Based Molecules	N.C. Stellwagen	Counterion Condensation and DNA Electrophoretic Mobility		
J. J. McDermott	Electroacoustics, Conductivity & Dispersion Forces in Nonpolar Carbon Black Dispersions	A. Holmen	Rapid, Free Solution Electrophoretic Separation of Long DNA	V. Goodrich	Dielectrophoretic Manipulation and Controlled Release of Surfactant Based Molecules	D.A. Hoagland	Testing Fundamental Theories for Polyelectrolyte Electrophoresis: Comparing Theory and Experiment As Polyelectrolyte Charge Spacing and Solvent Dielectric Constant ARE Independently Varied		
A. Dukhin	Ions, Ion Pairs and Inverse Micelles in Non-Polar Media	Y. Shen	Electro-Hydrodynamic Encapsulation of Drugs into Porous Polymer Films	N. R. Wood	Trapping of Nanoparticles with Dielectrophoretic Nano-Probes	G.W. Slater	The Electrophoretic Migration of Partially Denatured dsDNA in a Gel: Why Does It Block?		
K. E. Tetley	Effect of Thermal Treatment and Moisture on Silica Particle Charge in Non-Polar Solvents	R. Martinez-Duarte	Practical Platforms for High Throughput Sample Preparation Using 3D Carbon-Electrode Dielectrophoresis	M. Tsegaye	Coating Dielectrophoresis At Nano-Concentrations to Concentration Polarization Effects for Enhanced Protein Pre-Concentration	V.M. Ugaz	DNA Gel Electrophoresis in the Entropic Trapping Regime: A Versatile Tool for Enhanced Separations and Nanostructural Analysis		
S.M. Hashmi	Source of Charges in Petroleum Systems	H. Shafiee	Towards Point-of-Care HIV-1 Detection through electrical Sensing On-a-Chip	F. Camacho-Alanis	Combining Focused Ion Beam Milling and Optical Lithography to Fabricate Microfluidic Devices for DNA Dielectrophoresis	K.D. Dorfman	Rational Design of DNA Electrophoresis Devices and the Nanofence Array		
B. Yezer	Galvanostatic Measurements of Double Layer Formation in Doped Nonpolar Liquids	Y.H. Su	Characterizing Silver Nanoparticle-Induced Modifications to the Dielectric Response of Cryptosporidia Oocysts	Y. Yan	Rectification and Rectification Inversion of Ion Currents in Conical Nanopores	D. Milanova	A New Type of Silicon Nanofet Detector with Single-Nanoparticle Sensitivity		
		A. Salmanzadeh	Dielectrophoresis for Characterizing Electrical Properties of Mouse Ovarian Surface Epithelial (MOSE) Cells	Q. Liu	Accurate Predictions of Dielectrophoretic Force and Torque On Many Particles with Strong Mutual Field, Particle, and Wall Interactions				
		C.R. Buie	A Microfluidic Device for Electrophoretic Trapping and Irreversible Electroporation of Bacterial Cells	P. Sides	Correction for Sample Conductance in the Measurement of the Zeta Potentials of Porous Samples by the Rotating Disk Technique				
		C.R. Buie	Aggregation of Biflagellated Bacteria Induced by Insulator Based Dielectrophoresis	D. Gillespie	High Pressure-to-Voltage Energy Conversion Efficiency in Nanofluidic Microchannels				
		M. Johnson	Microbe Removal Using Reservoir-Based Dielectrophoresis (rDEP)						
Room 408, Convention Center		Room Somerset West, Westin		Room Fayette, Westin		Room 411, Convention Center		Room 406, Convention Center	
(#161) - T3000 Plenary Session of the American Electrophoresis Society		(#340) - T3010 Electroporation, Electrophysiology, and Cell Electokinetics		(#334) - T3001 Detection: Surface Techniques and Spectroscopy		(#549) - T3007 DNA Analysis in Microfluidic and Nanofluidic Devices		(#552) - T3004 Electric Fields at Interfaces: Electro-Wetting, Droplets, and Vesicles	
Chairs: Aditya S. Khair and Yolanda Fintschenko		Chairs: Rafael Davalos		Chairs: Shramik Sengupta		Chairs: Lisa A. Holland and Rodrigo Martinez-Duarte		Chairs: Lisa A. Holland and Margarita Staykova	
M.Z. Bazant	Nonlinear Electrokinetics in Porous Media	H. Moncada-Hernandez	Assessment of the Particle-Particle Interaction On the Dielectrophoretic Response of Particles	V.H. Perez-Gonzalez	Carbon Cages for Dielectrophoretic-based Bioparticle Separation/Concentration	W.-C. Liao	DNA Dynamics in Nanofluidics Under Pulsed Field Electrophoresis	O. A. Basaran	End Tip Streaming: Size and Charge of Electrospray Droplets
D. C. Prieve	The DC Force Exerted On a Charged Microparticle by an AC Electric Field	R. Gallo	Joule Heating Effects On the Dielectrophoretic Force for IDEP Devices	S.J.R. Statton	Continuous Electroosmotic Flow with Orthogonal Electroosmotic Flow as a means to enhance Collectors for the Alignment of Sub-100nm Fibers	M.A. Fahrenkopf	Enhanced Performance of Entropic Trap Arrays Using End-Attached Polarization Effects for Enhanced Protein Pre-Concentration	B. S. Hamlin	Charged Droplets Via the Convective Reversal of Shear-Captures
Z.R. Gagnon	Microfluidic Force Fields for Biochemical and Cellular Analysis	E. Elele	Neutrally Buoyant Particles in Microfluidic Droplets	Y.H. Su	Enhancement of the Performance of Array and Characterization of Human Umbilical Vein Endothelial Cells	J. W. Schneider	Optimally Designed Capillary Networks for Rapid DNA Separation by Micelle End-Labelled Free Solution Electrophoresis	P. F. Salpante	Nonlinear Electrohydrodynamics of a Viscous Droplet
D. W. Arnold	Electrokinetics and High Pressure Liquid Chromatography	C. Huang	Dielectrophoresis-Enhanced Immunocapture of Prostate Cancer Cells	V. Velasco	Magnetic Capture of Melanoma Cells From Whole Blood	L. A. Holland	Self-Assembled Nanomaterials for Capillary Electrophoresis Separations of DNA	S. Deshmukh	Deformation of a Liquid Drop in a Quadrupole Electric Field
Zuzanna Sliwy	Nanopores: Ionic Diodes, Ionic Transistors and Membrane Capacitors	W.-C. Liao	Electroporation and Material Delivery Mechanism of Nanochannel Electroporation	Z. Quian	The Crystal Orientation of Aluminum Coatings Deposited From Ionic Liquids	S.B. King	The Role of Order in DNA Separations in Colloidal Crystals	T.F. Leary	Understanding Electroosmosis of a Two-Dimensional Arrangement of Water Droplets
		M. B. Sano	Impact of Electric Fields On Mammalian Cells	Y. Zheng	A Nanoporous Membrane Molecular Sensing Platform	Z. Chen	Relationship Between Frequency and Deflection Angle in the DNA Prism	M. Staykova	Electro-Hydrodynamic Effects On Lipid Membranes in Giant Vesicles
		S. Huang	Enhancing Electroporation with Targeted Gold Nanoparticles	W.-N. Liu		B. Durney	Multi-Layer Microfluidic Device for Human Identification Using Capillary Gel Electrophoresis for DNA Separations and a Photonic Crystal for Detection	Y. Yan	Adaptation for Current and Subtle Oscillations in a Capillary Due to Localized Film Rupture Events During Electro-Driven Flow
						R. Martinez-Duarte	Lambda-DNA Dielectrophoresis in a 3D Carbon-Electrode Micro-Pore Device: Theoretical and Experimental Studies	D. N. Petsev	Analysis of the Poisson-Boltzmann Equation for Nanochannels and Confined Spaces
						M.J. Heller	A Dielectrophoretic/Electrophoretic Device for in-Situ DNA Isolation and PCR Analysis	S. Mhate	Droplet Dynamics Between Pits-Pin Electrodes
						L.A. Marshall	A Novel Device for Highly Efficient Extraction of Nucleic Acids From 100 Microliter Whole Blood Samples		
								<p>During the Banquet we have a special talk: Dr. Robert Monroe will describe his experience as dean in the Carnegie Mellon Qatar campus!!</p> <p>Want to get involved with AES Programming? Attend the business meeting and volunteer by contacting Rafael Davalos (davalos@tamu.edu) and Amy Herr (aeh@berkeley.edu)</p> <p>Sunday Workshops Sunday, October 28, 2012 Courtyard by Marriott, Meeting Room A</p> <p>1- "Microfluidics and Electrokinetics Principles" 9 am - 12 pm, Todd Squires UCSB and hands-on workshop by LabSmith</p> <p>2- "Modeling of Microfluidics" 1 pm - 4 pm Ahsan Munir, COMSOL</p> <p>AES Plenary Session, Monday October 29th, Room 408, 3:15 to 5:45 PM.</p> <p>AES Electrophoresis Society Contact Matt Hoelzer Executive Director 1202 Ann St Madison, WI 53713 Tel: 608-258-1565 Fax: 608-258-1569 matt-aes@tds.net</p>	