



Annual Meeting of the AES Electrophoresis Society
 October 30 - November 1, 2017; Minneapolis Hilton and Convention Center, Minneapolis, MN
 THANKS to our organizers Soumya K. Srivastava and Tayloria Adams!

Visit www.aesociety.org for a comprehensive resource on electrokinetics, microfluidics and related techniques

		MONDAY, October 30		TUESDAY, October 31		WEDNESDAY, November 1	
9:00 -11:00 AM	Electrokinetics for Cellular Analysis & Separation <i>Location: Hilton Minneapolis, Marquette IV-VII</i> Chairs: Hadi Shafiee and Ezekiel Adekanmbi		Electrokinetics for Biological Separation and Analysis <i>Location: Hilton Minneapolis, Marquette IV-VII</i> Chairs: Christopher Palmer and Aytug Gencoglu		Electrokinetics: Advancing the Fundamentals <i>Location: Hilton Minneapolis, Marquette IV-VII</i> Chairs: Adrienne Minerick and Sagnik Basuray		
	9:00	Organelle Separation with a Microfluidic Ratchet (A. Ros)	9:00	Physical Properties of Bioparticles and High Resolution Separations with Dielectrophoresis (M. Hayes)	9:00	Entropic Trapping during DNA Transport in Microfluidic Gel Electrophoresis: A Monte Carlo Simulation (S. Bandyopadhyay)	
	9:15	Cell Surface Complexity Modulates Membrane Capacitance and Differentiation of Human Neural Stem Cells (S. Tiwari)	9:15	Isomotive Dielectrophoresis Based Characterization of Chlamydomonas Cells (M. Rashed)	9:15	Obstacle-Density Effects on Particle Trapping in Insulator-Based Dielectrophoresis Systems (R.C. Gallo-Villanueva)	
	9:30	Characterizing Human Embryonic Stem Cells Function with Dielectrophoresis and Flow Cytometry (T.N.G. Adams)	9:30	Characterization of Chemical Affinities and Interactions with Lipid Bilayers Using Electrokinetic Techniques (W. Penny)	9:30	Investigating the Impact of Low Concentration Surfactant on Red Blood Cell Dielectrophoretic Responses (S. Habibi)	
	9:45	Electrical Detection of Zika Virus on Paper Microchip with Silver-Graphene-Nano-Composite Electrode (H. Shafiee)	9:45	Numerical Model for Streaming Dielectrophoresis (R. Natu)	9:45	Modeling of Nano-EIS in a High Peclet Number Packed Microfluidic Biosensor (M. Mursalat)	
	10:00	Characterization of Dielectrophoretic Response of Candida Cells Using 3D Carbon-Electrode Dielectrophoresis (J. Gilmore)	10:00	Automated Selective Cell Manipulation Using Dielectrophoresis (R. Natu)	10:00	AC Electrohydrodynamics of Polarized Laminar Flows (N. Mavrogiannis)	
	10:15	A Method for the Sustainable Synthesis of Carbon Fibers Using Dielectrophoresis of Bacteria and Pyrolysis (D. Keck)	10:15	Improving the Understanding of Early Stage Amyloid Aggregation Using Microchannel Electrophoresis (X. Redmon)	10:15	Electrophoresis Based Separation of DNA in Non-Templated Vs Liposome-Nanotemplated Agarose Gel: A Search to Design Transport Characteristics for Tissue Engineering Scaffold (D. Wagel)	
	10:30	Microscale Extraction of Rare Earth Elements Using Biosorption and Dielectrophoresis (E. Adekanmbi)	10:30	Detection of Activated Src in Human Tumor Samples Using 2D SDS Polyacrylamide Gel Electrophoresis (N. Kendrick)	10:30	Micro Electrokinetic Turbulence and Its Measurement in a Microchannel (W. Zhao)	
10:45	Electrophysiology of Borrelia Burgdorferi (E. Adekanmbi)	10:45	Induced Recycle Flow in a Microchannel Using Electroosmosis (T. Krishnaveni)	10:45	Thermodynamic Modeling of Electrodes and Mobile Ions in Capacitive Deionization Cell Units with Enrt Model (Y. Yu)		
		Lunch With Leaders Hell's Kitchen, 11:30 AM-12:45 PM 80 S. 9 th Street, Minneapolis		Business Meeting Hilton Minneapolis, Marquette IV-VII, 12:00-1:00 PM Organizers of 2018 meeting: XXXXXX & YYYY		Lunch on your own	
1:15 - 3:15 PM	Soft Matter Electrokinetics: Particles, Drops, and Bubbles <i>Location: Hilton Minneapolis, Marquette IV-VII</i> Chairs: Stuart Williams and Christopher Wirth		Electrokinetics for Sample Preparation <i>Location: Hilton Minneapolis, Marquette IV-VII</i> Chairs: Lisa Flanagan and Mei He		Award session honoring Prof. Ronald Pethig, University of Edinburgh <i>Location: Hilton Minneapolis, Marquette IV-VII</i>		
	1:15	Understanding the Role of Electrokinetics-Hydrodynamics in Electrical-Field Based Soil Remediation (O. Owoseni)	1:15	Colloidal Nanomaterials-Encapsulated Microcapsules for Biomolecular Sensing (W. Zhang)	1:15	Michael P. Hughes, University of Surrey 3D Dielectrophoresis	
	1:30	Electrohydrodynamics of a Viscous Drop (Y.N. Young)	1:30	Using Particle-Particle Interactions to Enable Challenging DEP Separations (M. Saucedo-Espinosa)	1:45	Joel Voldman, Massachusetts Institute of Technology Electrical Manipulation of Cells for Biology and Medicine	
	1:45	Electro-Hydrodynamic Behavior of Soft Liquid Metal Plugs Under Low Voltages (I.D. Joshipura)	1:45	Characterization of Streaming Dielectrophoresis Towards Rapid Particle Separation (M. Islam)	2:15	Fatima H. Labeed, University of Surrey Dielectrophoresis Shows That Regular Potassium Transport Controls the Circadian Electrophysiology Rhythm in Human Red Blood Cells	
	2:00	A Model for Electrokinetic Flow with Deformable Interfaces (M. Booty)	2:00	Effect of Insulator Post Shape on Joule Heating Effects in Insulator-Based Dielectrophoretic Devices (R.C. Gallo-Villanueva)	2:45	Stuart J. Williams, University of Louisville Isomotive Dielectrophoresis: Design Considerations and Scaling Laws	
	2:15	Monodispersed Droplet Generation Using AC Electric Field (Z. Pan)	2:15	Shear-Enhanced Microfluidic Platform for Antibody Purification, in-Situ Efficacy Testing, and Bio-Diagnostics (M. Mursalat)	3:15	Ronald Pethig, University of Edinburgh Exploring the '2nd Frontier' of Dielectrophoresis and its Application in the Biomedical Sciences	
	2:30	Crater Formation on Electrodes during Charge Transfer with Aqueous Droplets or Solid Particles (E.S. Elton)	2:30	AC Droplet Digital PCR (Z. Pan)			
	2:45	The Electric Field in Water between Parallel Electrodes: A Sinusoidal Applied Potential Can Yield a Non-Zero, Long-Range Steady Field (S.M.H.H. Amrei)	2:45	Translating Prototype Research from Lab to Commercial Product (D. Charlot)			
3:00	Moving Past Simple Shapes: Engineered Active Particle Spinners and Motors Powered By AC Electric Fields (C.W. Shields)	3:00	Point-of-Care Detection of Hematocrit in a Microfluidic System Integrating Microfabricated Carbon Electrodes (H.Y. Lee)				

3:30-5:30 PM	Electrokinetics and Microfluidics for Biomolecular Analysis <i>Location: Hilton Minneapolis, Marquette IV-VII</i> Chairs: David Charlot and Shubha Tiwari		Plenary Session of the AES Electrophoresis Society <i>Location: Hilton Minneapolis, Marquette IV-VII</i> Chairs: Soumya Srivastava and Tayloria Adams					
	3:30	Entropic Trap-Based Tunable Short-Pass Filter to Recover Long DNA for Genomic Applications (P. Agrawal)	3:30	Amy Shen, Okinawa Institute of Science and Technology Graduate University Nanoplasmonic Biosensors: From Innovative Materials to Multimode Sensing with Integrated Microdevices				
	3:45	Dielectrophoretic Quantification of Mixed Blood Populations for Detection of Autologous Blood Transfusions (F. Crivellari)	4:00	Vincent T. Remcho, Oregon State University Novel Consumables for High-Throughput Screening That Capitalizes on Electrical Forces and Leverage Existing Laboratory Tools				
	4:00	Non-Optical Biomolecular Detection in Human Serum Using Interfacial Electrokinetic Transduction (N. Mavrogiannis)	4:30	Jeff Wang, Johns Hopkins University Analysis of Single Nucleic Acid Molecules in Micro- and Nano-Fluidics				
	4:15	Pulsed-Field Electrophoresis for Microfluidic Devices (G. Wang)	5:00	Lisa Holland, West Virginia University New Paradigms in Gel Electrophoresis with Non-Newtonian Fluids				
	4:30	Low-Loss on-Chip Sample Pretreatment: Depletion Isotachophoretic Isolation of DNAs from Inhibitor-Rich Samples By an Ionic Transistor (C. Zhang)	Enjoy the break before dinner!					
	4:45	Plasmonic ELISA Biosensor with Tunable Sensitivity and Selectivity (A. House)						
	5:00	Modeling and Validation of the Effect of Electric Field on Drug Delivery into the Tumor Cell (M. Moarefian; L.E.K. Achenie)						
	5:15	A Shear-Enhanced CNT-DEP Nanosensor Platform for Single Cell Protein Assay (D. Li)						
6:00-7:30PM	Poster Session <i>Hilton Minneapolis, Marquette IV-VII</i> Chairs: Blanca Lapizco-Encinas and Victor Ugaz AWARDS GIVEN TO BEST STUDENT POSTER!		7:00-9:00 PM	AES Banquet at the Newsroom 990 Nicollet Mall, Minneapolis Wrap-up the conference on a high note!		5:00-8:00 PM	Informal Meet / Dinner on Your Own	

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