2018 Annual Meeting of the AES Electrophoresis Society @ SciX

October 21-24 2018; Atlanta Marriot Marquis, Atlanta, GA

Thanks to our organizers Blanca Lapizco-Encinas and Alexandra Ross!

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

SUNDAY PROGRAM, October 21st

Workshop: Electrokinetic Microfluidics: Theory and Hands-on Problems, Sunday 10/21/18, 9:00 am-4:00 pm

Lecturer: Prof. Cornelius (Neil) Ivory, Washington State University

Cost: $50 for students, $450 for conferee and $550 for non-conferee. Please register for this workshop during your conference registration.

Description: This 6-hour workshop will focus on applying electrokinetic theory to relevant issues on a number of microfluidic platforms including capillaries, microchips, and nanochips.

Sunday Keynote: Sunday October 21st, 6:15 - 7:00 pm - *On the Rising Tide of Plastic in the Ocean and What to Do About it*

Dr. Matthew Savoca (NOAA Southwest Fisheries Center and Hopkins Marine Station, Stanford University).

AES Blue Finger Award for Claire V. Crowther, Sunday 10/21/18, 7:00 - 8:00 pm

The AES Blue Student Award recognizes the most outstanding student paper submitted for the AES Annual Conference by a graduate student. This award is presented as part of the student award ceremony at Scix.

8:30 AM: PLENARY TALK - *Development of electrophoretic assays*

AES Electrophoresis Mid-Career Award Plenary by Prof. Michael Roper. Location: Imperial A

9:15-10:55 AM	MONDAY, October 22	TUESDAY, October 23	WEDNESDAY, October 24
	(18AES01) Fundamentals of Electrokinetics **Location: L401-403** **Chairs: Xiangchun Xuan & Adam Woolley**	**(18AES04) Nanoscale Electrokinetics** **Location: L401-403** **Chairs: Sagnik Basuray & Edgar Goluch**	**(18AES06) Joint session between ACS and AES** **Location: L401-403** **Chairs: Mark A. Hayes & Lane Baker**
9:15	Strong deformation of the thick electric double layer around a charged particle during electrophoresis Author: Aditya Khair	9:15 Microfluidics, Automation, and Big- Data for Systems Biology Author: Hang Lu	9:15 Ferrohydrodynamic separation of circulating tumor cells Author: Leidong Mao
9:35	A Microfluidic Platform for Electrochemical Detection of Lanthanide and Actinide Forensics. Author: Cornelius Ivory	9:35 Frequency-selective electrokinetic enrichment of nanocolloidal biomarkers Author: Nathan Swami	9:35 Controlled oxidation as sample pretreatment Author: Carlos Garcia
9:55	Roles of migration, diffusion and EOF in hysteresis ion transport in single asymmetric nanopores Author: Gangli Wang	9:55 ESSENCE – Shear-enhanced, Flow-through Nanoporous Capacitive Electrode, a new electrochemical Spectroscopy Author: Sagnik Basuray	9:55 High resolution temporal sampling of endocrine tissue dynamics using droplet microfluidics with integrated, mix-and-read assays Author: Christopher Easley
10:15	Strategies for particle dielectrophoresis Author: Blanca H. Lapizco-Encinas	10:15 Nanopore single-molecule sensors for oligo- and polysaccharide analysis Author: Jason Dwyer	10:15 Nanofluidic measurements of surface charge Author: Lane Baker
10:35	Separation and recovery of sub-micron and micro particles by dielectrophoretic filtration in porous ceramic structures Author: Malte Lorenz	10:35 Manipulating microbial factories for nanomanufacturing Author: Rodrigo Martinez-Duarte	10:35 Electrical and microfluidic circuits for cellular applications Author: Shuichi Takayama
	(18MPAES) 11:00 AM -12:00 PM - AES POSTER SESSION **Location: Imperial B - Sponsored by WILEY** ELECTROPHORESIS	**11:45 AM- 1:15 PM** **Business Meeting - Location:L404** **Brownbag lunch available at Exhibit Hall. Visit Exhibition.**	**11:45 AM- 1:15 PM** **Brownbag lunch available** **At Exhibit Hall. Visit Exhibition.**
	12:00 - 1:15 pm - Lunch With Leaders. Register online: www.aesociety.org Limited seats. Location: L404		

	MONDAY, October 22		TUESDAY, October 23		WEDNESDAY, October 24	
1:30-3:10 PM	**(18AWD06) AES Lifetime Achievement Award Session in honor of Prof. Norman Dovichi Location: L401-403 Chairs: Blanca Lapizco-Encinas & Alexandra Ros**		**(18AES03) Microscale Electrokinetics and Electroporation Location: L401-403 Chairs: Rafael Davalos & Adrienne Minerick**		**(18AES02) Electrokinetics for Separation and Cellular Analysis Location: L401-403 Chairs: Lisa Flanagan & Mei Hei**	
	1:30	**Capillary zone electrophoresis for bottom-up proteomics Author: Norman Dovichi (Keynote, 40 min long)**	1:30	Hemechip: an automated portable microchip electrophoresis platform for point-of-care diagnosis of hemoglobin disorders. Author: Umut Gurkan	1:30	Absolute miRNA Quantification Without Exosome Isolation or RNA Extraction Author: Zeinab Ramshani,
	1:50		1:50	Microfluidic dielectrophoresis for bacterial cell envelope phenotyping Author: Cullen Buie	1:50	Microfluidic electroporation for transfecting 3d-cultured cells and tissues Author: Mei He
	2:10	Yoctomole Detection of Specific Proteins and Live-Cell Imaging of MicroRNA Author: Chris Le	2:10	Dielectric changes in membrane properties of porcine kidney cells before and after porcine parvovirus infection Author: Sanaz Habibi	2:10	Membrane capacitance, cell surface glycosylation, and cell fate Author: Lisa Flanagan
	2:30	Perfect electrophoretic kinetic filter" for selection of pharmaceutical hits with desirable on-target residence…. Author: Sergey Krylov,	2:30	Modulation of the blood-brain barrier by high frequency pulsed electric fields using a microfluidic model Author: Philip Graybill	2:30	Microbial-culture independent antibiotic susceptibility assessment by AC electro-phenotyping Author: Nathan Swami
	2:50	The Effect of Various Surface Treatments on the Dielectrophoretic Behavior of *Escherichia coli* **Author: Claire V. Crowther, AES Blue Fingers Awardee**	2:50	Numerical study of the effect of electrokinetic transport on bacterial electroporation Author: Jeffrey Moran	2:50	Astrocyte progenitor enrichment with a hydrodynamic oblique angle parallel electrode sorter (HOAPES) Author: Tayloria N.G. Adams
	(18MPAES) 3:15 – 3:45 PM - AES POSTER SESSION Location: Imperial B - Sponsored by WILEY ELECTROPHORESIS					
3:50-5:30 PM	**(18AES07) Electrokinetic Biosensors & Spectroscopy Location: L401-403 Chairs: Carlos Garcia & Zachary Schultz**		**(18AES05) Electrophoresis in Industry and in Teaching Location: L401-403 Chairs: David Charlot & Christopher Harrison**		**(18AWD07) AES Mid-Career Award Session in Honor of Prof. Michael Roper. Location: L401-403 Chairs: Jason R. Dwyer & Rodrigo Martinez-Duarte**	
	3:50	3D printed microfluidic devices for capillary electrophoresis of pre-term birth biomarkers Author: Michael J. Beauchamp	3:50	Electrokinetics and investment: The equation for capital fundraising Author: David Charlot	3:50	Developing and Applying New Phospholipid Coatings in CE Separations. Author: Christopher Harrison
	4:10	Chemically Tuned Nanopore Sensor Platforms for Single-Molecule Sensing Author: Jason Dwyer	4:10	Commercialization of novel technologies and selection of market applications Author: Les Ivie	4:10	Differentiating cell to cell signaling with a platform for separating beta-cell secretions Author: Dana Spence
	4:30	Electrically driven sample preparation and analysis in microfluidic devices Author: Adam Woolley	4:30	Training the next generation of capillary electrophoresis users and experts Author: Christopher Harrison	4:30	Investigating extracellular matrix effects on endothelial cell metabolism using microfluidics and mass spectrometry Author: James Edwards
	4:50	Utilizing Dielectrophoresis to Probe the Biophysical Differences of Listeria monocytogenes Serovars Author: Claire V. Crowther	4:50	Electrophoresis using an iPad-based Brownian dynamics simulator Author: Victor Ugaz	4:50	LED-induced fluorescence detector arrays for improved resolution in capillary electrophoresis Author: Christopher Baker
	5:10	Improving the Understanding of Early Stage Amyloid Aggregation Using Microchannel Electrophoresis Author: Xavier Redmon	5:10	AES Electrophoresis Society: Land of Opportunities Author: Rodrigo Martinez-Duarte	5:10	Electrochemical quantification of small molecules and proteins through customized instrumentation and bioconjugate schemes Author: Christopher Easley
6:00-7:30 PM	**Dinner on your own**		5:45-7:00 PM	**Dinner on your own with self-assembly at Max Lager's Wood-Fired Grill & Brewery**	7:00-10:00 PM	**BANQUET – INCLUDED EVENT "The great Science Fiction Exchange"**

Contact: Matt Hoelter Executive Director 1202 Ann St Madison, WI 53713 Tel: 608-258-1565 Fax: 608-258-1569 Matt@aesociety.org