2018 AES Annual Meeting @ SciX
POSTER SESSION

ELECTROPHORESIS

Total number of posters: 29

Monday October 22nd, Location: Imperial B. *Two viewing times*:

11:00 am -12:00 pm

3:15 pm - 3:45 pm

1	**3D Printed LED-Induced Fluorescence Detection Array for Fourier Transform Capillary Electrophoresis** *This work presents an inexpensive CE detection format that offers increased sensitivity and analyte selectivity.* **Laura Casto**[1], Christopher Baker[1]; [1]University of Tennessee, Knoxville. Poster Number: 01
2	**Carbon Tape as a Convenient Electrode Material for Electrochemical Paper-Based Microfluidic Devices (ePADs)** *Novel use of adhesive carbon to reduce cost and improve simplicity of electrochemical paper-based analytical devices* **Paige A. Reed**[2], Frederico J. V. Gomez[1], George Chumanov[2], Maria Fernanda Silva[1], Carlos D. Garcia[2]; [1]Instituto de Biología Agrícola de Mendoza , [2]Clemson University. Poster Number: 02
3	**Microchip Electrophoresis Separation-Based Sensor for Continuous On-Line Monitoring of Catecholamines** **Shamal Gunawardhana**[12], Susan Lunte[123]; [1]Ralph Adams Institute for Bioanalytical Chemistry, [2]Department of Chemistry, University of Kansas, [3]Department of Pharmaceutical Chemistry. Poster Number: 03
4	**Development of a Novel Bipolar Electrochemistry Based Fluorescence Detector for Microchip Electrophoresis** *A novel detector for microchip electrophoresis* **Manjula Wijesinghe**[1], Susan Lunte[1]; [1]University of Kansas. Poster Number: 04
5	**Preparing Dilute Small Volume Protein Samples with Electrophoretic Exclusion for Electron Microscopy Structural Determination** *Diluted sample detection and structural determination in TEM* **Fanyi Zhu**[1], Brent Nannenga[1], Mark Hayes[1]; [1]Arizona State University. Poster Number: 05
6	**Determination of Particle Trajectory in Streaming Dielectrophoresis** *This model will enable determination of particle trajectory in a DEP device based on design parameters and initial particle position* **Rucha Natu**[1], Rodrigo Martinez-Duarte[1]; [1]Clemson University.Poster Number: 06
7	**Fabrication, Profiling and Modification of Silicon Nitride Based Planar and Nanoporous Sensors** *nanopore based single molecule sensing with clinical diagnostic applications* **Y.M. Nuwan D. Bandara**, Buddini Karawdenniya[1], Jonathan Nichols[1], Robert Chevalier [1], Jason Dwyer[1]; [1]University of Rhode Island. Poster Number: 07
8	**AC Electrokinetic Phenomena to Help with Electroanalysis: Detection of Ultra-Low Concentrations of Metal Nanoparticles and E. coli** *We are developing methodologies that lead to unprecedented sensitivity of stochastic electrochemical detection of bioanalytes such as E. coli.* **Aliaksei Boika**[1], Jason Bonezzi[1], Ariana Frkonja-Kuczin[1]; [1]The University of Akron, Dept. of Chemistry. Poster Number: 08
9	**Label-Free Mouse Neural Stem Cell Sorting with Hydrodynamic Oblique Angle Parallel Electrode Sorter** *HOAPES improved mNSPCs sorting throughput and purity over previous devices.* **Alan Jiang**, Andrew Yale[1], Do-Hyun Lee[1], Estelle Kim[1], Abraham Lee, Tayloria Adams, Lisa Flanagan; [1]University of California, Irvine. Poster Number: 09
10	**Microalgae Protein Profiles as Environmental Monitors** *Combining electrophoresis with image analysis for environmental monitoring* **Natalie Dunn**[12], Frank Vogt[12]; [1]University of Tennessee, [2]Department of Chemistry. Poster Number: 10
11	**Utilizing Fluorescent Capillary Electrophoresis & Dyes to Study the Hydrophobicity of Amyloid Beta** **Haley Duncan**[1]; [1]University of Arkansas. Poster Number: 11
12	**Insulator-Based Dielectrophoresis to Purify and Enrich Bacteriophages** **Adriana Coll De Peña**[1], Julie Thomas[1], Nurul Humaira Mohd Redzuan[1], Blanca Lapizco-Encinas[1]; [1]Rochester Institute of Technology. Poster Number: 12
13	**Particle separation using dielectrophoresis chromatography** **Nicole Hill**[1], Danielle Polniak[1], Blanca Lapizco-Encinas[1]; [1]Rochester Institute of Technology. Poster Number: 13
14	**Assessment of Correction Factors Employed in Insulator Based Dielectrophoresis** **Nicole Hill**[1], Blanca Lapizco-Encinas[1]; [1]Rochester Institute of Technology. Poster Number: 14
15	**Label-Free Mouse Neural Stem Cell Sorting with a Hydrodynamic Oblique Angle Parallel Electrode Sorter (HOAPES)** *The HOAPES can isolate and deplete astrogenic progenitors at high throughput in a single-step process.* **Alan Jiang**[1], Andrew Yale[1], Estelle Kim[1], Tayloria Adams[1], Lisa Flanagan[1]; [1]University Of California, Irvine. Poster Number: 15

16	**A Microchip Electrophoresis-Based Probe of Macromolecular Binding Interactions** *We apply microchip electrophoresis to probe DNA binding interactions* **Sourav Bandyopadhyay**[1], Victor Ugaz[1]; [1]Texas A&M University. Poster Number: 16
17	**A Mathematical Model to Extract Cell Properties from Dielectrophoretic Measurements** *A mathematical model of dielectrophoretic data connects physical differences of analytes to dielectrophoretic behaviors.* **Shannon Huey Hilton**[1], Mark A. Hayes[1]; [1]Arizona State University. Poster Number: 17
18	**Neural Stem and Progenitor Cells Separation Based on Direct Current Insulator-based Dielectrophoresis** *Subpopulation study of stem cells benefits transplant and unknown development mechanism contributing to basic research* **Yameng Liu**[1], Mark Hayes[1]; [1]Arizona State University. Poster Number: 18
19	**Atmospheric Air Corona Induced DC Dielectrophoresis- a Novel Method of 3D Droplet Manipulation** *It is a novel method that can manipulate droplet in 3 dimensions* **Md. Ashraful Haque**[1], Mohcen Shahbaz[1], Hossein Sojoudi[1]; [1]University of Toledo. Poster Number: 19
20	**Continuous Fractionation of Single-Walled Carbon Nanotubes by Lengths with Insulator-Based Dielectrophoresis** *Our approach give us fundamentals for purification of SWNTs for future SWNT based applications* **Mohammad Towshif Rabbani**[12], Christoph F. Schmidt[3], Alexandra Ros[12]; [1]School of Molecular Sciences, [2]Center for Applied Structural Discovery, [3]university of Göttingen. Poster Number: 20
21	**A Versatile Droplet Generator using Electric Triggering for Serial Femtosecond Crystallography Application** *An electric trigger for a versatile droplet generation for SFX* **Dai Hyun Kim**[12], Sebastian Quintana[12], Austin Echelmeier[12], Jorvani Villarreal[12], Sahir Gandhi[12], Ana Egatz-Gomez[12], Alexandra Ros[12]; [1]Arizona State University, [2]The Biodesign Institute. Poster Number: 21
22	**A Microfluidic Ratchet for Sub-Micrometer (bio)-Particle Separation** *Separation capability of sub-micron oragnelles* **Dai Hyun Kim**[1], Edgar A. Arriaga[2], Alexandra Ros[1]; [1]Arizona State University, [2]University of Minnesota. Poster Number: 22
23	**Quantifying Chemotherapeutic Cytotoxicity Enhancement by Electropermeabilization Using 3D Biomimetic Microfluidic Device and Mathematical Model** *Quantifying effectiveness of the adjuvant iontophoresis and intraperitoneal chemotherapy treatment and reducing pre-clinical chemotherapeutic trials* **Maryam Moarefian**[1], Nidhi Menon[1], Caroline Jones[1], Luke Achenie[1], Danesh Tafti[1]; [1]Virginia Tech. Poster Number: 23
24	**Single-Shot Micro-Fabrication of Multilayer Aligned Contactless Dielectrophoresis Devices by Imprinting** **Armita Salahi**[1], Walter Varhue[1], Alexander Hyler[3], Temple Douglas[2], Rafael Davalos[2], Nathan Swami[1]; [1]University of Virginia, [2]Virginia Tech, [3]CytoRecovery Poster Number: 24
25	**A Method for the Sustainable Synthesis of Carbon Fiber using Dielectrophoresis of Bacteria and Pyrolysis** *Determines the DEP spectrum of G. xylinus bacterium* **Devin Keck**[1], Monsur Islam[1], Rodrigo Martinez-Duarte[1]; [1]Clemson University Poster Number: 25
26	**Microfluidic Dielectrophoretic Cytometry for Single-Cell Analysis to Quantify Phenotypic Heterogeneity** *it will allow to separate different cell populations that present different electrical properties* **Karina Torres**[1], Armita Salahi[2], Walter Varhue[3], Nathan Swami[4]; [1]university of virginia, [2]university of virginia, [3]university of virginia, [4]university of virginia Poster Number: 26
27	**Preparing Dilute Small Volume Protein Samples with Electrophoretic Exclusion for Electron Microscopy Structural Determination** **Fanyi Zhu**, Mark Hayes, Brent Nannenga; [1]Arizona State University Poster Number: 27
28	**Microchip Isotachophoresis for Isolation of Biomarker-Bearing Extracellular Vesicles** **Cornelius F. Ivory**[12]; [1]Purdue University, [2]Washington State University. Poster Number: 28
29	**Dielectrophoresis to Concentrate Trypanosoma brucei** Callie Stuart [1], Emily Gullette[1], Meredith Hammer[1], Mary Grace Heustess[1], Allison Mills[1], **Josie Duncan[1]**, Devin Keck[1], Monsur Islam[1], Rodrigo Martinez-Duarte[1]; [1]Clemson University. Poster Number: 29