ONSITE Time (MST, GMT-7)	MONDAY July 26	TUESDAY July 27	WEDNESDAY July 28
6:45	***BREAKFAST SERVED 6:45-7:45 AM in Dining Hall***		
7:55	*Opening Remarks*	*Opening Remarks*	*Opening Remarks*
8:00	P1. FORMAT SIGMA — **Plenary Talk**	K1. SIGMA — **Keynote**	K3. SIGMA — **Keynote**
8:20	***R. PETHIG.*** Protein Dielectrophoresis: A Tale of Two Clausius-Mossotti's? – or Something Else?	***P. GARCIA-SANCHEZ.*** Modeling the electrokinetic behavior of metallodielectric particles	***S. DU***. AC Electrokinetics: Applications for cell biomechanics and fatigue failure
8:40		S4. FORMAT SIGMA — ***M. SUZUKI.*** Simultaneous electrorotation systems to determine the membrane capacitance and cytoplasm conductivity of cells	S7. FORMAT SIGMA — ***B. CETIN.*** Effect of DEP on colloidal cylinders near a planar boundary
9:00	***BREAK***	***P. SWAMI.*** Rapid cell viability and antimicrobial susceptibility testing using impedance spectroscopy	***I. GABAY***. Dielectrophoretic-driven deformations of a liquid-fluid interface
9:20	Session (S) 1. FORMAT SIGMA — ***R. HÖLZEL***. AC electrokinetics for the immobilisation of nanoparticles and molecules	***G. DIAZ-ARMAS.*** Computational Modeling of the Electric Field Distribution towards Exosome Characterization	***J. GIESLER***. Frequency modulated dielectrophoretic particle chromatography
9:40	***G. PESCH***. Dielectrophoretic filtration for selective particle recovery at high throughput	***A. JIANG***. Novel recognition and targeting of temozolomide resistant cells in glioblastoma	***B. SABBAGH***. Tunable nanochannels for dynamic control of the concentration-polarization-based preconcentrated analyte plug
10:00	***S. HABIBI***. Dielectric Properties of Infected Porcine Kidney Cells following Glycine Treatment	***BREAK***	***BREAK***
10:20	***F. CASELLI.*** Neural networks meet impedance cytometry	S5. FORMAT SIGMA — ***L. WEIRAUCH***. Multidimensional sorting of mixed microparticles via insulator-based electrokinetics and DEP	S8. FORMAT SIGMA — ***F. LABEED***. Different blood cells exhibit rhythmic electrophysiological behaviour
10:40	FORMAT SIGMA — **Poster Session 1 (see authors below)**	***R. FERNANDEZ-MATEO.*** Stationary electro-osmotic flow vortices on insulating surfaces induced by ac electric fields	***M. HUGHES***. The electrome and the Rosetta stone
11:00		***C. LIPP.*** Combining hydrodynamic and dielectrophoretic trapping to control the interaction between beads and cells	***T. ADAMS.*** Characterizing the Heterogeneity of Neural Stem Cell Populations Useful for Transplantation
11:20		***E. RUIZ***. Lattice Boltzmann Simulations of Dielectrowetting	***W. VARHUE***. Implications of DEP Isolation on Transmembrane Potential-Induced Cell Damage
		A. RENDOS. Dielectrophoresis of Air	***C. HONRADO.*** Electrophysiology-based stratification of tumorigenicity and drug sensitivity of pancreatic cancer subpopulations using machine learning approaches
NOON	***LUNCH (box lunches delivered to conference room)***		

1:00	S2. FORMAT ZETA	***K. KEIM.*** Simultaneous use of metal coated three-dimensional SU-8 pillars as passive posts and electrodes	K2. ZETA	**Keynote** ***A. ROS***. Potentials of Dielectrophoresis for an Analytical Chemist	K4. SIGMA	**Keynote** ***L. ESFANDIARI.*** Micropipette Dielectrophoretic device for rapid purification of circulating small extracellular vesicles
1:20		***L. FLANAGAN***. Using DEP to detect cell phenotype and cell surface composition				
1:40		***T. TSAI.*** Dielectrophoresis Quantifies the Dynamic Heterogeneity of Mesenchymal Stem Cells	S6. FORMAT ZETA	***A. HYLER***. Optimized Electromanipulation Buffer for Enhanced Cell Viability and Dielectrophoretic Consistency	S9. FORMAT SIGMA	***S. PARK***. Controlling the location of electrokinetically preconcentrated plug of biomolecules
2:00		***J. DUNCAN.*** 3D printing microfluidic devices using liquid dielectrophoresis		***E. LAVI.*** Detection of Autologous Blood Transfusions Using Dielectrophoresis		***G. YOSSIFON***. From Lab-on-a-chip to Lab-on-a-particle electrically-powered platforms
2:20		***BREAK***		***J. COTTET***. Integration of electrodes on glass suspended microchannel resonators for DEP particle trapping		***R. MARTINEZ-DUARTE***. Why 3D Electrodes for Dielectrophoresis? A critical review on the fabrication techniques that can enable higher throughput in DEP devices
2:40	S3. FORMAT ZETA	***S. IBSEN.*** Pancreatic Cancer Detection through Multiomic analysis of biomarkers collected from plasma using high conductance DEP		***M. HAYES.*** Isolating and concentrating unlabeled SARS CoV-2 from Saliva with iDEP		***B. LAPIZCO-ENCINAS***. Nonlinear electrokinetics for assessment of bioparticles in microdevices
3:00		***D. PAGARIYA.*** A sequentially selective DEP platform for studying cytokine and cytolytic responses from the interaction of a controlled number of tumor and immune cells in confined volumes		***BREAK***		***N. SWAMI***. Elucidating cell phenotype based on biophysical analysis of secreted subcellular bodies
3:20		***R. ANAND.*** Integration of selective capture of tumor cells with electrochemical biosensing at a wireless electrode array	SIGMA	**Poster Session 2** **(see authors below)**	SIGMA	***BREAK***
3:40		***R. LUNA.*** Characterization of Particle Trajectories During DEP Collection and the Physical Phenomena of Insulator Coverage over the Electrodes				**Poster Session 3** **(see authors below)**
4:00		***Time on your own***				**AWARD CEREMONY**
4:40						
5:00	***DINNER SERVED 5-6:30 PM in Dining Hall***					***Dinner on your own***

Session Chairs:
S1- Blanca Lapizco-Encinas
S2 - Robynn Anand
S3 - Jonathan Cottet
S4 - Fatima Labeed
S5 - George Pesch
S6 - Stuart Ibsen
S7 - Federica Caselli
S8 - Carlos Honrado
S9 - Tayloria Adams

Flagstaff, AZ		US East Coast		Mainland Europe		India		Japan/Korea	
MST	GMT-7	MST+3	GMT-4	MST+9	GMT+2	MST+12:30	GMT+5:30	MST+16	GMT+9

FORMAT ZETA: Speakers present onsite in Flagstaff. Virtual attendees can participate online. Recording will be made available for asynchronous watching immediately after session ends.

FORMAT SIGMA: Speakers present remotely online. Onsite attendees are welcome to watch together in conference room. Recording available for asynchronous watching immediately after session ends.

#	POSTER SESSION 1	POSTER SESSION 2	POSTER SESSION 3
1	***P-E. THIRIET.*** Microfluidic arrays combining dielectrophoretic and hydrodynamic forces for trapping and retrieval of selected cells	***M. SUZUKI***. Selective Trapping and Retrieval of Single Cells Using Microwell Array Devices Combined with Positive- and Negative-Dielectrophoresis	***M. SONKER***. High-Resolution 3D-Printed Insulator-Based Dielectrophoresis Devices towards Manipulation of Bioanalytes
2	***H. M. ETTEHAD***. DEP-on-CMOS: a microfluidic platform for dielectrophoretic manipulation, trapping, and differential separation of viable and non-viable yeast cells	***G. BLANKENBURG***. Transition to high-frequency (MHz) AC electroosmosis observed on the nanoscale	***R. ORTIZ.*** A Tunable Insulator-Based Dielectrophoresis System for the Separation of Biomolecules
3	***S. STANKE.*** AC field assisted deposition of influenza viruses on nanoelectrodes	***H. LEE***. High Throughput Assay to Measure Cellular Dielectrophoretic Mobility from Individual-Based Cell Movement	***W. LAHBICHI.*** Cylindrical and teardrop shaped active posts in deterministic lateral displacement devices
4	***M. PRÜFER***. AC electric field mediated preparation of regular enzyme arrays and their functional characterization	***B. LI.*** Adhesion measurement of water droplets on superhydrophobic surfaces via electric fields	***D. KOH.*** Deterministic iDEP Ratchet Devices for High-throughput Organelle Separation
5	***E-M. LAUX***. AC electrokinetic immobilization of K562 exosomes on nanoelectrode arrays	***H. ZHENG***. Digital Droplet Microfluidics with Programmable Liquid Handling Based on Contact Charge Electrophoresis	***J. DUNCAN.*** Separation of diploid and tetraploid cancer cell populations using high-frequency dielectrophoresis
6	***T. RYSER.*** Electrorotation of single cells for the analysis of membrane damage induced by toxins mimicking the neurodegenerative effect of amyloid beta in the Alzheimer's disease	***F. BAI***. Numerical study of Janus droplet spontaneously migration by OpenFOAM	***J. BANOVETZ***. A microfluidic device for characterizing variability of beta-galactosidase in single MDA-MB-231 cells
7	***G. PORRO***. Label-free cell sorting in flow with real-time modification of separation parameters	***K. I. YEO***. Dielectrophoresis based sensor using surface conductivity difference of particles	***A. RAMIREZ.*** DC g-iDEP Trapping of Gold Nanoparticles
8	***O. ANDREIEV.*** A study of optimal electrode design for electric field driven target capture in SPR biosensors	***K. TORRES-CASTRO***. Sidewall electrodes in a microchannel for high-throughput dielectrophoretic separations	***S. BU***. Towards separating microplastic particles with insulator-based dielectrophoresis
9	***A. SALAHI.*** Modified red blood cells as multimodal standardized particles for benchmarking cell electrophysiology	***K. GUSTAFSON.*** Automated Fluorescence Quantification of Extracellular Vesicles Collected from Human Plasma via Dielectrophoresis	***AKM FK RASEL.*** A Numerical Investigation to Extend Quantitation of Gradient-induced Forces within an Insulator-based Sawtooth Design
10	***S. HAMILTON.*** Rapid Detection of Cancer Related Cellular Lysis Events in Patient Plasma using High Conductance Dielectrophoresis	***K. A. JALEELI.*** A study on alterations in Membrane Physiology of ultrasonically irradiated Human Erythrocytes through Dielectrophoresis	
11	***A. DAVARZANI.*** DEP Separation of Different Candida Strains Using 3D Carbon Electrodes	***M. GIACOBBI.*** Studying the DEP behavior of the Trypanosoma brucei parasites	
12	***T. SWIMMER.*** The effect of oxidative stress on DEP parameters of human red blood cells	***S. JOSEPH.*** Monitoring Eryptosis using DEP characterization	