2019 ESA Annual Meeting
Final Program

Monday, June 10		
10:00-11:30		**REGISTRATION - MEZZANINE IN FRONT OF ANTHONY RM.**
11:30AM-1PM		**RECEPTION LUNCHEON – BAUSCH RM.**
	Session A: Electrically-Induced Flows and Electrokinetics	
1:00-1:10		**Welcome and Announcements**
1:10-1:30	**A1**	**EHD-Enhanced Drying of Porous Beads**, J. Harrison, F. C. Lai, University of Oklahoma
1:30-1:50	**A2**	**Gas Pumping Enhancement by a Two-Stage EHD Pump Operated at Uneven Applied Voltages**, A. K. M. Monayem H. Mazumder, Saginaw Valley State University
1:50-2:10	**A3**	**Experimental Study of Flexible Electrohydrodynamic Conduction Pumping,** Alexander Castaneda, Nathaniel O'Connor, Jamal Seyed-Yagoobi, Worcester Polytechnic Institute
2:10-2:30	**A4**	**A New Charge Injection Method of the Electric Field Driven Generator**, Katsuo Sakai, Electrostatic Generator Laboratory
2:30-2:50	**A5**	**Force on a Conducting Sphere on an Insulator Surface Immersed in Dielectric Liquids**, Xuewei Zhang, Texas A&M University Kingsville
2:50-3:20		**REFRESHMENT BREAK**
	Session B: Materials and Gas Discharges	
3:20-3:40	**B1**	**A Novel Vegetable Oil Based Dielectric Coolant and Investigations on its Performance under High Frequencies**, V. Champa, A.N. Nagashree, B.V. Sumangala, G.R. Nagabhushana, B.M.S.College of Engineering
3:40-4:00	**B2**	**Investigations on the Dielectric Properties of Vegetable Seed Oils and Solid Insulations as Composite Insulation at High Frequencies**, A.N. Nagashree, V. Champa, B.V. Sumangala, G.R. Nagabhushana, B.M.S.College of Engineering
4:00-4:20	**B3**	**Silicone Rubber Reinforced with Silica and Boron Nitride Particles as Potential Composite for Electrical Insulation Industry**, Khadija Kanwal Khanum, Shesha Jayaram, University of Waterloo
4:20-4:40	**B4**	**Study of Dielectric Properties of Silicone Composites at High Temperatures and Low Atmospheric Pressure**, Khadija Kanwal Khanum, Arathi Mohan Sharma, Shesha Jayaram, University of Waterloo
5:30-7:00		**J. OF ELECTROSTATICS BOARD MEETING - BOARDROOM**

Tuesday, June 11

Session C: Biological and Medical Applications

8:30-9:00	**C1**	**KEYNOTE** **Electroporation-Driven Gene Therapy for Lung Disease**, David Dean, University of Rochester
9:00-9:20	**C2**	**Turmeric Silver Nanoparticles with Electrical Pulses Against Triple Negative Breast Cancer Cells: An Insight into the Mechanism via Quantitative Proteomic Analysis**, Lakshya Mittal, Ignacio G. Camarillo, S. Hemalatha, Samina Ashraf, Uma K. Aryal, V. Gowri Sree, Elisabetta Sieni, Paolo Sgarbossa, Arutselvan Natarajan, Raji Sundararajan, Purdue University
9:20-9:40	**C3**	**Viability Study of Combined Treatment of Lycopene and Electrical Pulses on Prostate Cancer Cell Lines,** Jeya Shree Thulasidas, Gowri Sree Varadarajan, Raji Sundararajan, College of Engineering, Anna University
9:40-10:00	**C4**	**Analysis of Epileptic seizures using Electroencephalography Signals and High-Resolution Time-Frequency Based Features**, N. Sivakumaran, P.A. Karthick, Raji Sundararajan, Nat'l. Inst. of Tech. Tiruchirappalli
10:00-10:30		**REFRESHMENT BREAK**
10:30-10:50	**C5**	**Multi Features and SVM based Seizure Prediction at Different Frequency Bands of EEG Signals**, C. Sudalaimani, N. Sivakumaran, P. Devanand, S.R. Valsalam, Nat'l. Inst. of Tech. Tiruchirappalli
10:50-11:10	**C6**	**Pulse Electric Field Application of Beer Treatment and Analysis of Staleness during Aging**, Suramya D F Mihindukulasuriya, Shesha H Jayaram, University of Waterloo
11:10-11:30	**C7**	**Automatic Selection of Best Focused Plane from a Stack of Pap Smear Images**, NB Byju, G.Alexander, N. Sivakumaran, Raji Sundararajan, Purdue University
11:30-11:50	**C8**	**Enhanced Extraction of Bioactive Compounds from Natural Herbs by PEF Method**, S. Poompavai, Gowri Sree Varadarajan, Raji Sundararajan, Anna University
11:50AM-1:20 PM		**LUNCH – BAUSCH RM.**

Session D: Contact Charging and Triboelectric Effects

1:20-1:40	**D1**	**Dynamic Electronic Excitation at Semiconductor-Based Frictional Contacts**, Jun Liu, James Chen, Thomas Thundat, University of Buffalo
1:40-2::00	**D2**	**Formation of Interfacial Dipole during Friction-Induced Electrification**, James Chen, Mohamad Ibrahim Cheikh, Tyler J. Hieber, Zayd C. Leseman, University of Buffalo
2:00-2:20	**D3**	**Unification of Observations of Charge Transfer Between Dielectric Solids of Identical Composition: Particulate Systems and Surfaces**, Isaac Greber, John C. Angus, Case Western Reserve University
2:20-2:40	**D4**	**Polarity Reversal and Charging Model for Triboelectrically Charged Silica Mixtures**, Dylan Carter, Christine Hartzell, University of Maryland
2:40-3:00	**D5**	**Triboelectric Charging of Asymmetrically Rubbed Quartz: Effects of Surface Chemistry**, Siddharth Rajupet, Joseph R. Toth III, R. Mohan Sankaran, Daniel J. Lacks, Case Western Reserve University
3:00-3:30		**REFRESHMENT BREAK**
3:30-3:50	**D6**	**Electrostatic Charge Generation of Powder by Sieving**, Tatsushi Matsuyama, Sakura Tashiro, Hidemi Itai, Junichi Ida, Soka University
3:50-4:10	**D7**	**Electrostatic Generator Based on Nanostructured Carbon for Energy Harvesting Devices**, Thiago A. L. Burgo, Fernando Galembeck, Letícia O. Ferreira, Leandra P. Santos, Kelly S. Moreira, Diana Lermen, Federal University of Santa Maria
4:10-4:30	**D8**	**Study of the Electrostatic Adhesion Forces of Tritiated Tungsten Particles by Numerical Calculations**, Adriaan Riet, Qizan Chen, Mamadou Sow, Daniel Lacks, Institut de Radioprotection et de Sûreté Nucléaire
4:30-4:50	**D9**	**Light Controlled Static Charging and Static Charge Controlled Friction**, S.D.Cezan, H. Tarik Baytekin, B. Baytekin, Bilkent University
4:50-5:10	**D10**	**Feline Charging or The Electrostatics of Petting a Cat**, William Wayman, Retired
5:30-7:00		**ESA COUNCIL/GENERAL BUSINESS MEETING - BOARDROOM**

Wednesday, June 12

Session E: Atmospheric and Space Applications

8:30-9:00	**E1**	**KEYNOTE** **First Flight of a Solid State Airplane**, Steven Barrett, MIT
9:00-9:20	**E2**	**Characteristics of Rotary Ionic Wind Systems at and below Atmospheric Pressure**, A Ieta, M Chirita, N Curinga, SUNY Oswego
9:20-9:40	**E3**	**Electrospraying for Aeroponics**, Joel Malissa, Jerry Wang, Carlos Calle, J. Sid Clements, S. Edward Law, NASA
9:40-10:00	**E4**	**Design and Production of Transparent Electrodynamic Screen Film with Copper Micro-wire Electrodes for Self-cleaning PV Modules**, Carolyn Elinger, Kevin O'Connor, Mark Horenstein, Cristian Morales, Joshua Bone, Annie Bernard, Ryan Eriksen, Julius Yellowhair, Malay Mazumder, Boston University
10:00-10:30		**REFRESHMENT BREAK**
10:30-10:50	**E5**	**Indoor Air Quality Improvement: A Systematic Literature Review on Particulate Matter, and Indoor Air Toxics Control**, Zahirul Hasan Khan, Md. Aynul Bari, Sanchita Paul, HRZ Research and Consultancy
10:50-11:10	**E6**	**Evaluating the Effects of Airflow Recirculation on the Collection Efficiency of an Electrostatic Precipitator**, Qing-Zhang Xue, Tsrong-Yi Wen, National Taiwan University of Science and Technology
11:10-11:30	**E7**	**Stability Criteria for Electrostatic Orbits**, Shubho Banerjee, Rhodes College

Session F: Measurements and Instrumentation

11:30-11:50	**F1**	**Ultra-Low Frequency and Magnitude Electric Field Detection Using Digital Signal Processing**, Mark N. Horenstein, Frank Tranghese, Boston University
11:50AM-12:10 PM	**F2**	**Effects of External Field Control on Non-Uniformly Distributed Charged Particle Assembly**, Tamal Sarkar, Brandon A. Kemp, Arkansas State University
12:10-1:40 PM		**LUNCH – BAUSCH RM.**
1:40-3:30		**Poster Session**
	P1	**Construction of a Pulsed Electroacoustic Measurement Test Setup,** Maciej A. Noras, UNC Charlotte
	P2	**Electrostatic Energy Dependence of Spectral Radiation Distribution of Spark Discharge in Air,** Takashi Miura, National Institute of Occupational Safety and Health
	P3	**Experimental Study of the Electrical Conductivity for Petroleum Products,** Li Liangliang, Li Yipeng, Liu Quanzhen, Sun Lifu, SINOPEC Research Institute of Safety Engineering
	P4	**Recent Advances in Electric Stimuli Responsive Hydrogels for Biomedical Applications: A Systematic Literature Review,** Zerin Mahzabin Khan, Scott Verbridge, Virginia Polytechnic Institute and State University
	P5	**Impedance Spectroscopy Analysis of Electroporated, Inhomogeneous Potato Tissue**, Gowri Sree Varadarajan, Jeya Shree Thulasidas, S. Poompavai, Lakshya Mittal, Elisabetta Sieni, Raji Sundararajan, College of Engineering, Anna University
	P6	**Effect of Electric Pulses for Liquid Food Processing on Their Characteristics,** Lei Zhang, Jorge Estrada, Rajeswari Sundararajan , Giulio Aguliar, Juan Loo Kung, María Fernanda Muñoz Vidal, Julien Noel, UTEC - Universidad de Ingeniería y Tecnología
	P7	**Influence of the Beta Energy Decay Spectrum and Particle Size on Dust Specific Self-Charging Rate,** Grégoire Dougniaux, Mamadou Sow, François Gensdarmes**,** Institut de Radioprotection et de Sûreté Nucléaire
	P8	**Effect of Cell Membrane Electroporation on the Water Mobility in Potato Tissue: NMR-MOUSE Evaluation,** Paolo Sgarbossa, Ileana Menegazzo, Roberta Bertani, Stefano Mammi, Alessandra Bartolozzi, Elisabetta Sieni, Raji Sundararajan, Purdue Univ**.**

Session G: Safety & Hazards

3:30-3:50	**G1**	**Prevent Static Fires in Printing and Solvent Coating**, Kelly Robinson, Electrostatic Answers
3:50-4:10	**G2**	**On the Hyperbolic Law of the Charge Relaxation for Low-Conductivity Liquids**, A. Ohsawa, National Institute of Occupational Safety & Health, Japan (JNIOSH)
4:10-4:30	**G3**	**Experimental Study of Electrostatic Hazard Inside Scrubber Column Using Response Surface Methodology**, Jingyao Wang, Yue Sun, Xiaodan Gaoa, M. Sam Mannana, Benjamin Wilhite, Texas A&M University
4:30-4:50	**G4**	**Electrostatic Risk and Specification of Field and Voltage Limits for Insulating Web Materials**, Jeremy Smallwood, Kelly Robinson, Electrostatic Answers
6:00-7:00		**RECEPTION – RIVERVIEW LOUNGE**
7:00-9:00		**BANQUET – RIVERVIEW BALLROOM**