

2018 ELECTROSTATICS JOINT CONFERENCE

June 18-20, 2018

Boston University

General Chair: *Mark Horenstein, Boston University, Boston MA*

Technical Chair: *Shubho Banerjee, Rhodes College, Memphis TN*

Sunday, June 17th

7:00 PM – 9:00 PM Informal Welcome Gathering & Registration

Monday, June 18th

7:30 AM – 8:20 AM Registration & Breakfast
8:20 AM – 8:30 AM Welcome Address
8:30 AM – 10:30 AM Session A: Atmospheric and Space Applications
10:30 AM – 11:00 AM *Coffee Break and Poster Session*
11:00 AM – 12:30 PM Session B: Materials Processing and Behavior I
12:30 PM – 1:30 PM *Lunch*
1:30 PM – 3:15 PM Session C: Contact Charging and Triboelectric Effects I
3:15 PM – 3:45 PM *Coffee Break and Poster Session*
3:45 PM – 5:30 PM Session D: Contact Charging and Triboelectric Effects II

Tuesday, June 19th

7:30 AM – 8:30 AM Registration & Breakfast
8:30 AM – 10:30 AM Session E: Electrically-Induced Flows and Electrokinetics I
10:30 AM – 11:00 AM *Coffee Break and Poster Session*
11:00 AM – 12:30 PM Session F: Electrically-Induced Flows and Electrokinetics II
12:30 PM – 1:30 PM *Lunch*
1:30 PM – 3:15 PM Session G: Biological and Medical Applications I
3:15 PM – 3:45 PM *Coffee Break and Poster Session*
3:45 PM – 4:15 PM Session H: Biological and Medical Applications II
4:15 PM – 5:15 PM Session I: Breakdown Phenomena and Discharges
5:15 PM – 5:45 PM Session J: Electrically-Induced Flows and Electrokinetics III

Wednesday, June 20th

7:30 AM – 8:30 AM Registration & Breakfast
8:30 AM – 10:30 AM Session K: Gas Discharges and Microplasmas
10:30 AM – 11:00 AM *Coffee Break and Poster Session*
11:00 AM – 11:45 AM Session L: Measurements and Instrumentation
11:45 AM – 12:30 PM Session M: Materials Processing and Behavior II
12:30 PM – 1:30 PM *Lunch*
1:30 PM – 3:30 PM Session N: Safety and Hazards
3:30 PM – 5:00 PM *Coffee and Electrostatics Demonstrations*
6:00 PM – 9:00 PM **Conference Banquet, Recognitions and Awards**

Note: Keynote Lectures are 25 min + 5 min for questions; Invited and Regular Talks are 12 min + 3 min for questions. All posters will be simultaneously displayed throughout the conference. Student presenters are indicated by a *.

Monday, June 18, 2018

8:20 – 8:30 AM **Welcome Address:** Mark Horenstein (Boston University, USA), General Chair
Shubho Banerjee (Rhodes College, USA), Technical Chair

Session A: Atmospheric and space applications
Monday, June 18, 8:30 AM
Chair: TBA

- 8:30 – 9:00** **A1** **Keynote Lecture:** Mamadou Sow¹, Dougniaux G.¹, Peillon, S.¹, Grisolia, C.², Autricque, A.², Lemaitre, P.¹, Bourrous, S.¹, Gensdarmes, F.¹ (¹Institut de Radioprotection et de Sûreté Nucléaire, ²CEA, IRFM, Saint Paul Lez Durance, France) – *Self-charging of radioactive dust and its bearing for nuclear safety.*
- 9:00 – 9:15** **A2** **Invited Lecture:** Christine Hartzell (University of Maryland, USA) – *Introduction to Electrostatic Dust Motion on Small Planetary Bodies.*
- 9:15 – 9:30** **A3** Hashira Yamamoto, H. Yamamoto^{1,2}, T. Kuroki², H. Fujishima², M. Okubo² (¹Nihon Yamamura Glass Co., Ltd., ²Osaka Prefecture University, Japan) – *Pilot-scale NOx and SOx aftertreatment using a two-phase ozone and chemical injection in glass-melting-furnace exhaust gas.*
- 9:30 – 9:45** **A4** Carlos I. Calle, C. R. Buhler, M. D. Hogue, M. R. Johansen, P. J. Mackey, J. Phillips III, J.S. Clements (NASA, USA) – *Mitigation of Electrostatic Hazards in Spacecraft.*
- 9:45 – 10:00** **A5** Bing Guo, Wasim Javed, Ahmad Al-Kuwari (Texas A&M University at Qatar) – *Effect of Voltage Rise Time on the Efficiency of an Electrodynamical Dust Shield Device Using Trapezoidal Waveform.*
- 10:00– 10:15** **A6** *Ouari Abbes, Miloua Farid, Oualid Imene, Djillali Aouimeur, Haskar Houari, Tilmatine Amar (APRLEC Laboratory, Djillali Liabes University of Sidi bel Abbes, Algeria) – *Monitoring of a bag filter by online measurement of the electrical charge of the filter media.*
- 10:15– 10:30** **A7** Shubho Banerjee, *Yi Song, Blake Wilkerson (Rhodes College, USA) – *Electrostatics of unequal sized conducting spheres.*

10:30 – 11:00 AM **Coffee Break and Poster Session**

Session B: Materials synthesis, processing, and behavior I
Monday, June 18, 11:00 AM
Chair: TBA

- 11:00 – 11:15** **B1** **Invited Lecture:** Zachary Cordero (Rice University, USA) – *Causes and consequences of powder bed charging in electron-beam additive manufacturing.*
- 11:15 – 11:30** **B2** Frantisek Mach (University of West Bohemia, Czech Republic) – *Crucial factors of plastic mixtures separation in free-fall electrostatic separator: simulation and experimental testing.*
- 11:30 – 11:45** **B3** Keith Forward (California State Polytechnic University, USA) – *Heat and Mass Transport in the Electrospinning Process.*
- 11:45 – 12:00** **B4** Ahmed Alibida¹, Farid Miloua¹, Hamza Louati¹, Fodil Boukhoulda¹, Lucian Dascalescu², Amar Tilmatine¹ (¹Djillali Liabes university of Sidi-Bel-Abbes, Algeria, ²Université de Poitiers, France) – *A new vibrating plastic-metal separation process using a traveling wave conveyor.*
- 12:00 – 12:15** **B5** Arash Sayyah, Martin Z. Bazant, Yi Jiang (Massachusetts Institute of Technology, Saint-Gobain USA) – *An experimental study on the electrostatic projection of particles in production of coated abrasive articles.*
- 12:15 – 12:30** **B6** Michael Grinfeld¹, Pavel Grinfeld² (¹The US Army Research Laboratory, ²Dept. of Mathematics, USA) – *Towards the Kelvin Formula of Forces Acting on Polarized Bodies.*

12:30 – 1:30 PM **Lunch Break**

Session C: Contact charging and triboelectric effects I**Monday, June 18, 1:30 PM**

Chair: TBA

- 1:30 – 1:45** **C1** Bogdan-Marian Neagoe, Thami Zeghloul, Yopa Prawatya, Lucian Dascalescu (University of Poitiers, France) – *Analysis of electrically charged polymer surfaces effect on friction coefficient in lubricated sliding contacts.*
- 1:45 – 2:00** **C2** Monika Mirkowska, Markus Kratzer, Stefan Klima, Helmut Flachberger, Christian Teichert (Montanuniversität Leoben, Austria) – *Tribocharging effect at microscale – a case study of minerals: NaCl, KCl, CaCO₃, and SiO₂.*
- 2:00 – 2:15** **C3** Daniel J. Breton, Emily Asenath-Smith, Nathan J. Lamie (Cold Regions Research & Engineering Laboratory, USA) – *Dynamic triboelectrification of gas-solids flows in metallic tubes.*
- 2:15 – 2:30** **C4** Thiago A. L. Burgo, Bruno C. Batista, Fernando Galembeck (Federal University of Santa Maria, Brazil) – *Elastoelectricity of elastomers: mechanical-to-electrical energy conversion.*
- 2:30 – 2:45** **C5** Adam L. Collins, Rhyan S. B. Ghosh, Seth J. Putterman (UCLA, USA) – *Triboelectrification of Single Crystals as a Function of Orientation and Surface Reconstruction.*
- 2:45 – 3:00** **C6** Isaac Greber, Andrew Wang, John C. Angus (Case Western Reserve University, USA) – *Charge Transfer Between Chemically Identical Solids: Modeling and Experimental Studies.*
- 3:00 – 3:15** **C7** *Kyanne N. Rose, Adam L. Collins, Seth J. Putterman (UCLA, USA) – *Pinhole Radiography of a Triboelectric X-ray Source.*

3:15 – 3:45 PM**Coffee Break and Poster Session****Session D: Contact charging and triboelectric effects II****Monday, June 18, 3:45 PM**

Chair: TBA

- 3:45 – 4:00** **D1** Robert A. Morse (Emeritus, St. Albans School, USA) – *Teaching Electrostatics in Introductory Physics: Real values and a Really Useful Notation.*
- 4:00 – 4:15** **D2** *Rhyan S. B. Ghosh, Adam L. Collins, Seth J. Putterman (UCLA, USA) – *Triboelectrification of Single Crystal Fluorides.*
- 4:15 – 4:30** **D3** *Fahad Chowdhury¹, Manjil Ray², Andrew Sowinski¹, Poupak Mehrani¹, Alberto Passalacqua² (¹University of Ottawa, Canada, ²Iowa State University, USA) – *A Particle Collision Apparatus to Study the Magnitude and Direction of Charge Transfer between Two Colliding Particles.*
- 4:30 – 4:45** **D4** *Manjil Ray¹, Fahad Chowdhury², Andrew Sowinski², Poupak Mehrani², Alberto Passalacqua¹ (¹Iowa State University, USA, ²University of Ottawa, Canada) – *A Particle Collision Apparatus to Study the Magnitude and Direction of Charge Transfer between Two Colliding Particles.*
- 4:45 – 5:00** **D5** Gontran Richard, *Ahlem Benabderrahmane, Karim Medles, Lucien Dascalescu, Thami Zeghloul (University of Poitiers, France) *Influence of dielectric barrier discharge treatment on the triboelectric charging and the electrostatic separation of plastic particles.*
- 5:00 – 5:15** **D6** *Dylan Carter, Christine Hartzell (University of Maryland, USA) – *Measurements of Granular Tribocharging by High-Speed Videography.*
- 5:15 – 5:30** **D7** *Adriaan Riet¹, Mamadou Sow², Qizan Chen¹, Daniel J. Lacks¹ (¹Case Western Reserve University, USA, ²Institut de Radioprotection et de Sûreté Nucléaire, France) – *Modeling of Coulombic Adhesive forces on a Charged Particle Near a Grounded, Conducting Plane.*
- 5:30 – 5:45** **D8** *Milad Taghavivand, Andrew Sowinski, Poupak Mehrani (University of Ottawa, Canada) – *Study of electrostatic charge generation of powders during pneumatic conveying.*

Session P: Poster Session and Demonstrations

Monday, Tuesday, and Wednesday

Chair: TBA

- Coffee Breaks**
- P1** Sara Mantach, Kazimierz Adamiak (University of Western Ontario, Canada) – *A Full EHD Flow Pattern in Point-Plane Corona Discharge.*
- P2** *Qualid Imène, Miloua Farid, Ouari Abbès, Flazi Samir (Electrical Engineering Laboratory of oran/ USTO-Oran, Algeria) – *Contribution to the Development and Technology of Electrostatic Precipitator.*
- P3** *Ahlem Benabderrahmane, Thami Zeghloul, Gontran Richard, Karim Medles, Amar Tilmatine, Lucian Dascalescu (University of Poitiers, France) – *Factors influencing tribo-electrification of granular polymers in a coaxial-counter-rotating-cylinders tribo-charger.*
- P4** Karim Medles, I. Achouri, T. Zeghloul, K. Medles, H. Nouri, L. Dascalescu (University of Poitiers, France) – *Optimal operating point a tribo-aero-electrostatic separator with rotating disk electrodes.*
- P5** M. Maammar, Wessim Aksa, M. F. Boukhoulda, S. Touhami, L. Dascalescu, T. Zeghloul (University Djillali Liabes Sidi Bel Abbès, Algeria) – *Numerical simulation of particle trajectories in a multifunctional electrostatic separator.*
- P6** S. Touhami, Wessim Aksa, M. F. Boukhoulda, T. Zeghloul, K. Medles, L. Dascalescu (University Djillali Liabes Sidi Bel Abbès, Algeria) – *Analysis of the trajectory of insulating particles in a free fall electrostatic separator equipped with four cylindrical electrodes.*
- P7** Boukhoulda Mohammed Fodil¹, W. Aksa¹, M. Rezoug¹, K. Medles^{1,2}, L. Dascalescu² (¹University Djillali Liabes Sidi Bel Abbès, Algeria, ²University of Poitiers, France) – *Experimental study of a new tribocharging device for the electrostatic separation of mixed granular insulating materials.*
- P8** *Akihiro Matsumura, Tatsushi Matsuyama, Kenta Kato, Junich Ida (Soka university, Japan) – *Electrostatic charging of powder in a metal shaker.*
- P9** Y. Kisanuki, K. Fukuda, Y. Makishima, K. Kitabayashi, S. Katsushima, N. Debasher, K. Takashima, A. Mizuno (Toyohashi University of Technology, Japan) – *Corona discharge with bundle of very fine conductive fibers.*
- P10** *Michelle Nassar, Christophe Louste, Anny Michel, Michel Daaboul (University of Poitiers, France) – *Experimental investigation of the variation of HFE electric properties with temperature.*
- P11** A. K. Batra, B. B. Bohara, J. Mills (AAMU, USA) – *Mechanisms of DC and AC Conduction in PLZT/Paint Nanocomposite films.*
- P12** W. Mike Arnold (Callaghan Innovation, New Zealand) – *Microbial Disinfection Using Microplasma-Generated Ozone.*
- P13** W. Mike Arnold (Callaghan Innovation, New Zealand) – *Low-conductivity high-permittivity solutes.*
- P14** *Maria Kezhia D. Rullan, D. Rullan, Erik Jensen, Keith M. Forward (California State Polytechnic University, Pomona, USA) – *Humidity Effects on Triboelectrification of Insulating Materials.*
- P15** Kelly Robinson (Electrostatic Answers, USA) – *Recommended Revisions for NFPA 77 Recommended Practice on Static Electricity.*
- P16** Olivia Koonce, Nicholas Drane, Michael S. June (Christian Brothers University, USA) – *3-D Printed, carbon filled-Plastic Electrode Performance for an Electro-Hydrodynamic Air Moving Device.*
- P17** *Faisal Aldawsari, Arathi Mohan Sharma, Chitral Angamma, Shesha Jayaram (University of Waterloo, Canada) – *Investigation of polymer filler interface using dielectric spectroscopy.*
- P18** Raji Sundararajan¹, Lakshya Mittal¹, Vishak Raman¹, V. Gowri Sree³, S. Hemalatha⁴, R. Rajaprabu⁴, Arutselvan Natarajan⁵, and Ignacio G Camarillo¹. (¹Purdue University, USA, ³Anna University, Guindy, Chennai, India, ⁴Crescent Institute of Science and

- Technology, India, ⁵Stanford University, USA) – *Turmeric Herbal Electro-Chemo-Therapy for Metastatic Triple Negative Breast Cancer.*
- P19** Myungjoon Kim, Yong-Jin Kim, Bangwoo Han, Chang Gyu Woo, Hak-Joon Kim (Korea Institute of Machinery & Materials, South Korea) – *Fine particle removal from a corrosive gas using a two-stage electrostatic precipitator with multiple ion injection type chargers and parallel collection plates.*
- P20** Aditya Bandopadhyay, N. K. Kishore, Suman Chakraborty (Indian Institute of Technology Kharagpur, India) – *Experimental observation of lateral movement of a sedimenting drop due to a tilted electric field.*
- P21** Michael Johansen, J. R. Phillips III, J. J. Wang, J. Mulligan, J. S. Clements, C. I. Calle (National Aeronautics and Space Administration, USA) – *Electrical Characteristics of the Mars Electrostatic Precipitator.*
- P22** Marius Blajan, Daisuke Nonanka, Jaroslav Kristof, Kazuo Shimizu (Shizuoka University, Japan) – *Influence of the Microplasma Actuator Electrode Configuration on the Induced EHD Flow.*
- P23** *Satish Polisetty, Shesha Jayaram, Ayman El-Hag (University of Waterloo, Canada) – *Classification of Different types of Discharges in Insulation System Using Acoustic Signals.*
- P24** Shady Abbas, Ahmed Gad, Gamal Hashem (Ain Shams University, Egypt) – *Juice Extraction using Pulsed Electric Fields.*
- P25** Mark Horenstein (Boston University, USA) – *Design of an Ultra-Sensitive Electric-Field Sensor Using Digital Signal Processing.*
- P26** Philippe Molinié (GEEPS laboratory - CentraleSupélec, France) – *Laboratories, industry and academic networks: a science map of the contemporary research in Electrostatics.*
- P27** Liangliang Li, Baoquan Liu, Xin Gao, Quanzhen Liu (SINOPEC Qingdao Institute Research of Safety Engineering, China) – *Study on electrostatic hazard and prevention in Polyester granules packing process.*
- P28** *Annie A. R. Bernard Cristian Morales, Graham Silva, Ryan Eriksen, Mark N. Horenstein, Malay K. Mazumder (Boston University, USA) – *How does sand get unipolar charge in an Electrodynamical Screen (EDS) ?*
- P29** Shubho Banerjee, Blake Wilkerson (Rhodes College, USA) – *Electrostatics of equal spheres and the Riemann Zeta function.*
- P30** Thiago A. L. Burgo, Kelly S. Moreira, Leticia O. Ferreira, Fernando Galembeck (University of Santa Maria, Brazil) – *Spontaneous electrostatic charging during evaporation at solid-liquid and solid-gas interfaces.*
- P31** *Binqi Li (Harbin Institute of Technology, China) – *A Full EHD Flow Pattern in Point-Plane Corona Discharge.*
- P32** Cuong Nguyen, Carmen Guerra Garcia, Manuel Martinez-Sanchez, Jaime Peraire (Massachusetts Institute of Technology, USA) – *Simulation of glow corona discharge on airfoils.*
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Tuesday, June 19, 2018**Session E: Electrically-induced flows and electrokinetics I****Tuesday, June 19, 8:30 AM**

Chair: TBA

- 8:30 – 9:00** E1 **Keynote Lecture:** Louste Christophe (University of Poitiers, France) – *Fundamentals and Applications for electrohydrodynamics.*
- 9:00 – 9:15** E2 Chaoao Shi, Kazimierz Adamiak and G. S. Peter Castle (Western University, Canada) – *Numerical Study of the Extended DBD for Flow Control.*
- 9:15 – 9:30** E3 Masaaki Okubo (Osaka Prefecture University, Japan) – *Fluid Dynamic Analysis of Electrostatic Precipitators and Ionized Flows.*
- 9:30 – 9:45** E4 Juan-Martin Cabaleiro¹, Thierry Paillat², Guillermo Artana¹, Gerard Touchard² (¹Universidad de Buenos Aires, Argentina, ²University of Poitiers, France) – *Flow electrification in liquids highly turbulent flows - Comparison of two models.*
- 9:45 – 10:00** E5 Masahito Nishikawara¹, Ryo Yoneda¹, Hideki Yanada¹, Takeshi Miyakita², Kenichiro Sawada² (¹Toyohashi University of Technology, ²JAXA, Japan) – *Temperature dependence of the characteristics of an electrohydrodynamic pump with plate-bar electrodes.*
- 10:00– 10:15** E6 Mohamed Abomuslim, Ahmed Gad, Youssef Barakat, Ibrahim Hashad (Ain Shams University, Egypt) – *Accelerating the Separation of Emulsified Oil Products using High Electrostatic Fields.*
- 10:00– 10:30** E7 Michael Reznikov, (Physical Optics Corporation, USA) – *Acceleration Of Electrically Charged Particulate By The Electric Field Traveling Wave.*

10:30 – 11:00 AM**Coffee Break and Poster Session****Session F: Electrically-Induced Flows and Electrokinetics II****Tuesday, June 19, 11:00 AM**

Chair: TBA

- 11:00 – 11:15** F1 Vladimir Chirkov, Aleksandr Lashko, Marina Reznikova, Albert Gazaryan (St. Petersburg State University, Russia) – *Numerical and Experimental Investigation of Water Droplet Electrical Coalescence and Non-coalescence.*
- 11:15 – 11:30** F2 *Po-Hao Wang, Tsrong-Yi Wen (National Taiwan University of Science and Technology, China) – *Experimental Study of Pressure and Flow Rate of Wire-to-Rod Ionic Wind Pumps.*
- 11:30 – 11:45** F3 Eric Moreau, Patrick Braud, Etienne Defoort, Nicolas Benard (University of Poitiers, France) – *EHD flow produced by positive and negative point-to-plate corona discharges.*
- 11:45 – 12:00** F4 *Ayyoub Zouaghi, Nouredine Zouzou, Lucian Dascalescu (Université de Poitiers, France) – *Analysis of fine dielectric particles behavior in a traveling wave electric field.*
- 12:00 – 12:15** F5 Aaron Griffin, Adam Henson, Michael S. June (Christian Brothers University, USA) – *Design of Experiments to Optimize Geometric Parameters for an Electro-Hydrodynamic Air Moving Device.*
- 12:15 – 12:30** F6 Maciej A. Noras, Wesley B. Williams (University of North Carolina at Charlotte, USA) – *Modeling turbulent injection of electrically charged dielectric droplets.*

12:30 – 1:30 PM Lunch Break**Session G: Biological and Medical Applications I****Tuesday, June 19, 1:30 PM**

Chair: TBA

- 1:30 – 2:00** G1 W. Balachandran (Brunel University, UK) – *Potential of Emerging Electrostatic Technologies for Bio-Medical and Environmental Applications.*
- 2:00 – 2:15** G2 J. Kristof, H. Miyamoto, M. Blajan, K. Shimizu (Shizuoka University, Japan) – *Effect of plasma on structure and permeability of skin epidermal layer.*
- 2:15 – 2:30** G3 Elisabetta Sieni, Paolo Sgarbossa, Fabrizio Dughiero, Michele Forzan, Paolo Di Barba, Maria Evelina Mognaschi, Tejasvi Parupudi, Lakshya Mittal, Ignacio G. Camarillo, Raji Sundararajan (Purdue University, USA) – *Effect of tissue inhomogeneity on Electric field intensity for electrochemotherapy treatment.*
- 2:30 – 2:45** G4 Sree T. Jeya Shree, V. Gowri Sree, A. Priyanka, Raji Sundararajan, T. M. Sridhar (Anna University, India) – *Polyphenol grape extract using Pulsed Electric Field for Cancer treatment.*

- 2:45 – 3:00 G5 *Tejasvi Parupudi, Allen L. Garner, Raji Sundararajan (Purdue University, USA) – *Electrical impedance as a biomarker for brain tumors.*
- 3:00 – 3:15 G6 Suramya Mihindukulasuriya, Shesha Jayaram (University of Waterloo, Canada) - *Release of electrode materials during the processing of liquid foods using in pulse electric field treatment.*
- 3:15 – 3:45 PM Coffee Break and Poster Session

Session H: Biological and Medical Applications II**Tuesday, June 19, 3:45 PM**

Chair: TBA

- 3:45 – 4:00 H1 *Mochen Li, Raji Sundararajan (Purdue University, USA) - *Application of Machine Learning Algorithms on Breast Cancer Dataset.*
- 4:00 – 4:15 H2 *Panik Moradian, Bianca Cruz, Nina Abramzon, Keith M. Forward (California State Polytechnic University, USA) – *Surface adhesion effects of PMMA (Poly(methyl methacrylate)) of Medical grade UHMWPE (Ultra-High Molecular Weight Polyethylene) after cold plasma treatment.*

Session I: Breakdown Phenomena and Discharges**Tuesday, June 19, 4:15 PM**

Chair: TBA

- 4:15 – 4:30 I1 Manuel Martinez-Sanchez, Carmen Guerra-Garcia, Ngoc Cuong Nguyen, Jaime Peraire (MIT, USA) – *Minimal model of a positive glow corona and its transition to streamers.*
- 4:30 – 4:45 I2 *Deepthi Antony, G. S. Punekar, and N. K. Kishore (NIT Karnataka, India) – *Improvements in an iterative method for localization of Partial discharge source in oil insulation.*
- 4:45– 5:00 I3 *Pengfei Xu, Bo Zhang, Jinliang He, Shuiming Chen (Tsinghua University, China) – *Dynamic corona characteristics of falling water droplet on a conductor-to-ground electrode with AC voltage applied.*
- 5:00– 5:15 I4 *Gaohui He, Qin Hu, Lichun Shu, Xingliang Jiang, Dauchuan Yang, and Raji Sundararajan (Purdue University, USA) – *Influence of rime ice severity on conductor audible noise characteristics of positive corona discharge.*

Session J: Electrically-Induced Flows and Electrokinetics III**Tuesday, June 19, 5:15 PM**

Chair: TBA

- 5:15 – 5:30 J1 A. Ieta, M. Chirita, N. Curinga, T. Jackson, J. Ross, O. Attia, *Alec Suits, and E. Solis (SUNY Oswego, USA) – *Flying EHD self-propelled propeller.*
- 5:30 – 5:45 J2 *Michal Talmor, Christophe Louste, Jamal Seyed-Yagoobi (Worcester Polytechnic Institute, USA) – *PIV Flow Field Measurements Of Electrohydrodynamic Conduction Pumping.*
- 5:45 – 6:00 J3 *Albert Gazaryan, Vladimir Chirkov (Saint Petersburg State University, Russia) – *Numerical and Experimental Investigation of Flow-type Electrohydrodynamic Mixer.*
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Wednesday, June 20, 2018
Session K: Gas discharges and micro-plasmas**Wednesday, June 20, 8:30 AM**

Chair: TBA

- 8:30 – 8:45** **K1** **Keynote Lecture:** Hak-Joon Kim, Yong-Jin Kim, Chang-Gyu Woo, Bangwoo Han (Korea Institute of Machinery and Materials, South Korea) – *Novel air cleaning technologies for indoor air quality using electrostatic precipitation with near-zero ozone generation.*
- 8:45 – 9:00** **K2** Tomoya Mitsui, Akinori Zukeran, Koji Yasumoto, Takashi Nakano, Koyu Tsubouchi, Takashi Ogawa (Kanagawa Institute of Technology, Japan) – *Prevention of Back Corona Discharge in an Electrostatic Precipitator Using Asymmetrical Rectangular AC Voltage.*
- 9:00 – 9:15** **K3** Takuya Kuwahara Keiichiro Yoshida, Tomoyuki Kuroki, Kenichi Hanamoto, Kazutoshi Sato, Masaaki Okubo (Nippon Institute of Technology, Japan) – *Pilot-Scale Combined Reduction of Accumulated Particulate Matter and NOx Using Nonthermal Plasma for Marine Diesel Engine.*
- 9:15 – 9:30** **K4** *Daniel Martin, Nazli Turan, Paul Rumbach, David B. Go (University of Notre Dame, USA) – *Measuring the radius of the plasma at the plasma-liquid interface in a pulsed-current, DC discharge.*
- 9:45 – 10:00** **K5** Tomoyuki Kuroki , Manabu Nakamura, Keita Hori, Masaaki Okubo (Osaka Prefecture University, Japan) – *Effect of monomer concentration on adhesive strength of PTFE film in atmospheric plasma graft-polymerization process.*
- 10:00 – 10:15** **K6** Takashi Ikehata, Ruida Bao, Tomotaka Kijima, Naoyuki Sato (Ibaraki University, Japan) – *Static elimination of charged objects in vacuum by pulsed glow plasma.*
- 10:15 – 10:30** **K7** Yoshio Higashiyama, Takuya Nakajima, Toshiyuki Sugimoto (Yamagata University, Japan) – *Decay time of Current Pulse by Disruption of Taylor-cone Formed at a Capillary Electrode under DC Field.*

10:30 – 11:00 AM**Coffee Break and Poster Session****Session L: Measurements and Instrumentation****Wednesday, June 20, 11:00 AM**

Chair: TBA

- 11:00 – 11:15** **L1** *Kazuki Numayama¹, Toshiyuki Sugimoto¹, Koichi Taguchi² (¹Yamagata University, ²Napson Corporation, Japan) – *Non-contact surface resistivity tester for materials from 10⁶ to 10¹¹ Ω.*
- 11:15 – 11:30** **L2** Philippe Molinié (GEEPS Laboratory, France) – *Return voltage as a dielectric characterization tool.*
- 11:30 – 11:45** **L3** Haskar Houari, Miloua Farid, *Oualid Imene, Ouari Abbes, Tilmatine Amar (APELEC Laboratory, Djillali Liabes University of Sidi Bel Abbes, Algeria) – *High-Voltage Control Of An Electrostatic Precipitator By Automatic Motorized Potentiometer (Amp). In-Situ Measurement Of The Surface Potential Of The Pollution Layer.*

Session M: Materials Processing and Behavior II**Wednesday, June 20, 11:45 AM**

Chair: TBA

- 11:45 – 12:00** **M1** Arathi Mohan Sharma, Faisal Aldawsari, Chitral Angamma, Shesha Jayaram (University of Waterloo, Canada) – *Filler dispersion and its influence on the performance of Nanocomposite materials.*
- 12:00 – 12:15** **M2** Carson Gattenby, *Sebastian Olarte, DaJohn Murray, Keith M. Forward (California State Polytechnic University, USA) – *Electrospun Polyvinylidene Fluoride Membranes for Direct Contact Membrane Distillation.*
- 12:15 – 12:30** **M3** Michael Gevelber, Yunshen Cai (Boston University, USA) – *Analysis of Electrospinning Bending Region Physics in Determining Fiber Diameter: focus on mass transfer and effect of relative humidity for non-aqueous hydrophilic solutions.*
- 12:30 – 1:30 PM** **Lunch Break**

Session N: Safety and Hazards**Wednesday, June 20, 1:30 PM**

Chair: TBA

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| 1:30 – 2:00 | N1 Keynote Lecture: <u>Atsushi Ohsawa</u> (National Institute of Occupational Safety and Health, Japan) – <i>Unified expressions of the charges transferred by brush discharges and of the onset criterion of propagating brush discharges on charged insulating coats and liners.</i> |
| 2:00 – 2:15 | N2 <u>Keiichiro Yoshida</u> (Osaka Institute of Technology, Japan) – <i>Aftertreatment of Carbon Particle Emitted by Diesel Engine Using Combination of Corona and Dielectric Barrier Discharge.</i> |
| 2:15 – 2:30 | N3 <u>N. K. Kishore</u> , Harimurugan D., G. S. Puneekar (NIT Karnataka, India) – <i>Arrangement of conductors in a 220 kV double circuit line to reduce e-fields in view of public exposure.</i> |
| 2:30 – 2:45 | N4 * <u>Harimurugan D.</u> , G. S. Puneekar, N. K. Kishore (NIT Karnataka, India) – <i>Electric field and exposure time in a EHV substation near a bay-equipment: concerning ICNIRP guidelines.</i> |
| 2:45 – 3:00 | N5 <u>Takashi Miura</u> (National Institute of Occupational Safety and Health, Japan) – <i>A study of the tribo-electrification reduction efficiency of argon-nitrogen mixtures due to micro-gap discharge at atmospheric pressure.</i> |
| 3:00 – 3:15 | N6 <u>Ted Dangelmayr</u> – <i>Presentation / Demonstration: ESD Field Measurement Pitfalls; Voltage Suppression.</i> |
| 3:15-3:30 | N7 TBA |

3:30 – 5:00 PM**Coffee Break and Electrostatics Demonstrations****6:00 – 9:00 PM****Conference Banquet, Recognitions and Awards**