

Proceedings of the 2008 ESA Annual Meeting on Electrostatics

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General Chair:
Albert Seaver

Technical Chair:
Daniel J. Lacks, Case Western Reserve University

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- A1. **M. Horenstein, S. Cornelissen, J. Tang.** [Electrostatic Micromirrors for Retro-Reflective Optical Communication](#)
- A2. **I. A. Krichtafovitch, S. V. Karpov, N. E. Jewell-Larsen, J. L. Oharah, V. A. Korolev.** [EFA Loudspeakers](#)
- A3. **J. R. Robison, R. Sharma, J. Zhang, M. K. Mazumder.** [Computer Simulation of Electrodynamic Screens for Mars Dust Mitigation](#)
- A4. **B. P. Seaver.** [Analysis of a Novel Electrostatic Particle Display Device](#)

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- B1. **F. C. Lai, C. C. Wang.** [Drying of Partially Wetted Materials with Corona Wind and Auxiliary Heat](#)
- B2. **I. I. Inculet, M. A. Bergougnou.** [Temperature Gradients in an Electrostatically Applied Powder Coating Layer While Cured with Infrared Radiation](#)
- B3. **I. Ramirez, S. Jayaram, E. Cherney, M. Gauthier.** [Study of Laser Ablation and Mechanical Properties of Silicone Rubber Nanocomposites](#)

Session C. Breakdown and Discharge I

- C1. **C. Buhler, C. I. Calle, J. S. Clements, S. Trigwell, M. Ritz.** [New Techniques to Evaluate the Incendiary Behavior of Insulators](#)
- C2. **L. Zhao and K. Adamiak.** [Numerical Simulation of Corona Discharge in Compressed Gases with the Effect of EHD Flow](#)
- C3. **A. Poornima, H. Mithila, B. Adnan, D. Subhankar, T. C. Balachandra, T. Asokan.** [Electrical Discharge Characteristics of 1-D PlaneElectrodes](#)

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- D1. **J. M. Crowley.** [Force on a charged conducting sphere near a conductor](#)
- D2. **C. F. Gallo.** [Work Function of Metals: Correlation Between Classical Model and Quantum Mechanical Treatment](#)
- D3. **K. Sakai.** [An experimental result which confirms the fourth electrostatic force](#)
- D4. **A. E. Seaver.** [Some Comments on the Charge Decay Paradox in Metals](#)

Session E. Flows

- E1. **N. E. Jewell-Larsen, S. V. Karpov, I. A. Krichtafovitch, V. Jayanty, C.-P. Hsu, A. V. Mamishev.** [Modeling of electrohydrodynamic flow with COMSOL](#)
- E2. **J. Zhang and F. C. Lai.** [Electric Field in a Rectangular Channel with an Electrohydrodynamic Gas](#)
- E3. **A. Ieta, H. Gerlach, T. E. Doyle, A. Pallone, R. Amundson.** [Analysis of Droplet Formation Near Onset Voltage of Aqueous Electrospays](#)

Session F. Atmospheric and Space Applications

- F1. [**N. O. Renno.** *Electric activity and dust lifting on Earth, Mars, and beyond*](#)
F2. [**S. J. Snyder, P. E. Hintze, J. L. McFall, C. R. Buhler, J. S. Clements, C. I. Calle.** *Triboelectric Charging of Dust and its Relation to Organic Degradation on Mars*](#)

Session G. Particles I

- G1. [**M. D. Hogue, C. I. Calle, D. R. Curry, P. S. Weitzman.** *Discrete Element Modeling \(DEM\) of Triboelectrically charged Particles: Revised Experiments*](#)
G2. [**N. Toljic, K. Adamiak, G. S. P. Castle.** *Determination of Particle Charge to Mass Ratio in Electrostatic Applications: A Brief Review*](#)
G3. [**J. W. Stark, M. K. Mazumder, J. Zhang, R. Sharma, A. J. Adams.** *Measurements of Electrostatic charge and Aerodynamic Diameter of Sub-Micron Particles by the ESPART Analyzer*](#)

Session H. Devices II

- H1. [**C. Buhler, C. I. Calle, J. S. Clements, R. Cox, M. Ritz.** *Electrostatic Precipitation in nearly pure Gaseous Nitrogen*](#)
H2. [**M. C. Zaretsky, R. R. Quiel.** *Electrostatic Assist Using a Patterned Backing Roller for Slide Hopper Coating*](#)
H3. [**D. Campbell, J. Harper, V. Natham, F. Xiao, R. Sundararajan.** *A Compact high Voltage Nanosecond Pulse Generator*](#)

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- I1. [**I. Hidetaka, M. K. Mazumder, Y. Hoshino, P. K. Srirama, and R. Sharma.** *Control of Surface Charge Density of Microtoner for High Resolution Imaging*](#)
I2. [**K. Robinson, R. Brearey, J. Szafraniec.** *Voltage Diffusion in an Insulating Sheet with a Conductive Layer - Part 1: Equivalent Circuit Model*](#)
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- J1. [**Y. K. Bobrov, I. V. Zhuravkov, E. I. Ostapenko, V. V. Starikov, Y. V. Yurgelenas.** *Application of a breakable micro-discharger for improvement of lightning protection*](#)
J2. [**P. Gefter.** *Double side charging of glass substrates*](#)
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J4. [**W. A. Dela Cruz, M. L. M. Abalos, J. D. Concordia.** *A Case of Arcing Damage at Wafer Saw and Wash Process Caused by Polyimide Thinning and Removal on RF device and how it was solved*](#)

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- K1. [**M. K. Mazumder, R. Sharma, P. P. Das, M. Misra.** *Interfacial Charge Transfer in Photo-electrochemical Generation of Hydrogen from Water*](#)
K2. [**I. A. Krichtafovitch, V. G. Yuzbashev, T. Myatt, S. V. Karpov.** *EFA air disinfection using Kronos based air purifiers*](#)
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Session L. Materials: Contact Electrification

- L1. [**B. A. Grzybowski.** *Contact electrification: Mechanism\(s\) and Applications*](#)
L2. [**A. R. Akande.** *Annealing effects on the charge transfer in metal/polymer contact*](#)

Session M. Particles II

- M1. **G. S. P. Castle.** *Contact Charging Between Particles: Some Current Understanding*
- M2. **M. T. Carvajal.** *Contribution of electrostatic interactions to the dispersion of powders for inhalation*
- M3. **K. Forward, D. J. Lacks, R. M. Sankaran.** *Triboelectric Charging of Binary Granular Mixtures due solely to Particle-Particle Interactions*

Session N. Biological Applications

- N1. **M. M. Zheng, M. Nichols, I. G. Camarillo, N. Lenarduzzi, T. Salameh and R. Sundararajan.** *Enhanced Drug uptake in Normal and Malignant cell lines using Electrical Pulses*
- N2. **R. J. Prance, S. Beardsmore-Rust, A. Aydin, C. J. Harland, H. Prance.** *Biological and medical applications of a new electric field sensor*
- N3. **L. J. Gagliardi.** *Electrostatic Force in Furrowing of Biological Cells*

Session O. Biological Applications

- O1. **C. I. Calle, J. L. McFall, C. R. Buhler, S. J. Snyder, E. E. Arens, A. Chen, M. L. Ritz, J. S. Clements, C. R. Fortier, S. Trigwell.** *Dust Particle Removal by Electrostatic and Dielectrophoretic Forces with Applications to NASA Exploration Missions*
- O2. **J. Bock, J. Robison, J. Zhang, M. Mazumder.** *An Efficient Power Management Approach for Self-Cleaning Solar Panels with Integrated Electrodynamical Screens*
- O3. **L. Zhao, K. Adamiak, M. Mazumder.** *Numerical and Experimental Studies of the Electrohydrodynamic Pump for Sampling System on Mars*