Electrostatics Society of America

2025 Joint Conference on Electrostatics

June 22-26, 2025
Brock University, St. Catharines, ON, Canada

General Chair: Bill Vosteen
Technical Chairs: Jeremy Stark and Craig Snoeyink

Sunday, June 22nd	**Brock University Dorm**
18:30 – 20:30	Reception and registration check-in (Pond Inlet)
Monday, June 23rd	**Brock University Conference Area**
07:30 – 08:00	Breakfast (DeCew Cafeteria) and registration check-in (TH256)
08:00 – 08:15	Opening Remarks (TH245)
08:15 – 9:00	Keynote (TH245)
09:00 – 10:15	Session A: Electrostatic processes (TH245)
10:15 – 10:35	Coffee Break (outside TH245)
10:35 – 11:50	Session B: Charge dissipation and electrospray (TH245)
11:50 – 12:50	Lunch (DeCew Cafeteria)
12:50 – 14:55	Session C: Electrohydrodynamics, Measurements and Instrumentation I (TH245)
14:55 – 15:15	Coffee Break (outside TH245)
15:15 – 16:55	Session D: Contact charging and triboelectric effects I (TH245)
17:00 – 19:00	Poster Session and Demos (Goodman Atrium)
Tuesday, June 24th	**Brock University Conference Area**
07:30 – 08:00	Breakfast (DeCew Cafeteria)
08:00 – 8:45	Keynote (TH245)
08:45 – 10:00	Session E: Breakdown, gas discharges and plasma (TH245)
10:00 – 10:20	Coffee Break (outside TH245)
10:20 – 12:00	Session F: Contact charging and triboelectric effects II (TH245)
12:00 – 13:30	Lunch (Box Lunch)
12:00 – 13:30	ESA Board Meeting (TH245)
13:30 – 14:45	Session F: Contact charging and triboelectric effects II (TH245)
14:45 – 15:35	Session G: Biological and Medical Applications and TENG (TH245)
15:35 – 15:55	Coffee Break (outside TH245)
15:55 – 17:10	Session H: Dielectrics and Insulators (TH245)
Wednesday, June 25th	**Brock University Conference Area**
07:30 – 08:00	Breakfast (DeCew Cafeteria)
08:00 – 08:45	Keynote (TH245)
08:45 – 10:00	Session I: Atmospheric and space applications, and particle manipulation (TH245)
10:00 – 10:20	Coffee Break (outside TH245)
10:20 – 11:35	Session I: Atmospheric and space applications, and particle manipulation (TH245)
11:35 – 13:00	Lunch (DeCew Cafeteria)
13:00 – 14:45	Special Session: Careers in Electrostatics (TH245)
14:45 – 15:00	Coffee Break (outside TH245)
15:00 – 17:00	Special Technical Session on ESD (TH245)
18:00 – 21:30	Banquet (Hernder Estates)
Thursday, June 26th	**Brock University Conference Ara**
07:30 – 08:00	Breakfast (DeCew Cafeteria)
08:00 – 08:50	Session J: Safety and hazards (TH245)
08:50 – 09:40	Session K: Electrostatic precipitation (TH245)
09:40 – 10:00	Coffee Break (outside TH245)
10:00 – 12:05	Session L: Electrohydrodynamics, Measurements and Instrumentation II (TH245)
12:05 – 13:05	Lunch (DeCew Cafeteria)

Bolded Titles – Student Speakers

Monday, June 23rd

07:30 – 08:00		Continental Breakfast

Keynote Speaker

08:15 – 09:00		Lucian Dascalescu – *Electrostatic Separation of Particulate Matter Current Challenges and Innovated Solutions*

Technical Session A: Electrostatic processes and technologies

09:00 – 09:25	A1	Thami Zeghloul – *Influence of high-voltage electrode shape on granular metal particle trajectories in a roll-type electrostatic separator*
09:25 – 09:50	A2	**Siham Labiod** – *Study on the Recovery of Brominated Flame Retardant Plastics from Waste Electrical and Electronic Equipment (WEEE) Mixtures Using the Tribo-electrostatic Separation Process*
09:50 – 10:15	A3	Mizuki Shoyama – *Risk of Electrostatic Ignition and Dust Explosions in Woody Biomass Utilization*

Break

10:15-10:35		Coffee Break

Technical Session B: Static dissipation and electrospray

10:35 – 11:00	B1	**Gedion Moche** – *Simulating Charge Motion and Static Dissipation in Complex Systems: A Software Approach*
11:00 – 11:25	B2	**Nihal Walia** – *Stabilizing Cone-Jet Mode in Electrospray Through Ground Current Monitoring*
11:25 – 11:50	B3	**Jouan Yu** – *nonSLED2=SLED*

Lunch

11:50 – 12:50		Lunch

Technical Session C: Electrohydrodynamics, measurements & instrumentation I

12:50 – 13:15	C1	**Mana Masrouri** – *Understanding the Impact of Pulsation on Flow Distribution Control with Electrohydrodynamic Conduction Pumping*
13:15 – 13:40	C2	**Ejaaz Kerem** – *Scalable Thrust Generation in Coaxial Ionic Systems: A Parametric Study*
13:40 – 14:05	C3	**Lindsey Podlaski** – *Impact of Dielectrophoresis Force on Electronics Performance*
14:05 – 14:30	C4	Tatsushi Matsuyama – *Charge Generation from Showerheads*
14:30 – 14:55	C5	Arpit Patel – *An efficient pulse amplitude measurement technique for radiation or particle detectors*

Break

14:55 – 15:15		Coffee Break

Technical Session D: Contact charging and triboelectric effects I

15:15 – 15:40	D1	Simon Jantac – Triboelectrification of a single uncharged particle
15:40 – 16:05	D2	Holger Grosshans – *A new stochastic particle charging model*
16:05 – 16:30	D3	**Gizem Ozler** – *Advancing the Electrostatic Charging Model for Powder Flow*
16:30 – 16:55	D4	**Christoph Wilms** – *TriboFoam – An open-source solver for the electrification of particles in turbulent flow*

Poster Presentation

17:00 – 19:00		Poster Presentation and Demos

List of Posters

	P1	Imed-Eddine Achouri – *Continuous operation of a tribo-electrostatic separator for the recovery of PET fibers from industrial wastes*
	P2	Ashish Jindal – *Comparison of 2D and 3D PIC-DSMC Simulations of Pin-to-Plane Breakdown Through a Thin-Film Dielectric Coated Electrode*
	P3	Chau-Shing Wang – *Detection of Laser-Induced Plasma Using Multiple Electrodes Under an Applied Electric Field*
	P4	Jing-Er Chiu – *A Deep Learning Framework Combining Mask R-CNN and EfficientNet for Shear Force Defect Detection Prior to Wire Bonding*
	P5	**Benjamin Hotte** – *Application of Electrostatics for Dry Powder Separation*
	P6	Thami Zeghloul – *Tribo-charging characteristics of PS with varying BFR concentrations in view of electrostatic separation from mixed granular waste plastics*
	P7	Michihiko Nakano – *Dielectrophoresis crossover frequencies of yeast mitochondria determined by microscopic observation for evaluating its dielectric properties*
	P8	**Otome Obukohwo –** *Experimentation of single collision particle-particle charge transfer: A preliminary work*
	P9	**Alice Suarez Kahan –** *Lunar dust adhesion: Experimental testing*
	P10	Maciej A. Noras, **Hunter Mathis**, **Jagat Joshi** – *Subcritical Crack Monitoring in Rocks Using Combined Electromagnetic and Acoustic Emission Analysis*
	P11	**Ejaaz Kerem** – *Regime-Dependent Ionic Thrust in Coaxial Configurations: Effects of Emitter and Collector Geometry*
	P12	*Vladimir Chirkov – Features of Electrocoalescence of Electrically Conductive Drops Under Pulsed Voltage with Different Duty Cycles*
	P13	Lucien Dascalescu – *Triboelectric charging of model granular polymers before and after exposure to an atmospheric DBD plasma*
	P14	Ilia Elagin – *Numerical investigation of electrical coalescence between droplets and water layer in DC and AC electric fields*
	P15	**Grissel Myrtle Fernandes** – *Influence of Gas Type and Humidity on Charge Saturation of a Polyethylene Resin*
	P16	**Saykat Podder** – *Kinetic Theory Closures for Electrostatic Charge Separation in Particle-wall Collisions Accounting for Finite Contact Time*
	P17	Shesha Jayaram – *Assessing High-Voltage PWM-Induced Degradation of FR4 PCBs in Electrified Aircraft Applications*
	P18	**Matteo Capotosti, Andrew Herzog, and Joseph Kraus**— *Grounded Electrode Effect on a Two-Stage EHD Gas Pump by Experiment*

List of Demos

	Demo	Paul Holdstock – *Charging of People by measuring body voltage during a range of activities:*
	Demo	Steve Cooper – *Electrostatic spraying wrap around coating*
	Demo	Kelly Robinson – *Van der Graaff Generator, Needle-point ionizer, Electrostatic Fieldmeter, Faraday Cup*

	Info	Mike Bartle, Simco-Ion – *Static neutralizers*
	Info	Shesha Jayaram, University of Waterloo High Voltage Lab
	Info	Journal of Electrostatics TBA
	Info	Tim Rushlow, Advanced Energy
	Info	ESA Association, Lisa Pimpinella
	Info	IEEE Industry Applications Society

Tuesday, June 24th

07:30 – 08:00		Continental Breakfast

Keynote Speaker

08:00 – 08:45		Masaaki Okubo – *Electrostatic Discharge-Assisted CO_2 Reduction Technologies*

Technical Session E: Breakdown, gas discharges and plasmas

08:45 – 09:10	E1	S. C. Lin – *Parametric Study on the Performance of Dielectric Barrier Discharge Plasma Actuator*
09:10 – 09:35	E2	Mina Mortazavi – *Investigation of various configuration of dielectric barrier discharge plasma jet based on computer simulations and experiments*
09:35 – 10:00	E3	Benjamin Crall – *Shining light on glowing pickles*

Break

10:00-10:20		Coffee Break

Technical Session F: Contact charging and triboelectric effects

10:20 – 10:45	F1	**Thomas Gemine** – *Triboelectric charging of powder carried by an airflow*
10:45 – 11:10	F2	**Tom O'Hara** – *Interpreting Faraday Cup Measurements of Charged Granular Materials*
11:10 – 11:35	F3	Giulio Fatti – *From First Principles to Design: Predicting and Tuning Triboelectric Charge Generation with Mechanochemistry*
11:35 – 12:00	F4	**Talha Syed** – *Influence of temperature on the extent of static in a pressurized gas-solid fluidized bed*

Lunch

12:00 – 13:30		Lunch

ESA Council Meeting

12:00 – 13:30		ESA Council Meeting

Technical Session F: Contact charging and triboelectric effects

13:30 – 13:55	F5	**Grissel Myrtle Fernandes** – *An Experimental Study on the Influence of Ziegler Natta Catalyst & its Co-catalyst on Triboelectrification in a Polyethylene Gas-Solid Fluidized bed*
13:55 – 14:20	F6	Dean Thelen – *Contact Induced Mechanism for Charging the Non-Contacted Surfaces of Nearly-Insulating Materials*
14:20 – 14:45	F7	Bilge Baytekin – *Triboelectrification of Organic Molecular Compound Powders and Bulk Polymers*

Technical Session G: Biological, medical applications, and TENG

14:45 – 15:10	G1	**Mahedi Hasan** – *Microplasma-Induced Modulation of HL-60 Cell Membrane Integrity and FD-150 Uptake*

15:10 – 15:35	G2	**Oliver Prendergast** – *Optimising Electrode Configuration for Enhanced Charge Transfer in Droplet TENGs*

Break

15:35 – 15:55		Coffee Break

Technical Session H: Dielectrics and insulators

15:55 – 16:20	H1	**Karina Poluektova** – *Contribution of Moisture to Change in Water-Repellent Properties of High-Voltage Silicone Insulators*
16:20 – 16:45	H2	Muneaki Kurimoto – *Advanced Electric Field Control with Innovative Solid Dielectrics and Its Applications*
16:45 – 17:10	H3	Shesha Jayaram - Impact of Wide Bandgap Devices on Turn-to-Turn Insulation Performance in Hairpin Windings for Electric Vehicle Traction Motors

Wednesday, June 25th

07:30 – 08:00		Continental Breakfast

Keynote Speaker

08:00 – 08:45		Christine Hartzel – Electrostatic interactions of dust particles on the surfaces of asteroids

Technical Session I: Atmospheric and space applications, and particle manipulation

08:45 – 09:10	I1	David Lund – *Lunar Electrostatics and Dust Mitigation (LEDM) Tool: Mitigating Electrostatics on the Moon!*
09:10 – 09:35	I2	**Anatalya Piatigorsky** – *The Electrostatic Aggregation of Tholin Analogs*
09:35 – 10:00	I3	**Gjosse Zijlstra** – *Using scanning field mills for Localization of Martian Electrostatic Sources by Mobile Robots*

Break

10:00-10:20		Coffee Break

Technical Session I: Atmospheric and space applications, and particle manipulation

10:20 – 10:45	I4	Charles Buhler – *Successful Demonstration of the EDS on the Moon!*
10:45 – 11:10	I5	Mamadou Sow – *Evaluating the Role of Electrostatic Effects in Saltation Modeling*
11:10 – 11:35	I6	Noureddine Zouzou – *Impact of bipolar corona charger parameters on electrostatic charging of polydisperse aerosols*
11:35- 12:00	I7	Drew Antony – *Electrical characterization of glass surfaces via Kelvin Probe Force Microscopy (KPFM) methods*

Lunch

12:00 – 13:00		Lunch

Special Session: Careers in Electrostatics Panel

13:00 – 14:45		

Break

14:45 – 15:00		Coffee Break

Special Session: EOS/ESD Association

15:00 – 15:25	ESDA1	John Kinnear – *Control of Static in Manufacturing*
15:25 – 15:50	ESDA2	Iad Mirshad – *Ionization in Industry: A Historical Perspective on Electrostatic Control and Manufacturing*
15:50 – 16:10	ESDA3	Tom Ricciardelli – *Hazards and Mitigation Strategies of ESD in the Healthcare Environment*
16:10 – 16:35	ESDA4	Carl Newberg – *Answers to Solving Electrostatic Attraction (ESA) Technical Challenges – ESD Technical Report TR 28*
16:35 – 17:00	ESDA5	Brennan Pimpinella – *TR53, the Glue of ESD Process Control: Ensuring Effective Compliance Verification*

Banquet

19:00 – 21:30		Banquet Dinner, Awards Ceremony

Thursday, June 26th

07:30 – 08:00		Continental Breakfast

Technical Session J: Safety, Hazards, and Electrostatic Precipitation

08:00 – 08:25	J1	Kelly Robinson – *Industrial Static Hazards and Mitigations Overview*
08:25 – 08:50	J2	Hak Joon Kim – *Application of a Two-Stage Brush-Type Electrostatic Precipitator for Particulate Matter Removal in a Subway Tunnel*
08:50 – 09:15	J3	Keiichiro Yoshida – *The Effect of Sub-Electrode on PM Incineration Using the Surface Dielectric Barrier Discharge*
09:15—09:40	J4	Hak Joon Kim – *The effect of a hydrophilic collecting plate in an electrostatic precipitator on the removal of white smoke under high flow velocity condition*

Break

9:40 – 10:00		Coffee Break

Technical Session L: Electrohydrodynamics, Measurements and Instrumentation II

10:00 – 10:25	K1	*Vladimir Chirkov – Numerical Simulation of Bubble-in-Oil Electrodeformation and Motion Basing on the Arbitrary Lagrangian–Eulerian Method in 2D Problem Statement*
10:25 – 10:50	K2	*A K M Monayem Mazumder – Study on a Two-Stage EHD Gas Pump with One-inch-wide Grounded Electrode by Experiment*
10:50 – 11:15	K3	Mohsen Isaac Nimvari – *Application of electrostatic probe as a new technique for detection of minimum fluidization gas velocity*

Lunch

12:00 – 13:00		Lunch

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