



# ESA Newsletter

Electrostatics Society of America - The Friendly Society

## President's Message

The Electrostatics Society of America is a strong organization because our annual conference is a great venue for presenting work, our website is a valuable resource, and we recognize excellence in our profession with our Society awards including the Electrostatics Hall of Fame maintained at the Franklin Institute in Philadelphia. I am proud to be a member of the ESA.

I believe that our Executive Board and the members of the ESA should work towards 3 goals during the next 12 months.

1. ESA Leadership – Leadership is much more than our elected Executive Council and appointed officers. Leadership is looking to the future and working to make our Society successful and strong. Becoming an ESA member is an important statement of personal leadership. I appreciate your support and commitment to the ESA. If you are interested, consider serving on our Executive Council to help guide our Society. We are also actively seeking individuals to serve in two positions: 1) Chair of Awards Committee and 2) Webmaster. Our Awards Chair provides a great opportunity to build for our future by working to recognize those who set the standard and serve as role models for the next generation of ESA members. Our website is one of our most valuable assets and is our first contact with many individuals interested in electrostatics. The ESA Webmaster maintains our fine website, provides a vision for what it can be, and implements new features and content.
2. Annual Meeting Schedule – Our Annual Meetings are the heart and soul of the ESA. At this meeting, individuals from around the world come together, share technical knowledge, and form relationships that make our “Friendly Society” unique. Prof. Raji Sundararajan, General Chair and Prof. Sheryl Barringer, Technical Program Chair, are working very hard to make our 2007 ESA Conference successful. Looking to the future, our meetings over the next few years will benefit from our experiences this year and from previous meetings in the past years.
3. ESA Teachers and Lecturers Initiative – Our ESA Annual Meetings provide a great forum for presenting research work, for networking with workers from around the world who share our passion for electrostatics, and for submitting papers for publication. We have had a very successful student paper competition the last few years, helping to bring fresh ideas and energy to the Society. Students and researchers are well served by the ESA. How does our Society serve the needs of teachers and lecturers; those who inspire and educate the next generation of ESA members? What more can we be doing to add value to their dedicated efforts? Many of our members are teachers, either active or retired. I am searching for thoughts, suggestions, and ideas for how the ESA can better serve teachers. What do you think? What are your suggestions?

The Electrostatics Society of America can grow stronger over the next few years and become more than we are today. I believe this because I know the caliber of people who are ESA members. We are a strong, vibrant organization. I am excited to work with you and make our Society more valuable to you and to all of our members.

*Kelly Robinson,  
ESA President*



# ESA 2007 Registration Form

**June 12-14, 2007**  
**PURDUE UNIVERSITY**  
**WEST LAFAYETTE, INDIANA**

**Mail or Fax Form to:**  
Raji Sundararajan  
ECET – Purdue University  
401 N. Grant St.  
Knob Rm. 187  
W. Lafayette, IN 47907-2021  
Fax: 765-496-1354  
Tel: 765-494-6912

**Note: You also can register online at [www.electrostatics.org](http://www.electrostatics.org)**

Date: \_\_\_\_\_  
Name: \_\_\_\_\_ Name on Badge: \_\_\_\_\_  
Affiliation: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Email: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

### CONFERENCE REGISTRATION FEES

<b>Full Conference registration fee – ESA Members</b> includes snacks at breaks, Thursday banquet, and conference proceedings	by 5/11/07	\$275	
	after 5/11/07	\$300	
<b>Full Conference registration fee – Non-Members</b> includes all the above and a one year ESA membership	by 5/11/07	\$295	\$
	after 5/11/07	\$320	
<b>Student Registration – requires student ID</b> includes conference proceedings, snacks at breaks and banquet		\$150	
<b>Single Day Registration</b> -- member or non-member includes conference proceedings & snacks at breaks. No banquet included.		\$175	\$
Extra Copies of Conference Proceedings	#	@ \$30	\$
Extra Welcome Reception Ticket	#	@ \$15	\$
Extra banquet tickets	#	@ \$30	\$
		<b>TOTAL</b>	<b>\$</b>

### ACCOMMODATIONS

Union Club, Purdue University (June 12-15 <sup>th</sup> )	<b>Queen Room</b>	<b>\$90.00</b>
	<b>Double &amp; Twin</b>	<b>\$90.00</b>
	<b>Double Doubles</b>	<b>\$98.00</b>
	<b>Deluxe Doubles</b>	<b>\$108.00</b>
	<b>Suites</b>	<b>\$180.00-300.00</b>
		Call: 800-320-6291 or 765-494-8913 Mention "Electrostatics Society of America" for these rates
University Inn-Conference Center and Suites (June 11-15 <sup>th</sup> ) (hotel w/ restaurant) free shuttle service to campus	<b>\$75.85 per room, per night</b>	
	Call: 800-777-9808 or 765-463-5511	
	Mention "Electrostatics Society of America" for this room rate. Book rooms early to guarantee availability	

### CONFERENCE TOUR

I am interested in the Friday Morning tour of the Purdue University Envision and Discover Park-Birck Nanotechnology and Bindley Biological Sciences Centers (no additional fee)	YES	
	NO	

### PAYMENT

<input type="checkbox"/>	I will pay on-line using Pay-Pal ( <a href="http://www.electrostatics.org">www.electrostatics.org</a> ).
<input type="checkbox"/>	I have enclosed an international money order or check in \$US drawn on a US bank, made out to " <b>Electrostatics Society of America</b> "
<input type="checkbox"/>	I will pay at conference (sorry, no credit cards accepted) Please FAX Registration form to Raji Sundararajan by the registration due date to avail those rates

# ESA 35<sup>th</sup> Annual Meeting on Electrostatics: Preliminary Program

## Conference Sessions in STEWART 206 or 202

### Tuesday, June 12: Stewart 206

9:00 AM -1:00 PM	Registration: Stewart Center, Rm. 206, Purdue University, West Lafayette, IN
11:00 AM-1:00 PM	Reception: Stewart Center, Rm. 206, Purdue University, West Lafayette, IN
1:00-1:25 PM	Welcome and Announcements
	<b>A. Biological Applications</b>
1:25-2:15 PM	Invited Lecture: A1. On the Heuristic Distributions of 1:1 and 1:2 Electrolytes in the "Crowded" Cytoplasm, Jan J. Spitzer and Bert Poolman
2:15-2:35 PM	Refreshment Break
2:35-3:00 PM	A2. The effect of relative humidity on corona electrostatic coating in a conveyor belt system, Yichi Xu and Sheryl Barringer
3:00-3:25 PM	A3. Electro-Endocrine Therapy for Aggressive Breast cancer Tumors caused by Obesity, Dan Sonnenburg, Maxine Nichols, Raji Sundararajan, and Ignacio Camarillo
3:25-3:50 PM	A4. Electrical-Pulse Mediated Sterilization of Fruit Juices, Raji Sundararajan and Anthony Gutierrez, Gene Harding
3:50-4:10 PM	Refreshment Break
4:10-4:35 PM	A5. Determination of Microfluidic Pumping Rate by Zeta Potential Modification, F. Tho, I. Hoek, W.M. Arnold
4:35-5:00 PM	A6. Indoor air sterilization using discharge plasma, Hee-Kyu Lee
5:00-5:15 PM	<b>Eggplants and Electrostatics: Is it Time for a New Name?</b> , Mark Horenstein

### Wednesday, June 13: Stewart 202 and 206

#### B. Breakdown and Discharge

8:00-8:25 AM	B1. The AC Electrical Behavior of Polycrystalline SnO <sub>2</sub> , Mohammad A. Alim, James R. Currie, Ashok K. Batra, Manmohan D. Aggarwal, and Ravindra B. Lal
8:25-8:50 AM	B2. Soft Core Phenomenon in the ZnO-Bi <sub>2</sub> O <sub>3</sub> Based Varistors, Mohammad A. Alim, Pengfei Cheng and Shengtao Li
8:50-9:15 AM	B3. Electrical Behavior of ZnO-Bi <sub>2</sub> O <sub>3</sub> Based Varistors Processed by Magnetized Water, Mohammad A. Alim, Janying Li, Dengyun Zhai, Shengtao Li, and Yuchun Zhang
9:15-9:45 AM	Refreshment Break
9:45-10:10 AM	B4. High voltage-low current arc propagation in air, GN Rajani, Asokan T
10:10-10:35 AM	B5. Computational and Experimental Study of Space Charge Influenced Field in Motor Enamelled Wires, Saeed Ul Haq, Shesha H. Jayaram and Edward A. Cherney
10:35-11:05 AM	Refreshment Break

#### C. Flows, Forces and Fields

11:05-11:30 AM	C1. Re-Examination on the Inverse Square Laws and its Relationship to the Gaussian Laws on the Electrostatic Equilibrium on Surfaces, Victor Roland Mousaa
11:30-11:55 AM	C2. Quasi-static analysis of wire-plane coronating systems, A. Ieta, T.E. Doyle, Z. Kucеровsky, W.D. Gresson
11:55-1:25 PM	LUNCH
1:25-1:50 PM	C3. EHD-Enhanced Drying Of Perforated Glass Beads, M. Ramachandran, F. C. Lai
1:50-2:15 PM	C4. On Solid-Solid Interface Thickness, Albert E. Seaver
2:15-2:40 PM	C5. Improving the dispersion of nanofillers in silicone polymers by surface treatment, Isaias Ramirez, Shesha Jayaram, Edward A. Cherney, and Mario Gauthier
2:40-3:05 PM	Refreshment Break
3:05-3:30 PM	C6. Surface Charge Transfer Process for an Insulating Sheet Peeled from a Ground Plane, Michael J. Datta and Mark N. Horenstein



3:30-3:55 PM	C7. Bending Instability of Electro-spinning and Electrically Forced Jets Applied to Different Electrode Arrangements, Chitral J. Angamma and Shesha H. Jayaram
3:55 -4:15 PM	Refreshment Break
4:15-4:40 PM	C8. A symmetric conductor in convergent field vs. an asymmetric conductor in parallel field, Katsuo Sakai
4:40-5:05 PM	C9. Structural Properties of Atmospheric-Plasma treated Nanocrystalline TiO <sub>2</sub> for Photovoltaic Applications, R. Sharma, J. J. Diaz, V. Saini, A. S. Biris, and M. K. Mazumder
5:10-6:00 PM	ESA Council/ General Business Meeting: 213

## Thursday, June 14: Stewart 202 and 206

### D. Measurement and Instrumentation

8:00-8:25 AM	D1. Experiences at the measurements of packaging material for electronic devices according to the standard IEC 61340-5-1 and the requirements from the standard ANSI/ESD S641-2003 - part 2, Hartmut Berndt
8:25-8:50 AM	D2. Ion balance and density monitoring for air ionizers evaluation, Maciej A. Noras
8:50-9:15 AM	D3. Mars Dust: Real Time and In-situ Measurements of Size and Charge Distributions, P.K. Srirama, J. Zhang, J.D. Wilson, M.K. Mazumder
9:20-9:40 AM	Refreshment Break
9:40-10:05 AM	D4. Electrophoretic Mobility Estimated From Transient Electrical Current In a Parallel Plate Electrode Cell, Kelly Robinson and Ravi Sharma
10:05-10:30 AM	D5. Optical Communication via Laser Beam and Electrostatically-Activated MEMS Devices, Mark Horenstein, Steven Cornelissen, Paul Bierden, Thomas Bifano, Michael Datta, and Leah Ziph-Schatzberg
10:30-10:50 AM	Refreshment Break

### E. Particle Control & Charging

10:50-11:15 AM	E1. Electrostatic Charge Effects on Deposition of Asthma Drugs in the Human Oral-Pharyngeal-Laryngeal Regions, Mohammed Ali, Rama N. Reddy, Malay K. Mazumder
11:15-11:40 AM	E2. Electrodynamics Formation of Ordered Mixtures of Powders, M.K. Mazumder, C. Wyatt, J. Lintag, R. Sharma, and P. K. Srirama
11:40-12:05	E3. Particle dynamics simulations of triboelectric charging in granular insulator systems, Nathan Duff and Daniel J. Lacks
12:05-1:35 PM	LUNCH
1:35-2:00 PM	E4. A method of evaluating ion emitters for corona ionizers, Peter Geffer, Lawrence Levit
2:00-2:25 PM	E5. Development and Testing of Large Area Electrodynamics Screens for Deployment on Mars Missions, J. Robison, C. Wyatt, J. Zhang, and R. Sharma, M. K. Mazumder
2:25-2:45 PM	Refreshment Break
2:45-3:05 PM	E6. Triboelectric Charging in Fluidized Bed Systems under Vacuum, Keith Forward, R. Mohan Sankaran and Daniel J. Lacks
3:05-3:30 PM	E7. Calculating the Trajectories of Triboelectrically Charged Particles Using Discrete Element Modeling (DEM), Michael D. Hogue, Carlos I. Calle, Ellen E. Arens, Peter Weitzman, David Curry
3:30-3:50 PM	Refreshment Break
3:50-4:15 PM	E8. Development of a Flexible Electrodynamics Screen for Lunar Dust Mitigation on EVA Suits and Exploration Equipment, Chris Wyatt, Rajesh Sharma, Jing Zhang, Malay K. Mazumder
4:15-4:40 PM	E9. Turbulence generation by charged fine particles in electrostatic precipitators, P. Atten, H.L. Pang, J.-L. Reboud, J. Podlinski, J. Mizeraczyk
4:40-5:05 PM	Characterization of Inherent Electrostatic Properties and Particle Size Distributions of Pharmaceutical Aerosols, Reshma Kotian and Joanne Peert
6:00 - 7:00 PM	Cash Bar: West Faculty lounge Purdue Memorial Union, Purdue University
7:00 - 9:00 PM	BANQUET: West Faculty lounge Purdue Memorial Union. Playing with food, Glenn Schmiegel

## Additional Conference Info.

ESA Attendees can take the "Lafayette Limo" shuttle from Indianapolis airport. <http://www.lafayettelimo.com>

First shuttle from airport leaves at 6:30am. First shuttle from West Lafayette (WL) leaves at 4:30am

Last shuttle from airport is 10:30pm. Last shuttle from West Lafayette (WL) is 8:30pm

Cost: \$25 one way / \$45 round trip. Note: Lafayette Limo Accepts Cash or Money Order ONLY!

To catch the shuttle, you need to go to Ground Transportation Center, which is to you left when you come out of the airport, across the street. The Lafayette Limo desk is across from Baggage Claim #2.

There also is a shuttle from/to Chicago in addition to an Amtrak train.

There are many restaurants within walking distance from the Purdue University Union Club.

The University Inn has a Wal-Mart Super Center (food, juice, etc.) and an Applebee's next door. It has its own restaurant as well.

There is a free shuttle from the University Inn to Purdue and back. Attendees will need to make their own arrangements with the hotel.

Lunch is provided as part of the conference on Wednesday and Thursday. Please allow about 15 minutes each way to walk to the lunch location.

For any additional questions, please contact Raji:

[raji@purdue.edu](mailto:raji@purdue.edu), tel 765 494 6912 (work phone, no answering machine) or call 765 463 7752 and leave a message.

## ESA OFFICERS

President	Kelly Robinson, Eastman Kodak
Vice President	Sheryl Barringer, Ohio State Univ
Executive Council	John Gagliardi, Rutgers Univ. Steve Cooper, Mystic Tan Nathaniel Green, U. of Bloomsburg

## CALENDAR

- ✦ 1<sup>st</sup> Int'l. Electrostatic Discharge Workshop, May 14-17, 2007, Stanford Sierra Conference Center, Lake Tahoe, California, Contact: ESD Assoc., Tel: 315-339-6937, [info@esda.org](mailto:info@esda.org), info at <http://www.esda.org>
- ✦ ESA 2007, June 12-14, 2007, Purdue University, West Lafayette, Indiana, Contact: Prof. Rajeswari Sundararajan, Tel: 765 494-6912, [raji@purdue.edu](mailto:raji@purdue.edu)
- ✦ Electrostatics Science and Technology Workshop, Aug. 16-23, 2007, Tahiti, Contact: Gérard Touchard, Tel: 33 (0)5 49 49 69 32, Fax : 33 (0)5 49 49 69 68 email: [gerard.touchard@lea.univ-poitiers.fr](mailto:gerard.touchard@lea.univ-poitiers.fr)
- ✦ 5th Asian Aerosol Conf., Aug. 26-29, 2007, Kaohsiung, Taiwan, info at <http://www.aac2007.org>
- ✦ 29th Annual EOS/ESD Symp., Sept. 16-21, 2007, Anaheim, California, Contact: ESD Assoc., Tel: 315-339-6937, [info@esda.org](mailto:info@esda.org) or <http://www.esda.org>,
- ✦ Elect. Insul. Conf., Sept. 24-26, 2007, Nashville, Tennessee, Contact: Mr. Art Lemm, Tel: 262-835-3368, Fax: 262-835-1515, [alemm@cooperpower.com](mailto:alemm@cooperpower.com), info at <http://www.deis.nrc.ca/eic2007/eic2007.htm> (abstracts due Feb. 15, 2007)
- ✦ 2007 IEEE Conf. on Elec. Insul. & Diel. Phen., Oct. 14-17, 2007, Vancouver, British Columbia, Canada, info at [ceidp@ieee.org](mailto:ceidp@ieee.org) or <http://www.ewh.ieee.org/soc/deil/ceidp>
- ✦ 16<sup>th</sup> Int'l. Conf. on Diel. Liquids, June 30-July 4, 2008, Poitiers, France, Contact: H. Romat, Tel: 33-(0)5-49-49-69-31, [icdl2008@lea.univ-poitiers.fr](mailto:icdl2008@lea.univ-poitiers.fr), (abstracts due Oct. 15, 2008), info at <http://lea.sp2mi.univ-poitiers.fr/icdl/>

Electrostatics  
Society of America



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### ESA Information

ESA Home Page: <http://www.electrostatics.org>

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