

# ESA Newsletter

Electrostatics Society of America - The Friendly Society

## President's Message

One of the great strengths of the Electrostatics Society of America is that our members are diverse with many skills and interests. It is great to see so many students participating in our annual meetings. Our 2006 Annual Meeting at the University of California, Berkeley should be a great meeting. I hope to see you there!

One common interest for many of our members is career development including the search for that next job. College students look forward to graduating, write resumes, and prepare for job interviews. Mid-career engineers keep an eye on the job market for a good career opportunity. Independent consultants and contractors are always seeking new clients. How can the ESA better serve these members?

Certainly, our annual meetings provide a great opportunity to meet others and learn about interesting opportunities. Our Society has a strong, informal network that is valuable.

A few months back, I received a phone call from an engineering supervisor of a large company. This individual had just posted a description for new job and was looking for an individual with knowledge of electrostatic powder coating. Fortunately, the supervisor had the foresight and creativity to find our website, and I was pleased to take the call. After a brief discussion, he asked if I knew of anyone who might be interested in this opportunity. Honestly, I was unprepared and could not provide a satisfactory answer.

How can we be prepared for the next phone call? How can we encourage the next phone call? Clearly, opportunities knock on our website door. Perhaps we could create a place on our website where ESA members seeking employment could post their resumes.

What do you think of using our ESA website to help members find jobs? Certainly there are many things to consider. Who would be eligible? What guidelines or rules should be in place to govern the use our website? Should we charge a fee? Should we impose a restriction on the number of pages that can be posted? For what duration should a resume be posted? Who would administer or run our service? Well, there are many questions for our ESA Executive Council to consider.

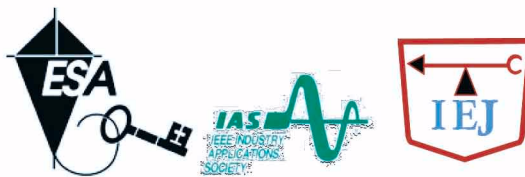
Using our website to help members find new career opportunities is one idea for how the ESA might better serve our members ... on how your membership in the ESA might become more valuable. Please share your thoughts, both pro and con on this. There are many ways that our Society might better serve our members. I am very interested in your ideas and your vision for what the ESA can be.

I look forward to hearing from you.

*Kelly Robinson*

*ESA President*

*Kelly.Robinson@SigmaXi.org*



## Call for Papers

**2006 Joint Conference ESA/ IEJ / IEEE-IAS**

**June 6-9, 2006**

**University of California at Berkeley**

**Berkeley, California USA**

The 2006 Electrostatic Society of America (ESA), the Institute of Electrostatic Japan (IEJ), and the Institute of Electrical and Electronic Engineers, Industrial Applications Society (IEEE-IAS) electrostatics groups will hold their 7<sup>th</sup> and 2<sup>nd</sup> Joint Conferences, respectively, on the campus of the University of California Berkeley, Berkeley, California from June 6-9, 2006. Members of La Société Française d'Electrostatic (SFE), along with others, will be joining us for possibly the largest, most diversified, international gathering of those involved in electrostatics ever in North America. Join us for our technical sessions including comprehensive technical papers, a Student Paper Competition, informal discussions, poster sessions, and electrostatic demonstrations.

### Topics of Interest Include:

Atmospheric Electricity	Electrostatic Drug Delivery	ESD Prevention and Detection
Biological applications	Electrostatic Painting	Ionization and Charge Control
BioMEMS and BioFluidics	Electrostatic Powder Coating	MEMS Devices
Breakdown and Discharges	Electrostatic Micro-encapsulation	Non-thermal Plasmas
Charge Neutralization	Electrophoresis	Nano-electrospray applications
Computational Methods	Electroviscous effects	Particle Control & Transport
Display Devices	Electrostatic Printing	Precipitators and Cleaners
Electrets	Electrostatic Propulsion	Safety and Hazards
Electrohydrodynamics	Electrostatics Demonstrations	Sprays and Droplets
Electrophotography	Electrostatics Education	Triboelectrification

### Deadlines:

February 3, 2006: Titles, Paper Summary and name of 1 – 2 relevant subject area from the list above are due for submission on this web site.

Mid-February: Registration and Detailed conference information will be available on this web site.

February 15, 2006: Notification of Paper Acceptance.

March 15, 2006: Final Manuscripts Due. Instruction for authors will be available on this web site along with templates for MS Word and Latex.

**Journal Publication:** Authors may request their manuscripts be considered for publication in either the *Journal of Electrostatics* or *IEEE Transactions on Industry Applications*.

### Student Paper Competition:

To encourage participation by student researchers, all presentations (either in the main session or poster session) that have a student as the presenter and first author will be considered for the student paper competition. Undergraduate and graduate students are eligible. Papers will be judged on their technical merit and the cogency of their presentation. Please indicate at submission that the abstract is to be considered for the student paper competition, and list all student authors.

Please watch the ESA website (<http://www.electrostatics.org>) for the most up to date information.

### Conference Chair:

Scott Gehlke  
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## ESA OFFICERS

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

## WEBMASTER NEEDED

The Electrostatics Society of America is currently seeking a Webmaster to join our leadership team. Our Electrostatics.org website is one of the most important communication channels for the ESA to reach our members and extend an invitation to all to learn about electrostatics. Our Webmaster position is responsible working closely with the ESA Executive Council to plan the growth of Electrostatics.org, implementing new features, and make necessary revisions to our existing content.

Serving as the ESA Webmaster would be excellent experience and would help the ESA better serve our diverse members.

For further information, please contact: Kelly Robinson, Kelly.Robinson@SigmaXi.org

## CALENDAR

- ✓ ESA Annual Meeting, Jointly with IEEE-IAS, IEJ and SFE, June 6-9, 2006, Berkeley, California, Contact: Scott Gehlke, Tel: 501-704-2613, [sgehlke@ion.com](mailto:sgehlke@ion.com), website: <http://www.electrostatics.org>
- ✓ ISEI 2006, IEEE Int'l. Symp. on Elec. Insul., June 11-14, 2006, Toronto, Ontario, Canada, Contact: Dr. Howard Sedding, Tel: +1 416 207 6000, ext. 6172, website: <http://www.deis.nrc.ca/isei2006.htm>
- ✓ 2006 ISEHD, 2006 Int'l. Symp. on Electrohydrodynamics, Dec. 4-6, 2006, Buenos Aires, Argentina, website: [http://www.fi.uba.ar/isehd2006/2006%20EHD%20International%20Symposium\\_archivos/frame.htm](http://www.fi.uba.ar/isehd2006/2006%20EHD%20International%20Symposium_archivos/frame.htm)

## RANDOM CHARGES

### Cooking With High Voltage

Join us as we take a peek into the future when SCIENCE will push the envelope of food preparation, and finally allow us to enjoy the true goodness of the food we eat.

How?? By blasting it with high-voltage electricity of course!!!

Sample recipes include: Pulse Discharge Pancakes, Jacob's Ladder Kebabs, Charred Cheese Sandwich. Interested??

Go to <http://www.electricmuseum.com/exhibits/cook/>

(Humorous link supplied by M. Horenstein)

## CURRENT EVENTS

### Icy Collisions in Clouds Spark Lightning

Pictures taken by satellite radar show that clouds laced with lots of ice produce more lightning than others, according to a report in the journal *Geophysical Research Letters*. The increased electrical output occurred whether the clouds were over the Himalaya Mountains, the Florida coast or the rainforests of northern Australia.

What's at work? Inside of storm clouds, precipitation-sized particles of ice, which are about a millimeter or more across, crash into smaller ice particles that are being whipped around by swirling winds. Collisions cause a separation of electrical charge: It pops the smaller ice pebbles up to the top of the cloud, carrying a positive charge; the heavier ice particles carry a negative charge and sink to the bottom of the cloud.

The result of that separation: "You effectively make a big battery with positive and negative charges," explained lead researcher Walter Petersen of the University of Alabama at Huntsville.

The relationship between ice volume and lightning held true over such varied locations as the Himalaya Mountains, Central Africa, Madagascar, northern Australia and Florida, the researchers reported.

For more info. see

<http://www.external.ameslab.gov/final/News/2005rell/Friction.htm>

### New Device Could Shorten Drug Development

Researchers at the Georgia Institute of Technology have developed a device that has the potential to significantly reduce the time needed to analyze proteins. The device is a critical component of a mass spectrometer. Before the mass spectrometer can analyze a sample, molecules must first be converted to gas-phase charged ions through electrospray ionization (ESI), a process that produces ions by evaporating charged droplets obtained through spraying or bubbling. Georgia Tech's AMUSE (Array of Micromachined Ultra Sonic Electrospray) technology has several key advantages. For example, the sample aerosolization and protein charging processes are separated, giving AMUSE the unique ability to operate at low voltages with a wide range of solvents. In addition, AMUSE is a nanoscale ion source and drastically lowers the required sample size by improving sample use. Also important, AMUSE is a "high-throughput" microarray device, meaning that it can analyze many more samples at a time than a conventional electrospray device.

For more info see <http://www.gatech.edu/news-room/release.php?id=573>

Electrostatics  
Society of America



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### ESA Information

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

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