

# AES NEWSLETTER

## Inside this issue:

2016 Meeting Memories	2
Election Results, VP Muse	3
2017 AES-AIChE Meeting	4
2017 AES-SciX Meeting	5
GE software, Congrats grads	6

Many thanks to our supporters and friends for their generous contributions.

### Design 1

### COMSOL

### GE Healthcare

### LabTech

### Kendrick Labs, Inc

Our traditionally strong meetings would simply not be possible without help from our supporters. Their donations are greatly appreciated.

Send news for the web page  
[www.aesociety.org](http://www.aesociety.org)  
to Webmaster

**Jaka Cemazar**  
[jaka@vt.edu](mailto:jaka@vt.edu)

Send news for the newsletter  
to one of 3 Co-Editors:

**Victor Ugaz**  
[ugaz@tamu.edu](mailto:ugaz@tamu.edu)

**Nancy Kendrick**  
[nancy@kendricklabs.com](mailto:nancy@kendricklabs.com)

**Ed Goluch**  
[e.goluch@neu.edu](mailto:e.goluch@neu.edu)

Contact **Matt Hoelter**,  
AES Executive Director  
with questions.  
[matt-aes@tds.net](mailto:matt-aes@tds.net)



## Feeling fuzzy and scattered? Regain your scientific focus by attending the AES meeting in Minneapolis on Oct 29-Nov 3, 2017

### President's Message

Welcome to an exciting year of changes for the AES Electrophoresis Society! This is a great year to be a member as well as to be involved!

### Highlights from 2016 include:

- Exciting and well-attended sessions at the SciX meeting.
- Mid-Career Award winner Amy Herr presented at the SCIX meeting that featured talks by Nancy Albritton, Hang Lu, Brian Kirby, and Josh Molho.
- A successful annual meeting including presentations by vendors and workshops on COMSOL (special thanks to Ben Hawkins) as well as Dielectrophoresis (special thanks to Mike Hughes).
- Lifetime Achievement Award recipient Jean-Loius Viovy presented at the annual meeting that featured talks by Amit Meller, Yoshinobu Baba, James Landers group, and Madhavi Krishnan.
- Dynamite plenary session with talks by Abraham Lee, Elain Fu, Utkan Demirci, John O'Neill, and Marina Tavares.
- A special issue in the journal Electrophoresis focused on the annual meeting and co-edited by Fatima Labeed, Lisa Flanagan, and Blanca Lapizco.

### What to expect in 2017:

- Strengthening of our interdisciplinary nature by increasing our representation of the diverse fields involved in electrokinetics including engineering, chemistry, physics, biology, medicine.
- Increasing our presence at the SCIX conference to offer a better value to our members and to enhance opportunities for expanding networking and collaborative research opportunities.
- Specific networking events with CAREER award recipients, journal editors, and NSF/NIH panel reviewers to promote career development.
- Continuing to offer valuable workshops at our annual meeting.

*If you are not already involved in the AES Electrophoresis Society this is a great time to take an active part in our growth and future!*



President

Christa Hestekin, Ph.D.  
Associate Professor  
University of Arkansas  
Chemical Engineering Dept  
[chesteki@uark.edu](mailto:chesteki@uark.edu)

## 2016 San Francisco Meeting Memories



### Congratulations Poster Award Winners!



**1st place: Isaac Fees**  
 “Can a Neutral Particle Translate in an Electric Field?” Co-authors: John Brady and Zhen-Gang Wang  
 Caltech



**2nd place: Rucha Natu**  
 “Numerical Model of Streaming DEP for Stem Cell Sorting” Co-author: Rodrigo Martinez-Duarte  
 Clemson University



**3rd place: Elisabet Rosas**  
 “Following Lineage Commitment of Pre-implant Embryos Through Single-Embryo Western Blotting” Co-authors: Andrew Modzelewski, Lin He and Amy Herr, UC Berkeley



**Hon. Mention: Vanessa Velasco**  
 “Electrode Topography Effects on Sheared HU-VEC Morphology within an Electrical Impedance System” Co-authors: Patricia Soucy, Robert Keynton and Stuart Williams, University of Louisville

## Election Results: Welcome to our two new AES Board members!

**Blanca Lapizco-Encinas**  
Associate Professor  
Biomedical Engineering Dept  
Rochester Inst. of Technology  
[bh1bme@rit.edu](mailto:bh1bme@rit.edu)  
<http://microbioseplab.org>



**Mei He**  
Asst. Professor in Bioengineering  
Johnson Cancer Research Center  
Biological and Agricultural  
Engineering Dept  
Kansas State University  
[meih@ksu.edu](mailto:meih@ksu.edu)



A complete listing of AES officers and board members with more information can be found online at [http://www.aesociety.org/about\\_us/council.php](http://www.aesociety.org/about_us/council.php).

### Vice Presidential Musings

One of my colleagues recently asked me about the AES Electrophoresis Society. I mentioned that it is the premier society on electrokinetics, and that our meetings are an intimate setting to talk about electrophoresis, dielectrophoresis, microfluidics and related topics. I emphasized that although we are a small society, important names belong and have active roles. I also stressed the fact that we advocate for training young scientists and help nurture them to become relevant researchers. I put myself as an example.

I joined AES back in 2009 when I was a graduate student. I was so excited to present at the annual meeting in Nashville! My research heroes were going to be there! Eight years later I am still quite excited to attend our annual meeting and try to convey this excitement to my students. The society has been a nurturing forum where to present my research and get invaluable advice. Our annual meeting is the perfect opportunity to catch up with friends, be updated in our research field and be amazed at the work presented... and of course, to keep meeting my role models! Our meeting has been growing in quality in the past years. It has also been growing in scope and becoming more international.

We are a group of engineers, physicists and biologists getting super excited about moving “stuff” using electricity. Among our members we have journal editors, members of review panels, industry players and several awardees from the US and abroad. I keep thinking about how rich our membership is... and how underutilized it is. I believe we can do more.

Two ideas crossing my mind are: using our community to strengthen the research proposals and papers of our members, and enabling large, collaborative projects. For example, a series of panels come to mind where principal investigators present their research summary to a selected group of peer reviewers under some sort of confidentiality agreement. The goal will be to strengthen the proposal within our community. We must take advantage of our diversity to further the impact of electrokinetics. Yet another panel can be on practical tips to write competitive proposals. While of immediate use to faculty and postdocs, these tools will also help enhance the development of our students into productive researchers in academia, government laboratories, or industry.

Our annual meeting also has the ingredients to enable collaboration. This already happens when a couple of members strike interesting conversations during our meeting. We should make an effort for this to be of a greater scale. Large, multi-disciplinary, multi-university grants represent an opportunity to further electrokinetics, and I believe we have the expertise and the chemistry between our members to make this happen. What do you think? I'm sure you have thought of ways to move our society forward. Please share your ideas.

We can keep growing as long as all of us remain engaged. I look forward to continue this conversation with you in Minneapolis during our annual meeting. If you have not registered already, what are you waiting for?

**Rodrigo Martinez-Duarte**  
Assistant Professor  
Clemson University  
Mechanical Engineering  
Clemson, SC  
[rodrigm@clemson.edu](mailto:rodrigm@clemson.edu)



Vice-President

# 2017 AES Annual Meeting

October 29 - November 3, 2017

Minneapolis Hilton and  
Convention Center  
Minneapolis, Minnesota



**Technical Program:** Catch up on the latest developments in the sessions listed here.

- **Electrokinetics and Microfluidics for Biomolecular Analysis** (Chairs: David Charlot & Shubha Tiwari)
- **Electrokinetics for Cellular Analysis & Separation** (Chairs: Hadi Shafiee & Ezekiel Adekanmbi)
- **Soft Matter Electrokinetics: Particles, Drops, Bubbles** (Chairs: Stuart Williams & Christopher Wirth)
- **Electrokinetics: Advancing the Fundamentals** (Chairs: Adrienne Minerick & Sagnik Basuray)
- **Electrokinetics for Sample Preparation** (Chairs: Lisa Flanagan & Mei He)
- **Electrokinetics for Biological Separation and Analysis** (Chairs: Christopher Palmer & Aytug Gencoglu)

**Lunch with Leaders:** Student and postdoc members are invited to join established researchers for an opportunity to interact informally, share advice, and have fun.

**Networking Social:** Meet your AES colleagues for food and drink to discuss new ideas.

**Poster Session:** One of our most popular events. Awards are given to the best student posters.

**AES Plenary Session:** Join some of the top researchers in our field to share unique insights and perspectives.

**AES Award Session:** Help us celebrate the achievements of colleagues.

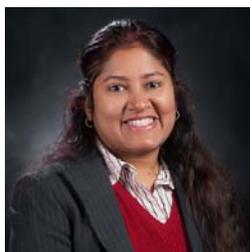
**Business Meeting:** Your chance to get involved! **AES Banquet:** Wrap-up the conference on a high note.

**The call for papers is now open with a deadline of May 15, 2017**

To submit an abstract, go to: <https://aiche.confex.com/aiche/2017/cfp.cgi>  
(Choose: "2017 Annual Meeting of the AES Electrophoresis Society")

## 2017 Meeting Organizers

**Soumya Srivastava**  
Assistant Professor  
University of Idaho  
Chemical Engineering  
Moscow, ID  
[srivastavask@uidaho.edu](mailto:srivastavask@uidaho.edu)



Dr. Soumya Srivastava has been an assistant professor of Chemical Engineering at University of Idaho, Moscow since 2013. Her research focuses on application of electrokinetics for microfluidic bio-separations of infectious cells and rare-earth elements suited for designing lab-on-a-chip systems. Before joining UI, she was an assistant research professor in the Voiland School of Chemical Engineering and Bioengineering at Washington State University from 2010 to 2013. She obtained her doctorate in chemical engineering at Mississippi State University in 2010. Srivastava is an active member of AIChE, AES, ASEE, SWE and Sigma-Xi.

**Tayloria Adams**  
Postdoctoral Fellow  
Univ. California-Irvine  
Neurology Department  
Irvine, CA  
[tayloria@uci.edu](mailto:tayloria@uci.edu)



Dr. Tayloria Adams is a postdoctoral research fellow in the Neurology Department at UC-Irvine. Her research uses dielectrophoresis to characterize and separate neural stem cells for eventual neurodegenerative disease treatment. Before joining UCI, she completed her M.S. and Ph.D. in Chemical Engineering at Michigan Tech University where she studied the dielectric properties of mesenchymal stem cells and red blood cells. Dr. Adams is a recipient of the NSF Postdoctoral Fellowship in Biology and UCI Chancellor's Postdoctoral Fellowship.

FACSS  
PRESENTS

SCiX2017

THE GREAT  
SCIENTIFIC EXCHANGE

October 8-13, 2017 | Grand Sierra Resort, Reno, NV

## ***AES Sessions at SciX 2017 include:***

- ⇒ Micro-scale electroporation and electrokinetic study of cells and biomolecules
- ⇒ Novel electrokinetic phenomena: fundamentals and applications
- ⇒ Electrokinetics for Cellular Analysis and Separations
- ⇒ Designer (nano)structures and molecules for separations and analysis

### **SciX Keynote Presentation by Dr. Janie Dubois**

*“The analytical and economic challenges of maintaining food safety in a global supply chain”*

University of Maryland, JIFSAN & Chair Lab Capacity Working Group  
at the World Bank's Global Food Safety Partnership.

### **2017 Mid-Career Award Winner: R. Scott Martin, St. Louis University**

*Invited and Contributed Sessions covering all aspects of electrophoresis*

Fundamentals
Microfluidics
Nanofluidics

Electokinetic Theory
Gradient Techniques
DNA Separations

Genomics
Proteomics
Biomolecular Analysis

### **Student Poster Session**

### **Social Events for AES Members and student participants**

Abstract submission and more info at: <http://www.scixconference.org>

**Grand Sierra Resort – Reno, NV USA**

**October 8-13, 2017**

For More Information Contact:

Electrophoresis Section Chairs: **Jason Dwyer**, [jdwyer@chm.uri.edu](mailto:jdwyer@chm.uri.edu)

**Darwin Reyes-Hernandez**, [darwin.reyes@nist.gov](mailto:darwin.reyes@nist.gov)

Program Chairman: **Alexandra Ros**, [Alexandra.Ros@asu.edu](mailto:Alexandra.Ros@asu.edu)

SciX Member  
Organizations:

American Chemical Society Division of Analytical Chemistry, AES Electrophoresis Society, American Society for Mass Spectrometry, ANACHEM, Coblentz Society, Council for Near Infrared Spectroscopy, Infrared and Raman Discussion Group (IRDG), International Society of Automation - Analysis Division, Royal Society of Chemistry Analytical Division, North American Society for Laser-Induced, Breakdown Spectroscopy, Society for Applied Spectroscopy, The Spectroscopical Society of Japan (SPSJ)



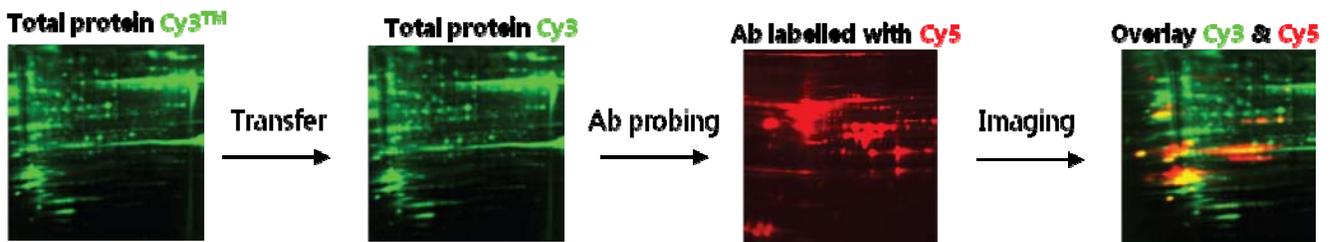
## New: Protein Analysis Software for checking recombinant protein drug purity



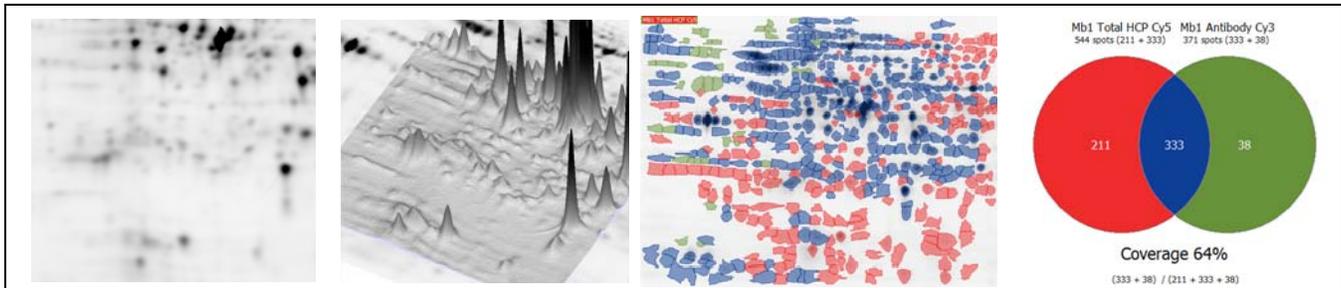
### Host Cell Protein (HCP) antibody coverage with Melanie™ Software

In addition to Melanie’s differential expression analysis capabilities, a new Melanie Coverage module has been specifically designed for the analysis of HCP antibody coverage. This software can analyze images from:

- Conventional 2D gel electrophoresis followed by 2D Western blotting
- Antibody affinity chromatography followed by 2D-DIGE
- 2D Differential In Blot Electrophoresis (2D-DIBE) – CyDye™ based assay, shown below



Melanie Coverage has a simple workflow with dedicated tools for the end user to quickly assess coverage and generate reports with confidence and accuracy



For further details please contact: [phil.beckett@ge.com](mailto:phil.beckett@ge.com)

Melanie is a trademark of SIB Swiss Institute of Bioinformatics . GE, GE monogram, and CyDye are trademarks of General Electric Company. © 2017 General Electric Company. [www.gelifesciences.com](http://www.gelifesciences.com)

Advertisement

Congratulations to graduating seniors and graduate students around the world with an interest in electrophoresis and electrokinetics. Please accept our gift!

Email Rodrigo Martinez-Duarte (VP, [rodrigm@clemsun.edu](mailto:rodrigm@clemsun.edu), see p. 3) for a free 1-year membership to the society.