



© Disney



© Cynthia Limon



© Hilton Orlando Bonnet Creek



© Hilton Orlando Bonnet Creek



© Disney



# 225<sup>th</sup> ECS Meeting

**ORLANDO, FL**

**May 11-16, 2014**

**Hilton Bonnet Creek**

**Call for Papers**

For the full Orlando, FL, Call for Papers, See the ECS website: [www.electrochem.org/meetings/biannual/225/](http://www.electrochem.org/meetings/biannual/225/).

## General Information

The 225<sup>th</sup> ECS Meeting will be held from **May 11-16, 2014**. This major international conference offers a unique blend of electrochemical and solid-state science and technology; and serves as a major forum for the discussion of interdisciplinary research from around the world through a variety of formats, such as oral presentations, poster sessions, exhibits, and tutorial sessions.

## Abstract Submission and Deadlines

**Abstracts are due no later than November 15, 2013.**

Note: Some abstracts may be due earlier than November 15, 2013. Please carefully check the symposium listings for any alternate abstract submission deadlines. For complete details on abstract submission and symposia topics, please see [www.electrochem.org](http://www.electrochem.org).

Submit one original meeting abstract electronically via [www.electrochem.org](http://www.electrochem.org), no later than **November 15, 2013**. Faxed abstracts, emailed abstracts, late abstracts, and abstracts more than one page in length will not be accepted. In January 2014, all presenting authors will receive an email from ECS headquarters office notifying them of the date, time, and location of their presentation. Only authors with non-U.S. addresses will receive a hardcopy acceptance letter. Other hardcopy letters will be sent only upon request.

Meeting abstracts should explicitly state objectives, new results, and conclusions or significance of the work. Abstracts must be properly formatted and no more than one page in length. Please use the ideal preformatted two column template located at: [http://www.electrochem.org/meetings/assets/abs\\_template.doc](http://www.electrochem.org/meetings/assets/abs_template.doc). Programming for this meeting will occur in January 2014, with some papers scheduled for poster presentation. Check the ECS website for further program details.

## Paper Presentation

All authors selected for either oral or poster presentations will be notified in January 2014. Oral presentations must be in English. Both LCD projectors and laptops will be provided for oral presentations. **Presenting authors are no longer required to bring their own laptops to the meeting for presentation; however, you MUST bring your presentation on a USB flash drive to be used with the laptop that will be provided in each technical session room.** If a presenting author would like to use his/her own laptop for presentation, we strongly suggest that the author verify laptop/projector compatibility in the presentation room prior to the start of the session or all other presentations. Speakers requiring additional equipment must make written request to the ECS headquarters office at least one month prior to the meeting and appropriate arrangements will be worked out, subject to availability, and at the expense of the author. Poster presentations should be displayed in English, on a board approximately 3 feet 10 inches high by 3 feet 10 inches wide (1.17 meters high by 1.17 meters wide), corresponding to the abstract number and day of presentation in the final program.

## Manuscript Publication

ECS Meeting Abstracts—All meeting abstracts will be published on the ECS website, copyrighted by ECS, and all abstracts become the property of ECS upon presentation.

*ECS Transactions*—All full papers presented at ECS meetings are eligible for submission to the online proceedings publication, *ECS Transactions* (ECST). Each meeting is represented by a “volume” of ECST, and each symposium is represented by an “issue.”

Some symposia will publish their issue to be available for sale “AT” the meeting. Please see each individual symposium listing in this Call to determine if there will be an “AT” meeting issue. In this case, submission to ECST is mandatory, and required in advance of the meeting.

Some symposia will publish their issue to be available “AFTER” the meeting, and all authors are encouraged to submit their full papers. To determine acceptance in ECST, all submitted manuscripts will be reviewed, either by the symposium organizers or by the ECST Editorial Board. After the meeting, all accepted papers in ECST will be available for sale, either individually, or by issue.

Please visit the ECST website (<http://ecsd.org/ECST/>) for additional information, including overall guidelines, deadlines for submissions and reviews, author and editor instructions, a manuscript template, and much more.

Authors presenting papers at ECS meetings, and submitting to ECST, are encouraged to submit to the Society’s technical journals: the *Journal of the Electrochemical Society*, *ECS Journal of Solid State Science and Technology*, *ECS Electrochemistry Letters*, or *ECS Solid State Letters*. Although there is no hard deadline for the submission of these papers, it is considered that six months from the date of the symposium is sufficient time to revise a paper to meet the stricter deadlines of the journals. “Instructions to Authors” are available from the ECS headquarters office, the journals, or the ECS website.

If publication is desired elsewhere after presentation, written permission from ECS is required.

## Financial Assistance

Financial assistance is very limited and generally governed by the symposium organizers. Individuals may inquire directly to the symposium organizers of the symposium in which they are presenting their paper to see if funding is available. Individuals requiring an official letter of invitation should write to the ECS headquarters office; such letters will not imply any financial responsibility of ECS. Students seeking financial assistance should consider awarded travel grants (see page 88).

## Hotel Reservations

The 225<sup>th</sup> ECS Meeting will be held at the The Hilton Bonnet Creek Hotel, 14100 Bonnet Creek Resort Lane, Orlando, FL 32821. Please refer to the 225<sup>th</sup> ECS Meeting website for the most up to date information on hotel availability and a block of rooms where special rates have been reserved for participants attending the 225<sup>th</sup> ECS Meeting. **The hotel reservation deadline is April 11, 2014.** Please refer to ECS website for rates and reservations.

## Meeting Registration

**All participants—including authors and invited speakers of the 225<sup>th</sup> ECS Meeting—are required to pay the appropriate registration fees.** Hotel and meeting registration information will be posted on the ECS website ([www.electrochem.org](http://www.electrochem.org)) as it becomes available. **The deadline for early bird registration is April 11, 2014.**

## Short Courses

A number of short courses will be offered on Sunday, May 11, 2014 from 9:00 AM-4:30 PM. Short Courses **require advance registration** and may be cancelled if enrollments are too low. As of press-time, the following Short Courses are tentatively planned for the meeting: Basic Impedance Spectroscopy, Fundamentals of Electrochemistry, Grid Scale Energy Storage, Solar Energy Conversion, Battery Safety, Chemical/Biological Sensors, and Survey of Materials Characterization Techniques. Please check the ECS website for the final list of offerings.

## Technical Exhibit

The 225<sup>th</sup> ECS Meeting will also include a Technical Exhibit, featuring presentations and displays by over 40 manufacturers of instruments, materials, systems, publications, and software of interest to meeting attendees. Coffee breaks are scheduled each day in the exhibit hall along with evening poster sessions to increase traffic. Please see the ECS website for further details.

## Sponsorship Opportunities

ECS biannual meetings are wonderful chances to market your company through sponsorship. Sponsors will be recognized by level in *Interface*, the Meeting Program, meeting signage, on the ECS website, and in the mobile app. The levels are: Platinum: \$10,000+, Gold: \$5,000, Silver: \$3,000, and Bronze: \$1,500.

In addition, sponsorships are available for the plenary and keynote talks and other special events. These opportunities include the recognition stated above, along with additional personalized packages. Special event sponsorships will be assigned by the Society on a first-come, first served basis.

Advertising opportunities—in the Meeting Program as well as in *Interface*—are available. Please see the ECS website for further details.

## Contact Information

If you have any questions or require additional information, contact The Electrochemical Society, 65 South Main Street, Pennington, New Jersey, 08534-2839, USA, tel: 609.737.1902, fax: 609.737.2743, e-mail: [ecs@electrochem.org](mailto:ecs@electrochem.org); Web: [www.electrochem.org](http://www.electrochem.org).

# SYMPOSIUM TOPICS

## A — Batteries, Fuel Cells, and Energy Conversion

- A1 — Batteries and Energy Technology Joint General Session
- A2 — Material and Electrode Designs for Energy Storage and Conversion
- A3 — Mechanical-Electrochemical Coupling in Energy Related Materials and Devices
- A4 — Stationary and Large Scale Electrical Energy Storage Systems 4

## B — Chemical and Biological Sensors

- B1 — Sensors, Actuators, and Microsystems General Session (Chemical and Biological Sensors)
- B2 — Practical Implementation and Commercialization of Sensors
- B3 — Sensors for Power Production and Energy Conversion
- B4 — Ubiquitous Sensing, Energy Harvesting and the Internet of Things

## C — Corrosion Science and Technology

- C1 — Corrosion General Session

## D — Electrochemical/Electroless Deposition

- D1 — Electrodeposition for Micro- and Nano-Battery Materials
- D2 — Electroless Plating: Principles and Applications 3

## E — Electrochemical Engineering

- E1 — Electrochemical Engineering General Session
- E2 — Characterization of Porous Materials 6
- E3 — Electrochemical Engineering for the 21<sup>st</sup> Century 4
- E4 — Electrolysis and Electrochemical Processes
- E5 — Materials for Low Temperature Electrochemical Systems

## F — Fuel Cells, Electrolyzers, and Energy Conversion

- F1 — Characterization of Interfaces and Interphases
- F2 — Computational Studies on Battery and Fuel Cell Materials (in Honor of Prof. Ishikawa Symposium)
- F3 — Electrochemical Utilization of Solid Fuels 2
- F4 — Ionic and Mixed Conducting Ceramics 9
- F5 — Solar Fuels and Photocatalysts 3
- F6 — State of the Art Tutorial on Durability in Low Temperature Fuel Cells

## G — Organic and Bioelectrochemistry

- G1 — Students in Bioelectrochemistry
- G2 — Manuel Baizer Memorial Award Symposium in Organic Electrochemistry 11
- G3 — Timely Challenges in Bioelectrochemistry: Unprecedented Analysis

## H — Physical and Analytical Electrochemistry, Electrocatalysis, and Photoelectrochemistry

- H1 — General Physical and Analytical Electrochemistry, Electrocatalysis, and Photoelectrochemistry Session
- H2 — Symposium in Honor of Andrzej Wieckowski
- H3 — Biofuel Cells 6

- H4 — Charge Transfer: Electrons, Protons, and Other Ions 2

- H5 — Physical Chemistry of Electrolytes

- H6 — Rare-Earth and Actinide Electrochemistry

- H7 — Scanning Probe Microscopy 2

- H8 — Spectroelectrochemistry 2

- H9 — Symposium in Honor of Richard Buck

## M — Carbon Nanostructures and Devices

- M1 — Carbon Electronics: Interfaces to Metals, Dielectrics, and Electrolytes

- M2 — Carbon Nanostructures for Energy Conversion

- M3 — Carbon Nanostructures in Medicine and Biology

- M4 — Carbon Nanotubes - From Fundamentals to Devices

- M5 — Endofullerenes and Carbon Nanocapsules

- M6 — Fullerenes - Chemical Functionalization, Electron Transfer, and Theory

- M7 — Graphene and Related Structures

- M8 — Nanostructures for Energy Conversion

- M9 — Porphyrins, Phthalocyanines, and Supramolecular Assemblies

## N — Dielectric Science and Materials

- N1 — Dielectrics for Interconnect, Interposers, and Packaging

- N2 — Dielectrics for Nanosystems 6: Materials Science, Processing, Reliability, and Manufacturing

- N3 — More than Moore 2

## P — Electronic Materials and Processing

- P1 — Chemical Mechanical Polishing 13

- P2 — Silicon Compatible Materials, Processes, and Technologies for Advanced Integrated Circuits and Emerging Applications 4

## Q — Electronic and Photonic Devices and Systems

- Q1 — Integrated Optoelectronics 7

- Q2 — Wide Bandgap Semiconductor Materials and Devices 15

## R — Luminescence and Display Materials, Devices, and Processing

- R1 — Nanoscale Luminescent Materials 3

## S — Physical Sensors

- S1 — Sensors, Actuators, and Microsystems General Session (Physical Sensors)

## Z — General

- Z1 — General Student Poster Session

- Z2 — Nanotechnology General Session

- Z3 — Solid State Topics General Session