Focus on Focus Issues

ECS began publishing special “focus” issues of the *Journal of The Electrochemical Society* (JES) and *ECS Journal of Solid State Science and Technology* (JSS) in 2013. These issues highlight scientific and technological areas of current interest and future promise that are expanding rapidly or have taken a new direction. Since the first focus issue was published, ECS has published 10 focus issues in JES and 8 focus issues in JSS, covering a range of topics from intercalation compounds for rechargeable batteries to nanocarbons for energy harvesting and storage. Many of the focus issues grew out of related symposia held at Society meetings. In certain cases, new symposia are initiated as a result of focus issues.

The focus issues are handled by prestigious guest editors who work closely with the journal Technical Editors to carry out the same rigorous peer review process that all ECS journal submissions undergo. This process ensures that only papers of the highest quality are accepted.

Dennis Hess, Editor of JSS, in his editorial included in the first focus issue published by ECS (*JSS Focus Issue on Luminescent Lighting Materials for Solid State Lighting*), noted that “We hope that this issue expands your horizons and motivates further research and development in this exciting field.”

In their introduction to the *JES Focus Issue on Mechano-Electro-Chemical Coupling in Energy Related Materials and Devices*, guest editors J. D. Nicholas, Y. Qi, S. R. Bishop, and P. P. Mukherjee state, “MEC coupling provides new pathways for the characterization and control of material behavior. It is therefore likely that many exciting discoveries, some of which are highlighted in this Focus Issue, will continue to be made in this new, multi-disciplinary research field.”

Many of the papers within the focus issues are freely available as Open Access papers and all of the papers in the *JES Focus Issue of Selected Presentations from IMLB 2014* are Open Access. (For more information about Author Choice Open Access in the ECS journals, visit www.electrochem.org/oa/.)

ECS is currently accepting submissions for the following focus issues:

- Redox Flow Batteries – Reversible Fuel Cells (JES)
- Electrochemical Interfaces in Energy Storage Systems (JES)
- Chemical Mechanical Planarization: Advanced Material and Consumable Challenges (JSS)
- Micro-Nano Systems in Health Care and Environmental Monitoring (JSS)

Visit the ECS Digital Library (www.ecsdl.org) for more information about submitting manuscripts to any of the focus issues listed above or to view any of the already published focus issues. Look for future “Focus on Focus Issues” columns in *Interface* for in-depth commentary on specific focus issues and links to highlighted articles from those issues. Finally, if ECS journal readers have ideas, suggestions, or proposals for future focus issues, please let us know.

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**ECS Thanks 2014 Reviewers**

The Electrochemical Society relies upon the technical expertise and judgment of its reviewers to maintain the high-quality publication standards characteristic of its four peer-reviewed journals (*Journal of The Electrochemical Society*, *ECS Journal of Solid State Science and Technology*, *ECS Electrochemistry Letters*, and *ECS Solid State Letters*). We greatly appreciate the time and effort put forth by the reviewers, and express our sincere gratitude for their hard work and support.

For a complete list of 2014 reviewers, please go to www.electrochem.org/reviewers

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**ECS Sponsored Meetings for 2015**

In addition to the regular ECS biannual meetings and ECS Satellite Conferences, ECS, its Divisions, and Sections sponsor meetings and symposia of interest to the technical audience ECS serves. The following is a list of sponsored meetings for 2015. Please visit the ECS website for a list of all sponsored meetings.

- **17th Topical Meeting of the International Society of Electrochemistry**, May 31-June 3, 2015 — Saint-Malo, France
- **16th International Conference on Advanced Batteries, Accumulators, and Fuel Cells**, August 30-September 4, 2015 — Brno, Czech Republic
- **66th Annual Meeting of the International Society of Electrochemistry**, October 4-9, 2015 — Taipei, Taiwan

To learn more about what ECS sponsorship could do for your meeting, including information on publishing proceeding volumes for sponsored meetings, or to request an ECS sponsorship of your technical event, please contact ecs@electrochem.org.
Many things have changed since The Electrochemical Society was founded in 1902, yet the idea of providing an open forum for the community to discuss electrochemical and solid state science and technology remains the backbone of the Society. However, with 74 percent of online adults using social networking sites, that forum has most definitely changed from what the founders of ECS envisioned over 100 years ago.

Since the introduction of the new ECS Marketing & Digital Engagement Department in April of 2014, the Society has set the ball rolling to expand our reach, communicate with our constituents, and build a sense of community.

“Our goal is to be the digital go-to source for content in electrochemistry and solid state science,” says Rob Gerth, Director of Marketing & Digital Engagement for ECS. “That means gathering content, creating content, and then taking that content to the community.”

The birth of the ECS Redcat Blog (www.ecsblog.org) has provided a new venue for members and nonmembers alike to stay informed on what is trending in electrochemical and solid state science, all while having the ability to interface with a like-minded community. With the constant flow of content, the ECS Redcat Blog has been able to gain traction and develop into a highly recognized news source. In a six month period, the blog had an astounding 125 percent increase in visitors, the majority of whom were new to the site.

While the ECS Redcat Blog does serve as a news and information source, it also acts as a place to “socialize” our journals and celebrate the prominence of our members. By providing a new venue to propagate information and heighten accessibility, we’re able to further advance one of the Society’s main objectives of disseminating scientific information to the widest possible audience.

Though content curation and dissemination are at the heart of ECS, the Society is always looking to inspire new ideas, experiments, research, and discovery. Our social networking sites pursue the same goals as our international scientific meetings: attract the very best scientists from around the globe to discuss issues, share results, and address some of the most critical situations the world is facing today.

Through Twitter (www.twitter.com/ECSorg) and Facebook (www.facebook.com/TheElectrochemicalSociety), we disseminate our Open Access journal articles as soon as they are published, speeding up the scientific discovery process. We are not only aiding in the discovery process—we’re also heightening author visibility. According to Facebook and Twitter, we’ve seen a growth of 271 percent and 64 percent respectively of our followers over a nine month period.

Our robust LinkedIn group (www.electrochem.org/linkedin) provides a forum to exchange ideas and network with peers to facilitate the open communication of science. Our established group of professionals numbers over 3,800 members, who are active in various fields of electrochemical and solid state science.

With over one billion unique users each month—and 80 percent of that traffic coming from outside the United States—YouTube is an ideal platform for ECS to reach out to its global constituents. We hope to popularize electrochemical and sold state science with topical videos, along with preserving the past and recognizing the great pillars of electrochemistry in our Masters Series, which features archived footage of some of the most prominent figures in the field.

In a recently conducted online survey, the people spoke and confirmed that we’re on the right path to providing our valued constituency with the information and resources that are of the most value to them. However, we believe there is still work to be done on our end to heighten the visibility of our members and journals, as well as to expand the dissemination process through the use of video, webinars, podcasts, and the launch of our new website at the end of 2015.

Over the past few years, many have been wondering if the Internet has changed science. We believe it has—and a lot of good has come from this for ECS. From the establishment of our Digital Library (www.ecsd.org/) to the excitement behind our Open Access initiative (www.electrochem.org/oa/), the transition to online media has helped give all scientists and researchers a voice, promoting a more level playing field in the sciences.

Our social networking initiatives are expanding our universe and opening doors to possibilities that would be otherwise inaccessible. Through our dedication to social networking, we hope to inspire personal connections, disseminate knowledge more freely, and help harness some of the greatest science the world has yet to see.

References
**Christie Knef** has recently been promoted to the Director of Meetings. Christie will be responsible for overseeing all aspects of the development, organization, and management of the ECS biannual meetings, satellite conferences, and other ECS sponsored events. She will work closely with the other senior staff and volunteer leaders to ensure the meetings support the Society’s goals and objectives.

Christie joined ECS in 2013 as the Development Manager. During this time she was responsible for managing and coordinating fundraising activities to support ECS’s priorities and mission, managing and developing relationships with supporters, as well as the sales and coordination of the digital and print advertising programs. Additionally, she spent a great deal of time managing the ECS meeting symposium funding program, working closely with volunteers and funding agents to facilitate funding decisions, and ensuring accurate reporting for annual meetings.

Christie’s robust experience across the hospitality and event planning industries, coupled with her time spent in the Development Department at ECS, has equipped her with the skills to take on the role of Director of Meetings with a fresh and focused approach. Christie is thrilled to take on this important leadership position and looks forward to the continued success of the meetings program at ECS.

**John Lewis** has recently joined the ECS Meetings Unit as the Associate Director of Meetings, responsible for overseeing the technical programming of the Society’s biannual meetings. John has been with ECS since September 2005, first as ECS Transactions (ECST) Manager, then as Associate Director of Conference Publications. In both positions, John was responsible for the Society’s digital proceedings series, *ECS Transactions* (ECST). ECST grew from a newly-launched publication to a successful program with a backlist of 750 issues from over 60 meetings across the globe.

Prior to joining ECS, John spent more than seven years working as a Digital Archive Manager for the Publication Technologies Department of Random House Inc., and more than five years as an artist and event manager in the music business. This intersection of events, technology, and personal service has given him a well-rounded skill set that has been of great value to the Society through the years. John’s depth of knowledge and experience regarding the ECS meetings and conference publications, as well as his relationships with many ECS leaders, have made him a natural fit for this position and an asset to the Meetings Unit.

**Beth Anne Stuebe** has worked with John Lewis on the day-to-day running of ECST, with a focus on the production side of the publication. Beth Anne has worked closely with organizers, editors, and authors to facilitate the building and publication of issues. And now, with John Lewis’ transition to the Associate Director of Meetings, Beth Anne has assumed the leadership role for ECST, becoming the Meetings & Conference Content Manager.

Moving forward, her job will focus solely on the production and management of ECST. By moving Beth Anne into the ECST manager role and the publication over to the Meetings Unit of the Content Department, ECST will have the full stretch of the Meeting Unit resources, making the ties among ECS meetings, *ECS Meeting Abstracts*, and *ECS Transactions* stronger and more cohesive, resulting in faster meeting publications and a growing ability to provide content in a continuous manner.

**Anna Olsen** joined ECS in the fall of 2010 and has recently made the transition from the constituent and member services program area to the Content Department, working in both publications and meetings areas. Of her recent change, Anna said, “One good way to stop the conversation at a dinner party is to say, ‘I’m a Sr. Content Associate & Library Liaison.’ If anyone responds at all, it’s simply to say, ‘I love going to the library!’ Then the conversation turns to the books that everyone has been enjoying.” Anna, a five-year employee at ECS, laughs as she shares this observation. She went on to say that the switch from constituent services to the Content programs entailed entering areas with which she was not familiar, but she loves learning new things and accepting new challenges at ECS. Anna’s background, with a BA in Education, comes into play in teaching librarians about the kinds of content ECS offers and how to manage their subscriptions in the Digital Library.

Anna shares the Society’s Open Access vision (www.electrochem.org/oa/), which gives authors an option to publish their work as OA, and gives subscribing institutions a very valuable benefit of unlimited article credits for authors at their institutions. This is an exciting and aggressive plan by ECS to make our content available to all. Looking to the future, Anna’s job is to build relationships with our subscribers and to help them use the full potential of our Digital Library, and she has been doing precisely that since she first began working at ECS.
ECS is delighted to announce that in 2015, Metrohm USA became our second Visionary Member. The highest level of institutional membership with ECS, visionary membership was created in late 2013 as part of a larger revision of our institutional membership program to include new discounts on advertising and meetings and improved visibility for those who support our society with annual institutional memberships.

Metrohm USA first joined ECS as an institutional member in 2006. Over the course of their eight-year membership, they have steadily grown in their involvement with ECS, participating in our biannual meetings as an exhibitor and supporting our publications by advertising in Interface and within our digital venues. “ECS has appreciated both the continued support and the beneficial ideas and feedback we have received from Metrohm over the course of our long-term partnership,” noted Dan Fatton, ECS Director of Development and Membership Services, “we’re excited to see them take this next step into greater leadership in the Society.”

Drawing on almost 30 years of their experience, Metrohm provides precise measurement solutions for diverse fields. Metrohm's expertise ranges from traditional electro-analysis methods such as polarography to hyphenated modern technologies. In addition to electrochemistry products, Metrohm offers a complete line of analytical laboratory and process systems for titration, ion chromatography and spectroscopy. From routine analysis to sophisticated research, they are ready to help you develop your method and configure the optimum system.

“We are proud to support ECS and their work in the electrochemistry community. Our products address the needs of both research and the applied fields of manufacturing and environmental monitoring, therefore strengthening our partnership is a logical next step,” says Edward Colihan, CEO of Metrohm USA. “Together we look forward to advancing technology and serving the scientific community with cutting-edge products and unrivaled support.”
Fuel Cells — Green Power

Although fuel cells have been around since 1839, it took 120 years until NASA demonstrated some of their potential applications in providing power during space flight. As a result of these successes, in the 1960s, industry began to recognize the commercial potential of fuel cells, but encountered technical barriers and high investment costs — fuel cells were not economically competitive with existing energy technologies. Since 1984, the Office of Transportation Technologies at the U.S. Department of Energy has been supporting research and development of fuel cell technology, and as a result, hundreds of companies around the world are now working towards making fuel cell technology pay off. Just as in the commercialization of the electric light bulb nearly one hundred years ago, today’s companies are being driven by technical, economic, and social forces such as high performance characteristics, reliability, durability, low cost, and environmental benefits.

- Los Alamos National Laboratory

Electrochemistry

In 1797 the English physician George Pearson laboriously charged Leyden jars at his electric machine, then discharged them through water, carefully collecting the gases that appeared. Finally, he mixed the gases in a dry container and made a spark with his machine. Drops of water collected on the walls of the container when it cooled. He had decomposed water into its constituents, and then recombined them again. The world took little notice. In 1800 Alessandro Volta reported the results of his recent studies to the Royal Society of London, of which he was a member. His momentous achievement was the column, or “pile,” of discs of silver, zinc, and leather moistened with salt solution, repeated over and over. An alternative was the couronne des tasses, a ring of cups joined by arcs of silver and zinc alternately, filled with dilute salt solution. When the ultimate members of the pile or crown were connected by a conductor, a permanent electric current flowed. Much care was taken to show that it had the same qualities as the electricity from a static machine, principally that it could give a shock, or fuse a fine wire. Electricity was now available in unprecedented amounts with no exertion, but at a much lower pressure. And so it goes.

- J. B. Calvert (University of Denver)
  http://mysite.du.edu/~jcalvert/phys/elechem.htm

Batteries

The Primer on Lead-Acid Storage Batteries as approved for use by all DOE Components. It was developed to help DOE facility contractors prevent accidents caused during operation and maintenance of lead-acid storage batteries. The major types of lead-acid storage batteries are discussed as well as their operation, application, selection, maintenance, and disposal. Safety hazards and precautions are discussed in the section on battery maintenance. References to industry standards are included for selection, maintenance, and disposal.

- Department of Energy (DOE) Primers

About the Author

Zoltan Nagy is a semi-retired electrochemist. After 15 years in a variety of electrochemical industrial research, he spent 30 years at Argonne National Laboratory carrying out research on electrode kinetics and surface electrochemistry. Presently he is at the Chemistry Department of the University of North Carolina at Chapel Hill. He welcomes suggestions for entries; send them to nagyz@email.unc.edu.

Annual Society Luncheon and Business Meeting

The Annual Society Luncheon and Business Meeting will take place on Tuesday, May 26, starting at 1215h. The President, Secretary, and the Treasurer will give brief reports on the current state of the Society, and the Student Poster Award presentation will take place at this annual business luncheon. All members and meeting attendees are encouraged to participate in this event. Tickets are $41.00 by Early-Bird deadline, and $46.00 onsite. See page 21 more information about the Chicago meeting, including how to register.
Division Officer Slates Announced

New officers for the 2015-2017 term have been nominated for the following Divisions. All election results will be reported in the summer 2015 issue of *Interface*.

### Electronics and Photonics Division

**Chair**
Mark Overberg, Sandia National Laboratories

**Vice-Chair**
Colm O’Dwyer, University of College Cork

**2nd Vice-Chair**
Junichi Murota, Tohoku University

**Secretary**
Soohwan Jang, Dankook University

**Treasurer**
Yu-Lin Wang, National Tsing Hua University

**Members-at-Large**
Andrew Hoff, University of South Florida
Edward Stokes, University of North Carolina, Charlotte
Albert Baca, Sandia National Laboratories
Helmut Baumgart, Old Dominion University
Noel Buckley, University of Limerick
George Celler, Rutgers University
Pablo Chang, Avago Technologies
Cor Claeyts, IMEC
Stefan De Gendt, IMEC
J. Jamal Deen, McMaster University
Manfred Engelhardt, Infineon Technologies AG
Takeshi Hattori, Hattori Consulting international
Hiroshi Iwai, Tokyo Institute of Technology
Zia Karim, AXITRON
Yue Kuo, Texas A&M University
Qiliang Li, George Mason University
Durgamadhab, New Jersey Institute of Technology
Fan Ren, University of Florida
Fred Roozeboom, Eindhoven University of Technology
Jerzy Ruzylo, Pennsylvania State University
Krishna Shenai, LoPel Corp
Motofumi Suga, University of Tokyo

### Organic and Biological Electrochemistry Division

**Chair**
Mekki Bayachou, Cleveland State University

**Vice-Chair**
Graham Cheek, U. S. Naval Academy

**Secretary/Treasurer (candidate not selected will become a member-at-large)**
Diane Smith, San Diego State University

**Members-at-Large (at least three to be elected)**
David Cliffel, Vanderbilt University
Danjun Fang, Case Western Reserve University
Toshio Fuchigami, Tokyo Institute of Technology
Chang Ji, Texas State University
Donal Leech, Maynooth University
Flavio Maran, University of Padova
Michael Mirkin, Queens College
Kevin Moeller, Washington University
Ikuzo Nishiguchi, Nagaoka University of Technology
James Rusling, University of Connecticut
Richard West, Case Western Reserve University

### Energy Technology Division

**Chair**
Scott Calabrese Barton, Michigan State University

**Vice-Chair**
Andrew Herring, Colorado School of Mines

**Secretary**
Vaidyanathan Subramanian, University of Nevada

**Treasurer**
William Mustain, University of Connecticut

**Members-at-Large (up to 30 elected)**
Katherine Ayers, Proton On-Site
Huyen Dinh, NREL

### Physical and Analytical Electrochemistry Division

**Chair**
Pawel Kulesza, University of Warsaw

**Vice-Chair**
Alice Surowiec, Berry College

**Secretary**
Petr Vanýsek, Northern Illinois University

**Treasurer**
Robert Calhoun, U.S. Naval Academy

**Members-at-Large**
Stephen Padison, University of Tennessee, Knoxville
Luke Haverhals, Bradley University
Hugh DeLong, Air Force Office of Scientific Research
Steven Maldonado, University of Michigan
Plamen Antanassov, University of New Mexico
Sanjeev Mukerjee, Northeastern University
David Cliffel, Vanderbilt University
Paul Trulove, U.S. Naval Academy
Alanah Fitch, Loyola University

James Fenton, University of Central Florida
Thomas Fuller, Georgia Tech
Kunal Karan, University of Calgary
Sanjeev Mukerjee, Northeastern University
Sri Narayan, University of Southern California
Peter Pintauro, Vanderbilt University
Krishnan Rajeshwar, University of Texas at Arlington
Juergen Stumper, Automotive Fuel Cell Cooperation
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Jessica Koehne, Treasurer
In the NEXT issue of INTERFACE

- The summer 2015 issue of Interface will feature the Energy Technology Division of ECS. Guest edited by Andrew Herring and Vito Di Noto, the issue will include the following technical articles (titles are tentative) that highlight activities of interest to the Division: “Bi-functional Air Electrodes – Challenges and Prospects,” by S. R. Narayan, Sanjeev Mukerjee, and Aswin Manohar; “Origins, Developments and Perspectives of Carbon Nitride-Based Electrocatalysts for Application in Low-Temperature Fuel Cells,” by Vito Di Noto, Enrico Negro, Keti Vezzù, Federico Bertasi, and Graeme Nawn; “Electrochemical Synthesis of Ammonia: A Low Pressure, Low Temperature Approach,” by Katherine E. Ayers, Julie N. Renner, Andrew M. Herring, and Lauren F. Greenlee; and “Non-platinum Group Metal Catalysts for Fuel Cells: One Step Closer to Applications in Low Temperature Fuel Cells,” by Plamen Atanassov and Sanjeev Mukerjee.

- Highlights from the ECS Meeting in Chicago... Don’t miss all the photos and news from the ECS spring 2015 meeting in Chicago.

- Tech Highlights continues to provide readers with free access to some of the most interesting papers published in the ECS journals. As an added bonus, the full text of all of the articles mentioned in this column are freely accessible in the ECS Digital Library.

- Don’t miss the next edition of Websites of Note which gives readers a look at some little-known, but very useful sites.

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www.ecsdl.org

www.electrochem.org

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