ECS is partnering with the Bill & Melinda Gates Foundation’s Water, Sanitation & Hygiene (WASH) initiative to host a multi-day workshop at the 2014 International Electrochemical Energy Summit (E2S) in Cancun, Mexico being held October 5-9, 2014. The workshop will culminate in the on-the-spot distribution of over $200,000 in seed funding from ECS, addressing critical technology gaps in water, sanitation, and hygiene challenges being faced around the world.

ECS hopes to improve access to clean water and sanitation in developing countries by leveraging the brainpower of the many scientists in electrochemistry and solid state science and technology attending the 2014 ECS and SMEQ Joint International Meeting. (See page 21 for more information about this meeting.)

Priority topic areas will include interfaces, disinfection, energy generation, energy storage, chemical conversion, monitoring and measurement, and dewatering technologies, among others, including a “wild card” topic area to be decided by participants.

“ECS is excited to partner with the Bill & Melinda Gates Foundation to help address the urgent water and sanitation challenges the world is facing,” says ECS President Paul Kohl. “This partnership provides a unique opportunity for researchers to generate potential solutions and then almost immediately start testing them.”

The workshop will kick off with remarks from current awardees of the Bill & Melinda Gates Foundation. Participants will be guided through facilitated brainstorming and working group sessions by Brandy Salmon of RTI International. Attendees will work in full group and breakout sessions to address complex scientific issues, gaps and needs. They will be encouraged create partnerships and surface new approaches to existing challenges within the WASH portfolio.

At least two grants will be distributed on the last day of the meeting from the more than $200,000 available, each in the range of $25,000-$100,000. Participants are expected to develop potential partnerships and collaborative proposals, then make an oral presentation. An independent review committee will review the proposals and make award recommendations by Friday, October 10, 2014.

Dan Fatton is the Director of Development for ECS. He may be reached at dan.fatton@electrochem.org.
Sponsored by ECS, the 17th International Meeting on Lithium Batteries (IMLB 2014) was held at Villa Erba in Como, Italy from June 10 to 14. IMLB is the premier international conference on the state of lithium battery science and technology, as well as current and future applications in transportation, commercial, aerospace, biomedical, and other promising sectors. The meeting had an attendance of over 900 people, as well there were 40+ keynote speakers and more than 500 poster presentations.

The meeting focused on both basic and applied research findings that have led to improved Li battery materials, and to the understanding of the fundamental processes that determine and control electrochemical performance. A major (but not exclusive) theme of the meeting were recent advances in beyond lithium-ion batteries. Bruno Scrosati, Chair of the 17th IMLB said, “I am grateful to the International Scientific Committee for helping to assemble another cadre of renowned speakers to present the latest research at our conference. I would also like to express my thanks to The Electrochemical Society and Centro Volta for their perfect organizing assistance, which allowed me to arrange another successful conference. We are already looking forward to the next IMLB in Chicago in 2016.”

Special thanks to all the sponsors and technical exhibitors. There will be a volume of ECS Transactions with proceedings papers from the meeting, and an Open Access focus issue is planned for The Journal of Electrochemistry that will feature selected papers.

Yang Shao-Horn, a keynote speaker, presents “Recent Advances in Lithium-Oxygen Batteries.”

Yi Cui, a keynote speaker, presents “Nanomaterials Design for Next Generation of Energy Storage.”

Linda Nazar, a keynote speaker, presents “Advancing the Lithium-Sulfur Battery.”

Kuniaki Tatsumi, a keynote speaker, presents “Enhanced Cyclability of LiNi1/3Co1/3Mn1/3O2 Coated with Various Oxides under High Voltage Charge/Discharge Cycles.”

(Photos continued on next page)
IMLB 2014
(continued from previous page)

Bruno Scrosati, IMLB 2014 Chair and founder of IMLB.

Karim Zaghib, a past chair of IMLB (2010), with a meeting attendee.

Khalil Amine, a member of the IMLB 2014 International Organizing Committee, speaks at the gala dinner.

Conference attendees in the main presentation hall.
International Organizing Committee Chairs
(in alphabetical order)

Doron Aurbach, Bar Ilan University, Tel Aviv, Israel
Peter Bruce, University of St. Andrews, Scotland
Rosa Palacin, ICMAB-CSIC Campus, Bellaterra, Spain
Bruno Scrosati, Helmholtz Institute Ulm, Germany
Jean-Marie Tarascon, Université de Picardie Jules Verne, France
Josh Thomas, Uppsala University, Sweden
Margret Wohlfahrt-Mehrens, Center for Solar Energy and Hydrogen Research Baden-Württemberg, ZSW, Ulm, Germany

International Scientific Committee
(in alphabetical order)

KM Abraham, E-KEM Science, USA
Khalil Amine, Argonne National Lab, USA
Yi Cui, Stanford University, USA
Juergen Garche, FCBAT, Ulm, Germany
Li Hong, China
Youn-Jun Kim, Korea Electronics Technology Institute (KETI), Korea
Marina Mastragostino, University of Bologna, Italy
Aleksandar Matic, Chalmers University of Technology, Sweden
Linda Nazar, Waterloo University, Canada
Zempachi Ogumi, University of Kyoto, Japan
Tetsuya Osaka, Waseda University, Tokyo Japan
Stefano Passerini, Muenster University, Germany
Yang Shao-Horn, MIT, USA
Yang-Kook Sun, Hanyang University, Seoul, Korea
Osamu Yamamoto, Mie University, Japan
Yang Yong, Xiamen University, China
Karim Zaghib, Institut de recherche en électricité d’Hydro-Québec (IREQ), Quebec, Canada
ECS and SEMI are pleased to announce that the annual China Semiconductor Technology International Conference (CSTIC 2014) successfully concluded on March 17, 2014 in Shanghai, China with over 340 speakers and more than 700 attendees from around the world. The successful conclusion of CSTIC 2014 marked another milestone of this annual international conference. With a focus on semiconductor technology and manufacturing, CSTIC promoted technical exchanges on the latest developments in semiconductor technology and manufacturing and facilitated investment and collaboration in the semiconductor industry in Asia, particularly China.

CSTIC 2014 covered all aspects of semiconductor technology and manufacturing, including circuit design, devices, lithography, integration, materials, processes, and manufacturing, as well as emerging semiconductor technologies and silicon material applications. Hot topics, such as 3D integration, LEDs, and MEMs, were also included in the conference. Tzu-Yin Chiu (CEO and Executive Director, SMIC), Tak H. Ning (IBM Fellow and Member of U.S. National Academy of Engineering, IBM T.J. Watson Research Center), and Kevin Zhang (Intel Fellow and Vice President in the Technology and Manufacturing Group, Intel Corporation) delivered the keynote speeches at the conference. Over 150 other leading experts in semiconductor technology presented keynote and invited talks in the symposia.


More than 200 CSTIC 2014 papers were published in ECS Transactions in highlights from CSTIC 2014 technologies. Cor Claeyts was the conference chair this year. Prof. Claeyts is a Senior Member of IEEE and a Fellow of The Electrochemical Society. Paul Kohl, ECS President, gave an opening welcome and introduction to ECS at the plenary session.

The ECS Best Student Paper Award winners were Meng Lin (Institute of Microelectronics, Peking University, Beijing, China) and Wen Lv (Huazong University of Science and Technology, Wuhan, China). CSTIC 2015 is scheduled to be held March 15-16, 2015 in Shanghai, China. More information about CSTIC is available at www.semiconchina.org/cstic.
The Battery Division recently modified its bylaws and the modifications were approved by the ECS Board of Directors. This revision allows the Division Executive Committee to increase the number of members-at-large to at least eight persons. In addition to the officers, there will be an increased number of candidates in the upcoming ballot for the election. The present officers encourage our Division members to vote and become actively involved in our division affairs in the future.

The Battery Division Executive Committee is seeking sustainable funding mechanisms to provide adequate support for travel grants to help student members and early-career professionals to participate in our society meetings and symposia. We welcome and solicit inputs and innovative ideas to help us succeed in this pursuit. Please send your suggestions to Bor Yann Liaw at bljaw@hawaii.edu.

The Physical & Analytical Electrochemistry Division (PAED) held their annual lunch and business meeting during 225th ECS Meeting in Orlando. At the meeting, chair, Rob Mantz, talked about the state of the Division. In addition, the secretary and treasurer gave their reports.

It was reported that the PAED division awarded six travel grants to the 224th ECS Fall Meeting in San Francisco. The travel grant winners were: Megan Damm (Georgia Institute of Technology), Samar Gharaibeh (University of Calgary), Swetha Puchakayala (Vellore Institute of Technology), Adriel Jebraaj (Case Western Reserve University), Akinbayowa Falase (The University of New Mexico), and Florina-Maria Cuibus (Technische Universität Ilmenau). There were seven student travel grant award winners for the 225th ECS Spring meeting in Orlando. The award winners were: Meng Li (Brookhaven National Laboratory), Sergio Garcia (CEET, The University of New Mexico), Congling Zhang (The University of Tennessee), Edgard Ngboyamahina (UPMC), Adriel Jebraaj (Case Western Reserve University), Matteo Grattieri (Politecnico of Milan), and Rachel Hjelm (The University of New Mexico). Congratulations to all of the award winners from both biannual meetings. The next PAED luncheon and business meeting will be held during the 227th ECS Spring Meeting in Chicago, Illinois in May of 2015.

The Physical & Analytical Electrochemistry Division sponsors two awards, the David C. Grahame Award and the Max Bredig Award, in Molten Salt Chemistry. Dr. Mantz encouraged members to submit nominations for both awards.
SOCIETY NEWS

Division Officer Slates Announced

New officers for the 2014-2016 term have been nominated for the following Divisions. All election results will be reported in the winter 2014 issue of Interface.

Battery Division
Chair
Robert Kostecki, Lawrence Berkeley National Laboratory
Vice-Chair
Christopher Johnson, Argonne National Laboratory
Secretary
Marca Doeff, Lawrence Berkeley National Laboratory
Treasurer
Shirley Meng, University of California, San Diego
Members-at-Large (at least 8 members-at-large to be elected)
Richard Jow, Army Research Laboratory
Dominique Guyomard, CNRS - Université de Nantes
Brett Lucht, University of Rhode Island
Marina Yakovleva, FMC Corporation
Khalil Amine, Argonne National Laboratory
John Muldoon, Toyota Research Institute of North America
Martin Winter, MEET Battery Research Center, University of Muenster
Yi Cui, Stanford University
Kristina Edstrom, Uppsala University

Sensor Division
Chair
Bryan Chin, Auburn University
Vice-Chair
Nianqiang (Nick) Wu, West Virginia University
Secretary
Ajit Khosla, Mobeccom Inc.
Treasurer
Sushanta Mitra, University of Alberta
Praveen Sekhar, Washington State University
Jessica Keolme, NASA Ames Research Center
Members-at-Large (at least 2 members-at-large to be elected)
Sheikh Akbar, Ohio State University
Zoraida Aguilar, Zystein, LLC
Cynthia Bruckner-Lea, Pacific Northwest Laboratories
Ying-Lan Chang, Glo AB
Jay Grate, Pacific Northwest Laboratories
Peter Hesketh, Georgia Tech
A. Robert Hillman, University of Leicester
Gary Hunter, NASA Glenn Research Center
Tatsumi Ishihara, Kyushu University
Sang Ming Jeon, Postech
Mina Josowicz, Georgia Tech
Kale Girish, University of Leeds
P. J. Kulesza, University of Warsaw
Christine Kranz, University of Ulm
Jing Li, NASA Ames Research Ctr.
Chung-Chiun Liu, Case Western Reserve University
Vadim Lvovich, NASA Glenn Research Center
Norio Miura, Kyushu University
Rangachary Mukundan, Los Alamos National Laboratory
Larry Nagahara, National Cancer Institute
Antonio Ricco, Stanford University
Christopher Salthouse, University of Massachusetts Amherst
Michael Sailor, University of California - San Diego
Praveen Kumar Sekhar, Washington State University
Yasuhiro Shimizu, Nagasaki University
Aleksandr Simonian, Auburn University
Joseph Stetter, KWJ Engineering Incorporated
Thomas Thundat, University of Alberta
Petr Vanysek, Northern Illinois University
Raluca Van Staden, Bucharest Romania National Institute of Research for Electrochemistry and Condensed Matter
Laiju Yang, North Carolina Central University

Corrosion Division
Chair
Rudy Bucheit, Ohio State University
Vice-Chair
Sanna Virtanen, University of Erlangen-Nuremberg
Secretary/Treasurer
Masayuki Itagaki, Tokyo University of Science
Members-at-Large (at least 6 members-at-large to be elected)
Nancy Missert, Sandia National Laboratories
H. Neil McMurray, University of Wales
Jamie Noel, Western University
Dev Chidambaram, University of Nevada, Reno
Nick Birbilis, Monash University
Philippe Marcus, CNRS-ENSCP
SOCIETY NEWS

Institutional Member News

Spotlight on El-Cell

EL-CELL® offers electrochemical test equipment and services to perform high quality battery research at the forefront of actual knowledge. The company engineers and manufactures its products for both researchers in academia and professionals in industry. The main emphasis is on lithium-ion batteries, but EL-CELL also designs test cells for other energy storage technologies. Its product portfolio varies from batteries with aprotic or aqueous electrolytes to capacitor systems to perform two- and three-electrode tests, gas and pressure experiments, optical measurements and investigation of height changes of electrodes. In addition, EL-CELL offers special tools for a more productive experimentation process and a wide scope of services, such as seminars or test measurements.

Johannes Hinckeldeyn, Director of Sales and Marketing at EL-CELL, explains the strong collaboration with ECS, “EL-CELL wants to become the standard toolbox for all battery researchers. ECS is the global organization of Electrochemists and therefore our main partner to support electrochemists who want to achieve better research results. Beside our equipment, we offer special seminars for beginners and experienced researchers to learn how to conduct successful battery tests with our equipment. ECS members are cordially invited to participate and they will get special conditions for our seminars."

Dan Fatton, ECS Director of Development, noted, “ECS is excited about the strong partnership we have been developing with EL-CELL. We appreciate their institutional membership support, and their participation as an advertiser and regular exhibitor at ECS meetings.”

Additionally, ECS members are now eligible for a special discounted rate on EL-CELL’s seminar programs. The first, a hands-on seminar on basic battery research will be offered November 6-7, 2014 at the EL-CELL facility in Hamburg, Germany. The second, a hands-on seminar on advanced battery research will be offered March 12-13, 2015, also in Hamburg, Germany. Please visit www.el-cell.com/service for registration and further information.

ECS Staff News

Logan Elizabeth Streu joined the ECS staff as a Publications Assistant in May 2014 reporting to Annie Goedkoop, ECS Director of Publications. Logan is responsible for assisting in the production of ECS Transactions, as well as the ECS journals. She graduated this May from The College of New Jersey with a Bachelor of Arts in English and a minor in Creative Writing. Prior to her full-time employment at The Electrochemical Society, Logan served as a publications intern starting in May 2013, and was later hired as a part-time Publications Assistant in September of the same year.

Although this is her first full-time position in the publishing field, Logan worked for two years as a Student Assistant in the Office of Major and Strategic Events at The College of New Jersey where she aided in planning and coordinating high-profile campus events such as Homecoming, Reunion and Commencement. In the fall of her senior year, Logan was involved in TCNJ’s Visiting Writers Series, an on-campus arts community which nominates and arranges for notable authors to give readings at the college. During this time Logan worked on press kits and other promotional materials for authors Paul Legault and Adam Levin, and later helped to nominate Ishmael Reed and Matthea Harvey for future readings.

“We were impressed with Logan’s enthusiasm and skills as an intern,” said Annie Goedkoop, “so much so that we didn’t want to let her go when the internship ended. She is a welcome addition to the ECS staff.”

ECS celebrates the many successful achievements of members of the electrochemical and solid state science community.

We thank you for your dedication to scientific research and discovery, for the innovations you continually develop that are fueling an energy revolution, and, above all, for your commitment to helping to make the world a better place for generations to come.

While nonprofit is our tax status, we need funds to continue our programs and services.

Through generous supporters like you, we will be able to reach our goals and broaden dissemination of our scientific content.

We hope we can count on your support with a gift to The Electrochemical Society

To make a tax-deductible donation, please visit www.electrochem.org/donate
SOCIETY NEWS

ECS Sponsored Meetings for 2014

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 the sponsored meetings for 2014. Please visit the ECS website for a list of all sponsored meetings.

- 10th International Symposium on Electrochemical Micro & Nanosystem Technologies, November 5-8, 2014 — Okinawa, Japan
- Fifth International Conference on Electrophoretic Deposition: Fundamentals and Applications (EPD-2014), October 5-10, 2014 — Hernstein, Austria
- XIV International Congress of the Mexican Hydrogen Society, September 30-October 4, 2014 — Cancun, Mexico
- 65th Annual Meeting of the International Society of Electrochemistry, August 31-September 5, 2014 — Lausanne, Switzerland

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.

In the issue of INTERFACE

The winter issue of Interface will feature the Corrosion Division and will emphasize the theme, “Numerical Modeling for Corrosion.” The issue will be guest edited by Shinji Fujimoto, Osaka University, and will feature the following articles (tentative titles): “Numerical Models for Localized Corrosion,” by Robert Kelly, University of Virginia; “Numerical Models for Macro Scale Corrosion and Protection,” by Kenji Amaya, Tokyo Institute of Technology; “Atomistic Models for Corrosion,” by Christopher Taylor, DNV GL; and “Probabilistic Models for Corrosion,” by Nicholas Laycock, QSGTL, and David Williams, University of Auckland.

Highlights from the 2014 ECS and SMEQ Joint International Meeting in Cancun will be presented.

Tech Highlights continues to provide readers with free access to some of the most interesting papers published in the ECS journals, including articles from the Society’s newest journals: ECS Journal of Solid State Science and Technology, ECS Electrochemistry Letters, and ECS Solid State Letters.

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

Lecture Notes in Electrochemistry/Electrochemical Engineering
Detailed course material from MIT, including: equivalent circuit models, thermodynamics, reaction kinetics, transport phenomena, electrostatics, electrokinetics, porous media, and phase transformations.

- M. Bazant, MIT

Electroforming — a Unique Metal Fabrication Process
Electroforming plays an important role in our daily lives. We have contact with its results many times each day and it greatly enhances our lifestyle in a variety of ways. In addition, it is an extremely versatile process. For instance, it is used to produce micro components for the medical and electronics industries and huge components for the aircraft and aerospace industries. For many applications it has become indispensable.

- R Parkinson, Nickel Development Institute

Electrochemical Machining of Metal Plates

- J. F. Cooper and M. C. Evans, Lawrence Livermore National Laboratory

Electropolishing of Stainless Steels
Electropolishing is a chemical surface finishing technique, by which metal is electrolytically removed, ion by ion, from the surface of a metal object. The primary objective is to minimize microroughness, thus dramatically reducing the risk of dirt or product residues adhering and improving the cleanability of surfaces. Electropolishing is also used for deburring, brightening, and passivating. The process exposes an undisturbed, metallurgically clean surface, eliminating thermal stress and surface roughening, and improving the corrosion resistance.

- Kosmač, Euro Inox

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.