



Annual Report

2013

Commitment to *Free the Science*

In May 2013, the ECS Board of Directors committed to an Open Access plan “that would enable the dissemination of content from the ECS Digital Library at no cost to authors, readers, libraries, or funding agencies. As described in the motion, this Board action would ultimately *Free the Science*[™] that we publish enabling all the past, present, and future research in the ECS Digital Library for uninhibited dissemination to the worldwide community of scientists and engineers in electrochemical and solid state science and technology. The Board action is our response to Open Access publishing, which is described in President Paul Kohl’s column (see page 9, this issue) as the, “... boldest and most important change to scholarly publishing since the first publisher, Cambridge University Press, was chartered in 1534.” For ECS, it is a historical decision and a big step towards the essential stewardship of our science, and towards enabling the ultimate satisfaction of the ECS Mission, which is to disseminate knowledge to advance the science.

The year 2013 marks the 111th year since the founding of ECS and the Board action to *Free the Science* will likely benchmark this year as the second most influential in the Society’s history (behind only our founding year of 1902). The history of civilizations or organizations is recorded through major benchmarks that are typically a culmination of events that evolve from many external and internal influences. The Board’s benchmark decision to *Free the Science* was a culmination of a long series of

events that led to this outcome but it was an inevitable decision for a nonprofit publisher and steward like ECS, and it provided an unprecedented opportunity to succeed in our mission to advance electrochemistry, semiconductor technology and allied subjects.

Many of the types of events or activities that led to this Open Access publishing decision were evident this past year as ECS continued to focus on content dissemination through outstanding meetings and publications,

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recognition through our honors and awards, and community networking primarily through the strength of the membership. Highlights for the 2013 activities include:

- Meetings and Exhibits.** The fall biannual meeting in San Francisco was the second largest meeting that ECS has held in the continental United States. Adding the spring meeting in Toronto, the combined total papers submitted for presentation to the biannual meetings was 4261, which was one of our best years in biannual meeting submissions ever. We also conducted the 3rd Electrochemical Energy Summit in San Francisco.
- Publications.** The total number of papers published in the ECS Digital Library in 2013 was 7,839, which increased the published papers to a grand total of 105,958. We introduced three new journals* in July 2012 that have shown progress in the first 18 months of existence with the following number of manuscripts published:

	2012	2013
<i>Journal of The Electrochemical Society</i>	1080	999
* <i>ECS Journal of Solid State Sci. & Tech</i>	157	313
* <i>ECS Electrochemistry Letters</i>	63	114
* <i>ECS Solid State Letters</i>	77	113

- Membership.** Benefits were improved to offer members one complimentary “Article Processing Charge” to enable member-authors to publish Open Access manuscripts in our journals free of charge. Modifications were also made to enable long time members to retain their membership status as either a Life or Emeritus Member. These are categories exempt from future dues payments.

- Honors and Awards.** We established the Allen J. Bard Award in Electrochemistry which is our 8th major award, and we have secured \$137,000 to endow it. University of Texas esteemed faculty members Allen Bard and John Goodenough were honored as the 76th and 77th Honorary Members in our 111-year history. Professors Bard and Goodenough are two of the greatest electrochemists in history, and their legacy is now a permanent part of ECS.

From our beginning in 1902, the Society’s distinctive competency has been to disseminate research to advance the science. The programs and activities in 2013 again demonstrate our competency and continued progress in these mission focused activities. The many years of success in these activities provide direction to the Society’s next step in content dissemination which is the commitment to Open Access publishing. Our competency and commitment are demonstrated through ECS content development and dissemination activities at our meetings and publications, the transition of membership benefits, the advocacy of the science, and the recognition of leading researchers. Moving forward, the steps that we have taken to *Free the Science* and provide complete Open Access of the ECS Digital Library will enable ECS to improve our competency and ultimately our effectiveness to disseminate scientific research and advance the critically important scientific discipline that we serve.




Tetsuya Osaka
ECS President




Roque Calvo
ECS Executive Director

Publications

The year 2013 was the first full year of publication for the three new journals that joined the *Journal of The Electrochemical Society* (JES) in mid-2012. Joining JES were: *ECS Journal of Solid State Science and Technology* (JSS), *ECS Electrochemistry Letters* (EEL), and *ECS Solid State Letters* (SSL). Together JES and EEL make up the Electrochemical Science and Technology (EST) journals, while JSS and SSL make up the Solid State Science and Technology (SSST) journals.

In addition to the Open Access plan for the ECS journals, the journals entered a new realm in 2013 with the publication of focus issues. The intent of these issues is to highlight scientific and technological areas of current interest and future promise that are expanding rapidly or have taken a new direction. In the first focus issue ever published by ECS, SSST Editor Dennis Hess commented, "... considerable effort is required for those scientists and engineers who require information in a rapidly moving field, to gain perspective regarding key problems, developments, and future needs for effective and efficient advances. Special issues devoted to critical and high profile areas offer state-of-the-science and state-of-the-art summaries of these areas. Most importantly, such published issues offer perspective as described and formulated by experts who have been and continue to be intimately involved in the field."

Here is the list of focus issues published in 2013:

- Luminescent Materials for Solid State Lighting (JSS)
- Intercalation Compounds for Rechargeable Batteries (JES)
- Organic and Biological Electrochemistry (JES)
- Wide Bandgap Power Semiconductors (JSS)
- Nanocarbons for Energy Harvesting and Storage (JSS)
- Electrochemical Processing for Interconnects (JES)

The 2012 Norman Hackerman Young Author Awards were selected in 2013. In the category of Electrochemical Science & Technology (EST), the winners were K. Skyes Mason and Kiersten C. Horning for "Investigation of a Silicotungstic Acid Functionalized Carbon on Pt Activity and Durability for the Oxygen Reduction Reaction" (JES, Vol. 159, No. 12, p. F871). In the category of Solid State Science & Technology (SSST), the winner was Balavinayagam Ramalingam, for "Multi-Layer Pt nanoparticle Embedded High Density Non-Volatile Memory Devices" (JES, Vol. 159, No. 4, p. H393). This was the last year for which the Hackerman Award would be given to both an EST and SSST paper. In 2013 the Society approved the formation of a new Young Author Award named in honor of Bruce Deal and Andy Grove to be awarded to the best young author(s) of a paper published in JSS. Moving forward, the Hackerman award will be given to the best paper published in JES.

There was a search for a new EST Editor in 2013 to fill the position held by interim Editor Petr Vanýsek. The appointment went to Robert Savinell of Case Western Reserve University. Also appointed

to the Editorial Boards in 2013 were Venkat Srinivasan and Thomas J. Schmidt as Associate Editors on the EST Editorial Board.

Submissions to the journals in 2013 increased by 7% over 2012, with the greatest percentage of papers received in the EST Batteries and Energy Storage Technical Interest Area (TIA) followed by Fuel Cells, Electrolyzers, and Energy Conversion. In the SSST TIAs, the most submissions were received in the Electronic Materials and Processing TIA. The TIA with the overall fewest submissions was Physical Sensors on the SSST side.

ecstransactions *ECS Transactions* (ECST) continued to be successful in its ninth year of existence in 2013. Of the presentations from the biannual meetings, 36% went on to be published as papers in ECST volumes. In 2013 the ECST manuscript submission system conversion from the AIP Peer X-Press service to software developed by The Conference Exchange (Confex) was completed. Many issues of ECST previously available at electronic (PDF) only issues were converted to Print-on-Demand (POD) editions in 2013.



JEFFREY FERGUS

ECST received renewed strategic attention in 2013 as the Society looked to improve upon and grow its high-quality venues for authors and resources for readers. The Society welcomed the leadership of Jeffrey Fergus, who came on board as the new Editor of ECST at the start of 2013. ECS held an open forum on the future of ECST at the Toronto meeting to elicit feedback on ways to improve the publication. In addition, Fergus met with members at Division meetings and

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A gathering of editors—ECS has been privileged to have had the leadership and hard work of so many talented people as journal editors. At the Toronto meeting, the cameras captured five of them (from left to right): DAN SCHERSON, former Editor of the Society's *Electrochemical Science and Technology* (EST) journals; PETR VANÝSEK, former Interim Editor of the EST journals; BARRY MILLER, former Editor of the *Journal of The Electrochemical Society*; DENNIS HESS, current Editor of the *Solid State Science and Technology* journals; and PAUL KOHL, former Editor of the *Journal of The Electrochemical Society and Electrochemical and Solid State Letters*.

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luncheons. A member survey was conducted in June 2013. Fergus followed up with an article in *Interface* (fall 2013, p. 8) and with regard to the survey stated that, "... comments from respondents indicated that the value of proceedings papers is the rapid dissemination of recent results and providing a forum for publication of results that would not later be published in journals Although proceedings papers are generally considered to be of lower stature than journal publications, they are useful for students and young researchers that need to establish a publication record." Figure 1 from the article by Fergus shows that meetings have a high level of interaction among a relatively small number of meeting participants while journals are widely available but with little interaction. Also illustrated in Fig. 1 is the gap in time between when content is presented at a meeting and when it is published in a journal. Proceedings publications can span this gap, because they can be available at or shortly following the meeting. ECS members can expect to see new developments in ECST in the future.

A number of diverse topics were covered in *Interface* magazine in 2013 from transistors to nanocarbons to high temperature materials. Regular columns such as Websites of Note by Zoltan Nagy and Tech Highlights by the team led by Donald Pile continue to provide readers with useful and interesting information. The Currents column

in the summer issue written by Adam Heller was published online in advance of the print issue (an *Interface* first) due to the timeliness of its subject – the G. S. Yuasa-Boeing 787 Li-Ion Battery. The winter issue included a Chalkboard column by Jackson E. Harrar titled, "The Potentiostat and the Voltage Clamp." Harrar described the peculiar instance where an innovation was developed by two different scientists in two different fields at almost the same time, and then widely used for many years in these two fields without the investigators being aware of the other application.



KRISHNAN RAJESHWAR

A final "Stay Tuned!" was written by *Interface* Editor Krishnan Rajeshwar in his editorial titled, "A Phase Transition," in the winter issue. Rajeshwar relinquished the editorship to assume duties as the 3rd Vice-President of the Society.

ECS continues to sponsor monographs published by John Wiley & Sons (New York). In 2013, the volume *Lithium Batteries* was published. ECS was fortunate to have three of the four editors of the volume present at the San Francisco meeting where they graciously signed copies of the book.

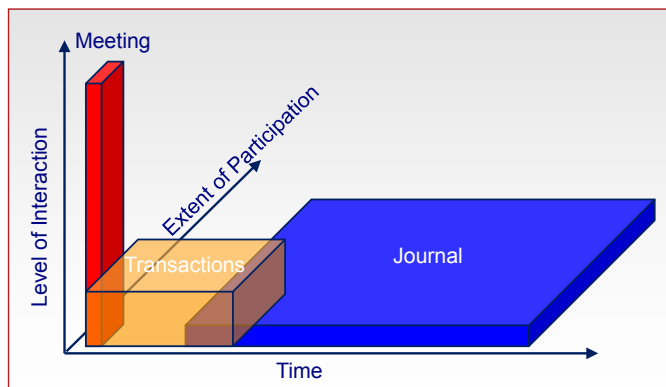
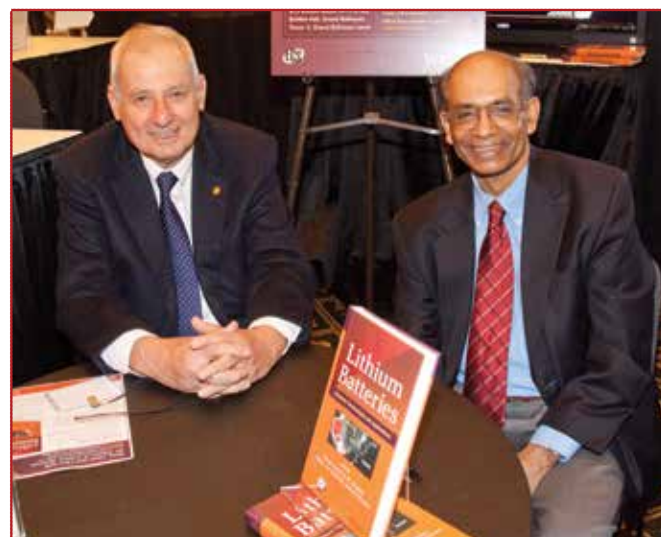


FIG. 1. Impact of publications.



ECS President **FERNANDO GARZON** (left) thanked **JOHN WEIDNER** (right) for his years of service as Editor of ECS Transactions.



BRUNO SCROSATI (top photo, at left), **KM ABRAHAM** (top photo, at right), and **WALTER VAN SCHALKWIJK** (bottom photo) were ready to sign copies before the special book signing of the newly-published *Lithium Batteries* monograph. Unable to attend the meeting with the fourth editor, **JUSEF HASSOUN**. The monograph is the latest in the series sponsored by ECS and published with John A. Wiley & Sons.

Meetings



May 12-16, 2013 • Toronto, ON, Canada

Toronto, Ontario, Canada was the site of the 223rd ECS Meeting. It was the ninth time ECS held one of its biannual meetings in this great city. Over 1500 presentations were given in 44 symposia. Four Short Courses were offered in Toronto: Basic Impedance Spectroscopy, Mark E. Orazem, Instructor; Advanced Microscopy Methods for Studying PEM Fuel Cell Materials, Karren L. More, Instructor; Fundamentals of Electrochemistry – Basic Theory and Thermodynamic Methods, Jamie Noël, Instructor; and Atomic Force Microscopy for Energy Research Applications & Electrochemistry,

Keith Jones, Instructor. Green initiatives like the meeting app for mobile devices eliminated need for paper. The ECS Lecture during the Monday plenary session was by Michael Mayberry of Intel Corporation. The Gordon E. Moore Award Lecture was given by Fan Ren on Monday afternoon. Dr. Ren is currently at the University of Florida as a Distinguished Professor in the Department of Chemical Engineering and is an ExxonMobil Gator Chemical Engineering Alumni professor. A Student Mixer was held on Sunday, and the former Sunday Evening Get Together was revamped into an Opening Reception held on Monday night.

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MICHAEL MAYBERRY delivered *The ECS Lecture*, entitled “*The Frontier of Electronics Research*,” at the plenary session of the 223rd ECS Meeting. Dr. Mayberry is Corporate VP of the Technology and Manufacturing Group and Director of Components Research at Intel.



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FAN REN (right) received one of the Society's highest awards, the Gordon E. Moore Medal for Outstanding Achievement in Solid State Science and Technology, from ECS President **FERNANDO GARZON** (left).



The Society's newest JOURNALS were on display in Toronto.



Recipients of the Toronto ECS Student Poster Session Awards received their awards and congratulations from ECS President **FERNANDO GARZON** (2nd from right). From left to right are **KALPATHY SUNDARAM** (organizer), **MICHAL OSIAK**, **ANDREW J. NAYLOR**, **DANIELLE SMILEY**, (Garzon), and **VIMAL CHAITANYA** (organizer).

All photos are by MARYPiCS Photography, Canada.



San Francisco Travel Association photo by P. Fuszard.



224th
ECS MEETING
 San Francisco, CA
 October 27–November 1, 2013
 Hilton San Francisco



San Francisco Travel Association photo.

The Electrochemical Society


**electrochemical energy
 summit 2013**

The 224th ECS Meeting was held in San Francisco in October 2013. The meeting kicked off with the ECS Electrochemical Energy Summit (E2S). Over 3100 attendees selected from over 2800 papers in 50 symposia and 40 exhibits. Congressman Jerry McNerney, 9th District of California, was Sunday's keynote speaker. The IE&EE Division's Educational Outreach Program was brought to an ECS meeting for the first time. Students from Galileo Academy of Science and Technology and Lowell High School worked under the guidance of Gerri Botte, her students from the Ohio University Student Chapter of ECS, and members of the IE&EE Division. Throughout Sunday and through midday Monday, attendees had an up-close look at a Honda FCX Clarity car and the Mercedes Benz B Class FCell car on display, courtesy of the California Fuel Cell Partnership.

The Energy-Water Nexus special symposium was organized by Eric D. Wachsman, Director of the

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The **Electrochemical Energy Summit (E2S)** panelists gathered before their talks. From left to right are: **HEATHER COOLEY**, Co-Director of the Pacific Institute's Water Program; Congressman **JERRY MCNERNEY**, 9th District of California; **MEREDITH YOUNGHEIN**, a Policy and Programs Analyst with the State Water Resources Control Board and on the Energy Division of the California Public Utilities Commission; and E2S organizer **ROBERT GLASS**, Senior Scientist in the Physical and Life Sciences Directorate at Lawrence Livermore National Laboratory.



The **Energy-Water Nexus Symposium** hosted a panel discussion. From left to right are: **BRUCE HAMILTON**, a program director at the National Science Foundation; **CLEMENT CID**, California Institute of Technology; **ANTONIO J. BUSALIACCHI**, Chair, National Academy of Sciences/National Research Council (NAS/NRC) Board on Atmospheric Sciences and Climate; **AMUL TEVAR**, ARPA-E Fellow working in energy-water, energy storage control systems (AMPED); **MIKE HIGHTOWER**, a Distinguished Member of the technical staff in the Energy Surety Engineering and Analysis Department at Sandia National Laboratories; organizer and panel moderator **ERIC WACHSMAN**, Director of the University of Maryland Energy Research Center; and **CARL HENSMAN**, Water, Sanitation, and Hygiene team within the Global Development Program of the Bill & Melinda Gates Foundation.

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University of Maryland Energy Research Center, and the William L. Creutz Centennial Chair in Energy Research with appointments in both the Department of Materials Science and Engineering, and the Department of Chemical Engineering at the University of Maryland. Dr. Wachman also served as moderator for the panel discussion that followed the presentations.

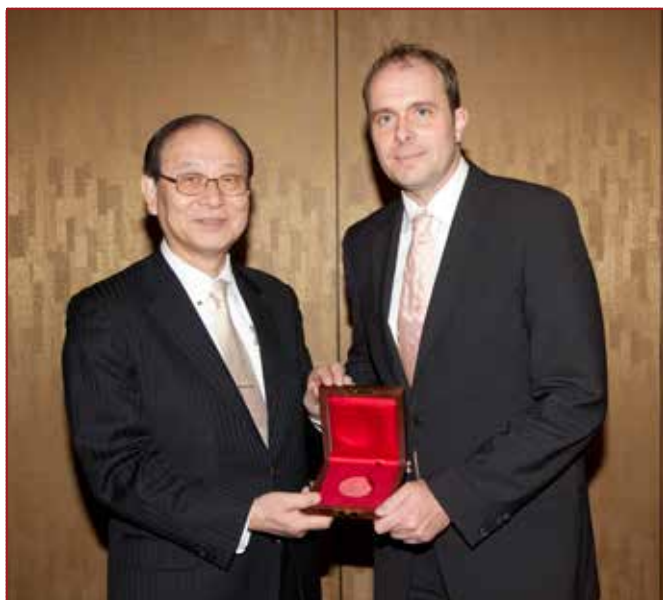
The ECS Lecture was given on Monday by Mark Wrighton of Washington University (St. Louis, MO). The ECS Olin Palladium Award lecture entitled, "Mathematical Modeling of Lithium Ion Cells and Batteries," was given by Ralph White on Monday afternoon. Dr. White is a Professor of Chemical Engineering and a Distinguished Scientist at the University of South Carolina. A symposium held in San Francisco honored Adam Heller on the occasion of his 80th birthday. Dr. Heller is a member of the U.S. National Academy of Engineering and recipient of numerous awards including the ECS Vittorio de Nora Award. His work spans a range of technologies, from the lithium thionyl chloride battery to nanoliter glucose assays for diabetes care.



Attendees had a great opportunity on Sunday and Monday to see two different hybrid cars provided by the California Fuel Cell Partnership (CaFCP). JUAN CONTRERAS, of the CaFCP, gave meeting attendees a tour of one of the hybrid vehicles on display.



ECS President TETSUYA OSAKA welcomed the 2013 Class of ECS Fellows. In the front row (left to right) are: SHELLEY MINTEER, JOHNA LEDDY, (President Osaka), ELIZABETH OPILA, HÉCTOR ABRUÑA, and J. R. SELMAN. In the back row (from left to right) are: NANCY DUDNEY, GARY HUNTER, MARTIN WINTER, ENRICO TRAVERSA, JIRI JANATA, SANJEEV MUKERJEE, and KALPATHY SUNDARAM.



The Society's Carl Wagner Memorial Award was established in 1980 to recognize a mid-career achievement and excellence in research areas of interest of the Society, and significant contributions in the teaching or guidance of students or colleagues in education, industry, or government. **MARC T. M. KOPER** (right) was presented with the 2013 award by ECS President **TETSUYA OSAKA** (left).



RALPH WHITE (right) was the recipient of the 2013 Olin Palladium Award, and received his Medal from ECS President **TETSUYA OSAKA** (center). **JOHN NEWMAN** (left) introduced Dr. White earlier on Monday, when Prof. White gave his award talk. The Society's Palladium Award was established in 1950 for distinguished contributions to the field of electrochemical or corrosion science. It is one of the Society's most prestigious awards.



MARK WRIGHTON (center) delivered The ECS Lecture at the San Francisco meeting. ECS President **TETSUYA OSAKA** (right) thanked Dr. Wrighton for his talk. ECS Senior Vice-President **PAUL KOHL** (left) introduced Dr. Wrighton whose lecture was on the topic of "America's Energy Future."



PETR VANÝSEK (left) was thanked by ECS President **TETSUYA OSAKA** (right) for his service as the Interim Editor of the Society's electrochemistry journals.



ADAM HELLER (4th from left), gathered with his colleagues at the symposium held in his honor at the ECS meeting in San Francisco.



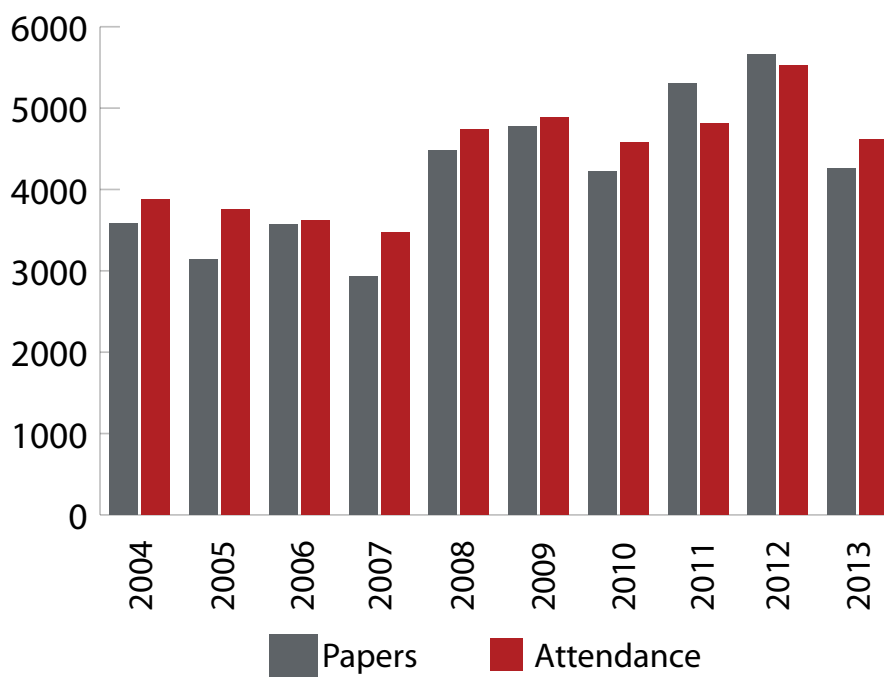
Winners of the Thirteenth Polymer Electrolyte Fuel Cell Symposium (PEFC 13) student poster session competition posed with three of the organizers. Pictured from left to right are: YUICHI SENOO (Yamanashi University), JAMES FENTON (organizer), YUTA IKEHATA (Doshisha University), HUBERT A. GASTEIGER (organizer), TAKUYA TSUKATSUNE (Kyushu University), THOMAS J. SCHMIDT (organizer), and IRYNA V. ZENYUK (Carnegie Mellon University).



ECS President Tetsuya Osaka presented awards to the winners of the San Francisco Student Poster Session competition. From left to right are: **KELSEY HATZALL** (First Place, Electrochemical Science & Technology); **KRISTY JOST** (First Place, Solid State Science & Technology); **VIMAL CHAITANYA** (organizer); **TOBIAS PLACKE, PAUL MEISTER, and SERGEJ ROTHERMEL** (Second Place, Electrochemical Science & Technology); **KALPATHY SUNDARAM** (organizer); ECS President **TETSUYA OSAKA**; **TAKASHI SUDA** (Second Place, Solid State Science & Technology); **OLGA FROMM** (Second Place, Electrochemical Science & Technology); **Oana Leonte** (judge); and **RALUCA STEFAN-VAN STADEN** (judge).

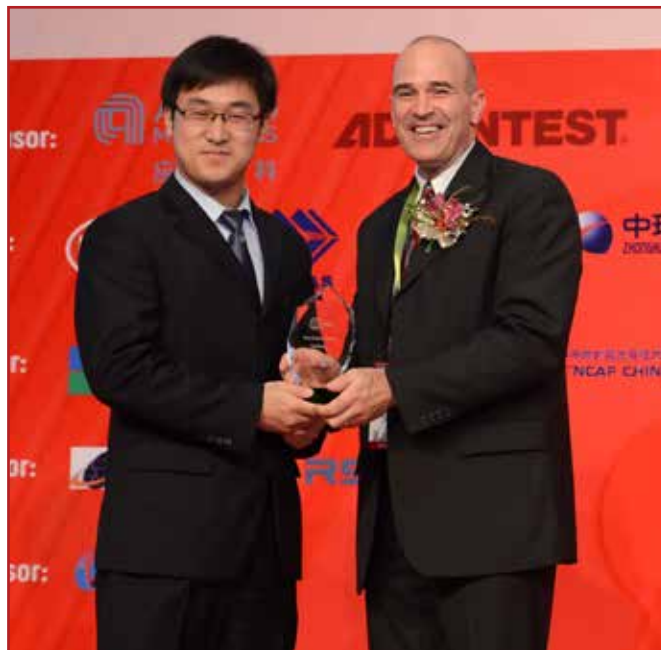
All photos are by Dave Bush Fine Photography, San Francisco, CA.

ECS Meeting Growth



In addition to the regular ECS biannual meetings, ECS, its Divisions, and Sections co-sponsor meetings and symposia of interest to the technical audience ECS serves. The following is a list of co-sponsored meetings for 2013:

- **Fuel Cell Seminar & Energy Exposition** — Columbus, Ohio
- **13th International Symposium on Solid Oxide Fuel Cells (SOFC-XIII)** — Okinawa, Japan
- **28th Symposium on Microelectronics Technology and Devices (SBMicro 2013)** — Curitiba, Brazil (Sponsored by ECS Electronics & Photonics Division)
- **New Processes and Materials Based on Electrochemical Concepts at the Microscopic Level (MicroEchem 2013)** — Querétaro, Mexico
- **64th Annual Meeting of the International Society of Electrochemistry** — Santiago de Querétaro, Mexico
- **EuroCVD 19** — Varna, Bulgaria
- **Electrochem 2013** — Southampton, UK
- **4th International Conference on Semiconductor Technology for Ultra Large Scale Integrated Circuits** — Villard-de-Lans, France (Sponsored by ECS Electronics & Photonics Division)
- **4th International Conference from Nanoparticles and Nanomaterials to Nanodevices and Nanosystems (IC4N)** — Corfu, Greece
- **Insights from the Inside: Imaging Electrochemical Systems** — Villigen, Switzerland (Sponsored by the ECS European Section)
- **13th Topical Meeting of the International Society of Electrochemistry** — Pretoria, South Africa
- **XIX Simposio Brasileiro de Electroquímica e Electroanalítica (XIX SIBEE)** — São Paulo, Brazil
- **China Semiconductor Technology International Conference 2013 (CSTIC 2013)** – Shanghai, China
- **12th Topical Meeting of the International Society of Electrochemistry** – Bochum, Germany
- **7th Workshop on Scanning Electrochemical Microscopy (SECM)** — Ein Gedi, Israel



ECS Executive Director ROQUE CALVO (right) presented TAO DENG (left) with the Best Student Award at CSTIC 2013.



DANIEL SCHERSON, ECS 3rd Vice-President, presents his lecture at the SIBEE meeting in Brazil.



The ECS Poster Paper Award at IC4N was awarded to **MARIANA SENDOVA** of the New College of Florida (center), who is pictured here with **STATHIS MELETIS** (left) and **KRISHNAN RAJESHWAR** (right).



ECS was one of the sponsors of the 13th ISE Topical Meeting and as part of its sponsorship, awarded travel grants to four students. From left to right: **DANIEL SCHERSON** (ECS 2nd Vice President); award winners **XOLILE GODFREY FUKU**, **SHANE FLANAGAN**, **PAUL EJKEME**, and **KATLEGO MAKGOPA**; and **KENNETH OZOEMENA** (Conference Chair).



Participants of the XXVIII Meeting of the Mexican Electrochemical Society (SMEQ) and the 6th Meeting of the ECS Mexico Section in Santiago de Queretaro, Mexico.

Technical Divisions



The Chair of the Nanocarbons Division, R. BRUCE WEISMAN (right), presented the Division's Richard E. Smalley Research Award to NAZARIO MARTIN (left) during the Toronto meeting. The Award is intended to recognize in a broad sense, those persons who have made outstanding contributions to the understanding and applications of fullerenes.



The ECS IE&EE Division presented the 2013 New Electrochemical Technology (NET) Award to UTC Power at the Division's Luncheon and Business Meeting in Toronto, Canada. From left to right are: ROBERT M. DARLING (UTC Power), MICHAEL L. PERRY (UTC Power), and GERRI BOTTE (IE&EE Division Chair).

Membership

ECS members are what makes the Society such a vibrant community. Members develop technical programming at our meetings, publish their best work in our journals, and volunteer their time by serving on committees and participating in regional activities.

The Society's work goes on year-round, especially through the activities of its Sections and Student Chapters.

Getting involved with an **ECS Section** is an excellent networking opportunity for those starting their career or advanced in their field. Sections bring technical news and activities local to those who are not able to attend ECS meetings. Sections provide key programming, symposia, grants, activities, and a great opportunity to get involved and participate with colleagues in furthering the science. Sections also work hard to participate overall in ECS affairs, help increase ECS membership and generate awareness for electrochemistry and solid-state science. ECS currently offers 22 Sections located in **Asia, Europe, Latin America, the Middle East, North America, South America, and Southern Asia.**

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The **San Francisco Section** presented the Daniel Cubicciotti Award in May. From left to right are: **ANTHONY FERRESE**, UC Berkeley (Honorable Mention); **JAROSLAW SYZDEK**, Lawrence Berkeley National Laboratory (ECS SF Section Chair); **DANIEL COHEN**, UC Berkeley (Award winner); **GEORGE LICINA** (Structural Integrity Associates Inc.); **MALLORY HAMMOCK**, Stanford University (Honorable Mention); and **MARK BAILEY**, Kinestral Technologies Inc. (award jury member).



DANIEL SCHERSON, ECS 3rd Vice-President (front, center), with **Chile Section** members and students.



Attendees at the 2012 E. B. Yeager Award Symposium of the Cleveland Section.



The Japan Section awarded the Young Researcher Award at the AM-FPD'13 to AYA HINO (left) of Kobe Steel, Ltd., shown here with HIROKI HAMADA (right) the AM-FPD'13 Organizing Committee Chair.



A scene from the Taiwan Section's annual electrochemical training course.

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ECS has a rapidly growing number of **Student Chapters** that give students an opportunity to learn about the specifics of electrochemical and solid state science and technology, to have a venue for meeting fellow students, and to receive recognition for their organized scholarly activities and community services. The 36 ECS Student Chapters are located at academic institutions throughout the world. Students meet and network with fellow students, participate in a wide range of programs and activities, receive recognition for scholarly activities, and develop career preparation skills.

The Society welcomed **seven new Student Chapters** in 2013 including Montana State University, Rensselaer Polytechnic Institute, Research Triangle (Duke University, North Carolina State, and University of North Carolina – Chapel Hill), SRM University,

University of British Columbia, University of Tartu, and Valley of the Sun/Central Arizona (Arizona State University).

Student Chapters are officially approved and recognized by the Board of Directors at ECS biannual meetings.

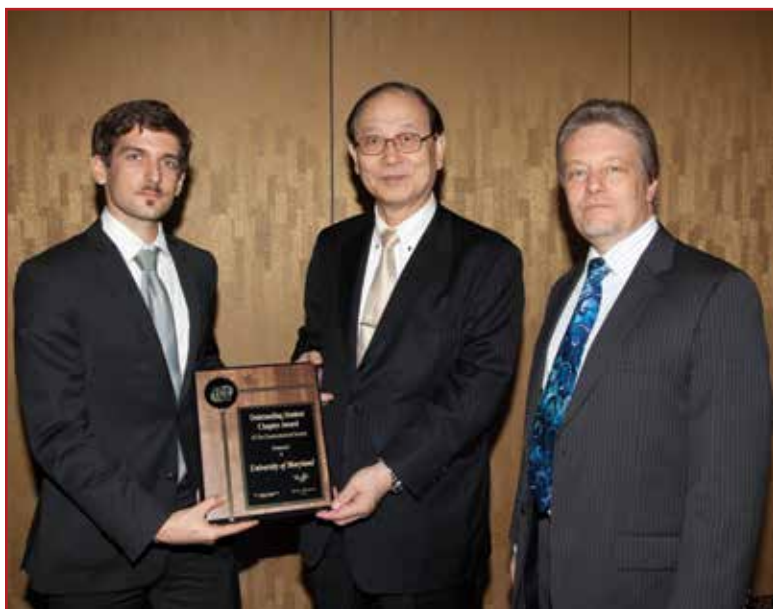


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University of Maryland Student Chapter members **GREG HITZ** (left), **ALEX KOZEN** (second from left), and **ASHLEY LIDIE** (far right) met with **SEN. ELIZABETH WARREN (MA)** (second from right) to discuss stability of science R&D funding.



Members and faculty advisor of the **Calgary Student Chapter** displaying a flexible solar panel after a presentation by SkyFire Energy at the University of Calgary.



PAUL GANNON (left), faculty advisor of the **Montana State University Student Chapter**, observes as **JUDE EZIASHI** removes a high-temperature corrosion specimen from a furnace system.

ECS presented the first Outstanding Student Chapter Award to the **University of Maryland Student Chapter**. ECS President **TETSUYA OSAKA** (center) presented the award to the Chapter President **COLIN GORE** (left). Looking on is the Chapter's faculty advisor **ERIC WACHSMAN** (right).



The **Ohio University Student Chapter** hosted a talk by Christopher Johnson of Argonne National Laboratory. From left to right are: **MADHIVANAN MUTHUVEL**, **DAN WANG**, **BAHAR MORADI GHADI**, **VEDASRI VEDHARATHINAM**, **GERARDINE BOTTE**, **ARTHUR GILDEA**, **CHRISTOPHER JOHNSON**, **WEI YAN**, **FEI LU**, **RAMASAMY PALANIAPPAN**, **SANTOSH VIJAPUR**, **XIAOYOUNG XIA**, and **ALI ESTEJAB**.

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The ECS community also includes institutional members, who are actively moving the science forward in exciting and innovative ways. ECS Institutional Membership provides a direct relationship between ECS and organizations involved in electrochemical science and technology. Institutional Members help ECS to advance the Society's purpose and objectives. In 2013, three organizations were recognized with the Leadership Circle Award for continuous service to the ECS including: Evonik Degussa GmbH, Permascand AB, and Occidental Chemical Corporaion.

ECS had 50 Institutional Members at the end of 2013.

ECS Sections

Asia/Japan

China
Japan
Korea
Taiwan

Europe

Europe

Latin America

Brazil
Chile
Mexico

Middle East

Israel

North America

Arizona
Canada
Chicago
Cleveland
Detroit
Georgia
National Capital
New England
Pittsburgh
San Francisco
Texas
Twin Cities

Southern Asia

India



The University of Texas at Austin Student Chapter with their lemon battery demonstration at the Explore UT 2013 event. From left to right are: DONALD ROBINSON, ALMA CASTANEDA, NETZAHUALCOYOTL ARROYO CURRAS, ARUMUGAM MANTHIRAM (Faculty Advisor) JASON YOO, KAREN SCIDA, JOSEPHINE CUNNINGHAM, BRENT BENNETT, and PREETHI MATHEW.



The organizing committee and the Cochin University of Science and Technology Student Chapter members gathered during the 2013 International Conference on Optoelectronic Materials and Thin Films for Advanced Technology.



The Arizona State University Student Chapter (ECS@ASU) Members and the Ironmen Network Life Coaches, at the Chapter's 2013 Outreach Program.



The 3rd ECS Montréal Student Symposium of the Montréal Student Chapter attracted more than 70 students and staff from Montreal and Québec universities and research centers.

ECS Membership Statistics

(as of October 1, 2013)

Table I. ECS Membership by Class

Category	2007	2008	2009	2010	2011	2012	2013	2013/2012 %Change
Active	4974	5082	5129	4858	4874	4717	4253	-9.8
Member Reps	89	116	98	126	137	158	175	10.8
Life	45	46	46	49	53	71	101	42.3
Emeritus	234	248	266	282	293	265	283	6.8
Honorary	26	25	24	23	23	22	25	13.6
Subtotal Active in Good Standing	5368	5517	5563	5338	5380	5233	4837	-7.6
Delinquent	941	945	1130	1503	1115	1230	1225	-0.4
Total Active on Record	6309	6462	6693	6841	6495	6463	6062	-6.2
Students	1206	1428	1592	1466	1541	1442	1438	-0.3
Delinquent	304	512	648	946	719	859	775	-9.8
Total Students	1510	1940	2240	2412	2260	2301	2213	-3.8
Total Individual Members	7819	8402	8933	9253	8755	8764	8275	-5.6

Table II. ECS Membership by Section

Section	2007	2008	2009	2010	2011	2012	2013	2013/2012 %Change
Arizona	118	150	116	127	109	98	102	4.1
Brazilian	54	71	58	65	65	66	47	-28.8
Canadian	283	267	292	380	381	382	371	-2.9
Chicago	208	184	188	159	182	180	155	-13.9
Chile						10	13	30.0
China	62	78	123	101	81	86	78	-9.3
Cleveland	114	138	134	125	123	124	106	-14.5
Detroit	105	91	99	98	118	116	96	-17.2
European	1043	1081	1266	1256	1105	1108	1041	-6.0
Georgia	172	168	151	165	171	179	133	-25.7
India					58	59	59	0.0
Israel	25	23	35	31	39	39	27	-30.8
Japan	756	789	920	791	771	775	756	-2.5
Korea	187	212	246	262	243	253	205	-19.0
Mexico	66	28	38	36	31	30	30	0.0
National Capital	188	182	181	159	159	154	162	5.2
New England	327	311	321	291	381	360	292	-18.9
Pittsburgh	98	98	87	87	87	80	58	-27.5
San Francisco	366	364	425	415	413	416	376	-9.6
Taiwan	122	126	207	97	122	123	87	-29.3
Texas	167	174	160	160	144	146	142	-2.7
Twin Cities	91	87	85	86	74	76	53	-30.3

Table III. ECS Membership by Division *

Division	2007	2008	2009	2010	2011	2012	2013	2013/2012 %Change
Battery	1378	1450	1130	1575	1711	1740	1820	4.6
Corrosion	531	521	515	476	444	448	439	-2.0
Dielectric Science & Technology	377	375	377	301	306	281	273	-2.8
Electrodeposition	509	509	500	471	474	453	471	4.0
Electronics & Photonics	815	759	821	671	661	582	570	-2.1
Energy Technology	929	1060	1145	1196	1239	1175	1094	-6.9
Nanocarbons	194	205	212	176	155	175	170	-2.9
High Temperature Materials	205	196	209	203	212	209	218	4.3
Industrial Electrochemistry & Electrochemical Engr	277	297	301	303	313	309	287	-7.1
Luminescence & Display Materials	110	120	122	102	100	99	82	-17.2
Organic & Biological Electrochemistry	188	215	222	188	175	176	169	-4.0
Physical & Analytical Electrochemistry	643	664	652	596	597	561	608	8.4
Sensor	242	247	276	222	242	223	246	10.3

*From 2007 Division statistics include only primary interests. Previous years' include primary and secondary interests.

Table IV. ECS Membership by Occupation

Occupation	2007	2008	2009	2010	2011	2012	2013	2013/2012 %Change
Academic	2274	2446	2558	2467	2410	2370	2227	-6.0
Industry	2334	2456	2160	2034	2197	2135	1928	-9.7
Government	388	431	436	391	394	403	357	-11.4
Retired	69	77	119	112	112	112	114	1.8



Annual Report

ECS Student Chapters

ECS Student Chapters	Year Founded	Faculty Advisor	
Atlanta Student Chapter at Georgia Tech	2008	Peter J. Hesketh	peter.hesketh@me.gatech.edu
Auburn University	2007	Jeffrey Fergus	jwfergus@eng.auburn.edu
Boston (Northeastern University, Harvard University, MIT, University of Massachusetts)	2009	Eugene Smotkin	e.smotkin@neu.edu
Brno University of Technology	2006	Jiri Vondrak	vondrakj@iic.cas.cz
Calgary	2011	Viola Birss	birss@ucalgary.ca
California State University- Fullerton Division	2012	John Haan	jhaan2@uiuc.edu
Central Illinois	2008	Andrzej Wieckowski	andrzej@scs.uiuc.edu
ECS Cleveland Section and Ernest B. Yeager Center for Electrochemical Sciences Joint Student Chapter	2005	James D. Burgess	jdb22@po.cwru.edu
Colorado School of Mine	2012	Andrew Herring	aherring@mines.edu
Drexel University	2012	Yury Gogotsi	gogotsi@drexel.edu
Indiana University	2012	Lane Baker & Dennis Peters	lanbaker@indiana.edu & peters@indiana.edu
Kerala, India at CUSAT	2008	M. K. Jayaraj	mkj@cusat.ac.in
Lahore, Pakistan	2008	Inam Ul Haque	inamul.haque@gmail.com
Montana State University	2013	Paul Gannon	pgannon@montana.edu
Montreal	2010	Steen B. Schougaard	schougaard.steen@uqam.ca
North Florida	2014	Pedro Moss	plm1735@my.fsu.edu
Norwegian University of Science and Technology	2014	Ana Mari Svensson	annmari.svensson@ntnu.no
Ohio State University	2006	Anne Co	co@chemistry.ohio-state.edu
Ohio University	2011	Gerardine Botte	botte@ohio.edu
Rensselaer Polytechnic Institute	2013	Daniel Lewis & David Duquette	lewisd2@rpi.edu & duqued@rpi.edu
Research Triangle Student Chapter (Duke University, NC State, UNC - Chapel Hill)	2013	Jeffrey Glass (Duke)	jeff.glass@duke.edu
South Brazilian (Univ. Fed. do Rio Grande do Sul)	2010	Luis Frederico P. Dick	lfdick@ufrgs.br
SRM University	2013	Ranjit Thapa & Bhalchandra Kakade	ranjit.phy@gmail.com & bhalchandrakakade@gmail.com
Tel Aviv University	2009	Eliezer Gileadi & Yosi Shacham-Diamand	gileadi@post.tau.ac.il & yosish@post.tau.ac.il
Tyndall National Institute	2012	Alan O'Riordan	alan.oriordan@tyndall.ie
University of British Columbia	2013	Dan Bizzotto	bizzotto@chem.ubc.ca
University of California – Berkeley	2006	John Newman	newman@newman.cchem.berkeley.edu
University of California – Riverside	2011	Alexander Balandin	balandin@ee.ucr.edu
University of California – San Diego	2014	Shirley Meng	shirleymeng@ucsd.edu
University of Central Florida	2000	Kalpathy Sundaram	sundaram@mail.ucf.edu
University of Cincinnati	2007	Marc Cahay	marc.cahay@uc.edu
University of Florida	2005	Mark Orazem	morazem@che.ufl.edu
University of Iowa	2014	John Leddy	johna-leddy@uiowa.edu
University of Maryland	2011	Eric Wachsman	ewach@umd.edu
University of South Carolina	2010	Xiao-dong Zhou	xiao-dong.zhou@sc.edu
University of Tartu	2013	Kaido Tammeveski	kaido@chem.ut.ee
University of Texas at Austin	2006	Ram Manthiram	rmanth@mail.utexas.edu
University of Texas at Dallas	2012	Moon Kim	moonkim@utdallas.edu
University of Virginia	2006	Rob Kelly	rgk6y@virginia.edu
Valley of the Sun (Central Arizona)	2013	Candace Chan	Candace.chan@asu.edu

Finance

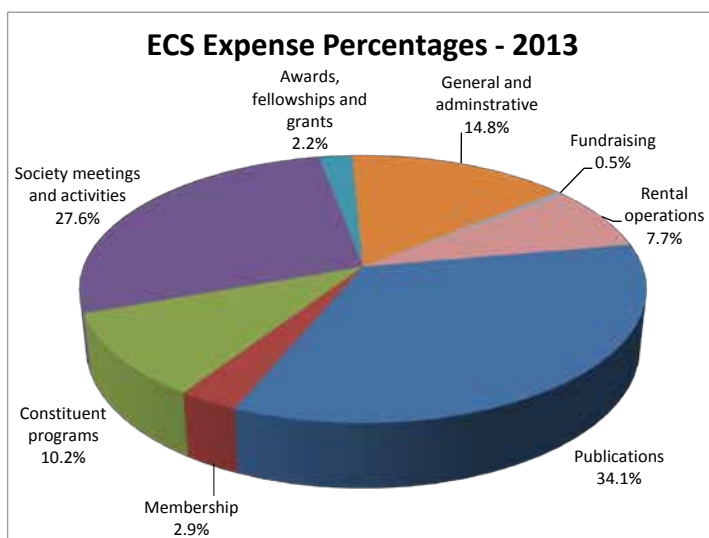
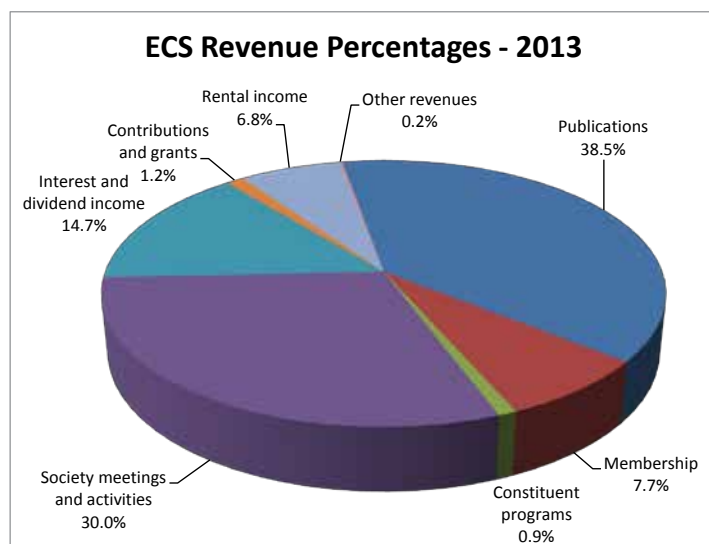
We are pleased to present the audited financial reports of ECS for the year ending December 31, 2013. These reports indicate that our financial health continues to be strong and that we met the Society's financial objectives for the year, which is to advance electrochemical and solid state science by disseminating technical content.

For the year ended December 31, 2013, net assets increased by \$972,274. The surplus was a result of greater than anticipated revenues of \$6.9 million, largely due to higher than expected returns from the investment portfolio, meeting attendance and publication revenue. These were partially offset by lower than expected membership and rental operations revenue.

The total operating expenses decreased to \$6.2 million primarily due to reduced Society meetings and exhibits costs related to the venue and decreased attendance compared to the record-setting PRiME meeting in Hawaii. This was partially offset by increases in publications costs related to bringing the circulation and fulfillment function in-house. The general and administrative costs were slightly higher due to increases in staff, benefit costs, IT software and other support costs. We anticipate further increases in the staff size to manage the growth in meetings, publications and technological requirements driving the Society's future.

The Society's *Statement of Financial Position* reflects growth in assets to \$16.9 million of which 51% are either custodial or endowment funds. Growth in these funds is important because it is clear that there will be pressure to generate financial support through investment and contribution revenues. ECS' open access initiative has shifted our focus to the eventual free dissemination of content. Digital Library pricing has flattened and, over time, will begin to decline as we shift from a subscription-based model to a contribution-based model. Therefore, our broader financial goal is to avoid the use of the endowment funds to cover operating expenses, enabling the funds to maintain future growth.

From a financial perspective, 2013 was a very good year for ECS, largely due to the performance of our investment portfolio. We anticipate the need for significant investments to fund the technology necessary to advance our programs, disseminate content and support the open access initiative. The Society's current financial strength will aid in these investments.



Christina Bock
Treasurer

Paul Grote
Director of Finance

The Electrochemical Society is a nonprofit international association of scientists and engineers chartered as a tax exempt organization under Section 501(c)(3) of the United States Internal Revenue Code. The Board of Directors engages the services of an independent auditor to assure that the Society maintains an effective system of financial management, and continues to operate under its nonprofit charter. The Board of Directors received an unqualified or clean opinion from their independent auditors, *WithumSmith+Brown* for the fiscal year ending December 31, 2013.



Annual Report

Financial Summary

Consolidated Statement of Financial Position *(For the years ended December 31, 2013 and 2012)*

Assets	2013	2012
Cash and cash equivalents	\$ 1,762,595	\$ 1,255,149
Accounts receivable, net	42,616	148,985
Unconditional promises to give, net	17,575	17,575
Prepaid expenses, deposits and other assets	329,801	130,709
Investments in marketable securities	9,667,985	8,586,364
Custodial account investments	630,284	717,910
Deferred rent	58,442	81,005
Investments in real estate:		
Land	1,603,427	1,603,427
Buildings, less accumulated depreciation of \$603,058	2,801,126	2,886,232
Intangible assets	-	243,873
Total assets	16,913,851	15,671,229

Liabilities and Net Assets

<i>Liabilities</i>		
Accounts payable and accrued expenses	\$ 357,462	\$ 314,030
Deferred revenue	1,600,829	1,290,501
Custodial account liability	630,284	717,910
Security deposits	30,900	30,987
Deferred compensation	119,329	115,028
<i>Net Assets</i>		
Unrestricted	12,875,468	11,950,633
Temporarily restricted	424,196	410,627
Permanently restricted	875,383	841,513
Total net assets	14,175,047	13,202,773
Total liabilities and net assets	16,913,851	15,671,229

Consolidated Statement of Changes in Net Assets *(For the years ended December 31, 2013 and 2012)*

Revenues

Publications	\$ 2,660,730	\$ 2,710,514
Membership	529,990	719,147
Constituent programs	63,177	71,236
Society meetings and activities	2,072,274	2,558,322
Interest and dividend income	1,019,234	268,591
Contributions and grants	81,432	23,791
Rental income	468,764	512,521
Other revenues	14,960	15,564
	6,910,561	6,879,686

Expenses

<i>Program services</i>		
Publications	\$ 2,127,074	\$ 1,688,125
Membership	183,396	105,091
Constituent programs	635,591	702,046
Society meetings and activities	1,719,343	2,477,434
Awards, fellowships and grants	135,908	86,582
	4,801,312	5,059,278
<i>Supporting services</i>		
General and administrative	923,188	865,341
Fundraising	27,549	-
Rental operations	480,489	431,377
	1,431,226	1,296,718
Increase in net assets from operations	678,023	\$523,690
Net change in fair value of investments	294,251	346,418
Other nonoperating revenue	-	-
Change in net assets	972,274	870,108
Net assets, beginning of year	13,202,773	12,332,665
Net assets, end of year	14,175,047	13,202,773

These financial statements are a condensed version of the audited statements of ECS for the year ending December 31, 2013. ECS will be pleased to provide complete copies along with all footnotes and the unqualified report of our auditors upon request.

Notes to Financial Statements

1. Summary of Significant Accounting Policies

The consolidated financial statements include the accounts of The Electrochemical Society, Inc. and its Divisions, Groups and Sections, the LLC, as well as LBF. All intercompany balances and transactions have been eliminated in consolidation.

The consolidated financial statements have been prepared to focus on The Electrochemical Society, Inc. and Subsidiary (the Society) as a whole, and to present balances and transactions according to the existence or absence of donor-imposed restrictions. Accordingly, net assets and changes therein are classified as follows: Unrestricted net assets – net assets not subject to donor-imposed stipulations; Temporarily restricted net assets – net assets subject to donor-imposed stipulations that will be met by actions of the Society and/or by the passage of time; Permanently restricted net assets (endowment funds) – net assets subject to donor-imposed stipulations that they be maintained permanently by the Society.

2. Income Tax Status and Income Taxes

ECS and its Divisions, Groups, and Sections qualify as a tax-exempt organization described under Section 501(c)(3) of the Internal Revenue Code and all of its income, except income generated through the advertising included in its publications, is exempt from Federal income taxes.

As a single-member limited liability company, LLC is treated as a “disregarded entity” for income tax purposes and, as such, its financial activity is reported in conjunction with the Federal income tax filings of ECS. LBF is a limited liability company. Therefore, the income or loss is passed through to the members and no provision or liability for federal and state income taxes has been included in the financial statements for the company. The Society has adopted the accounting pronouncement that provides guidance on uncertain tax positions. The Society has no unrecognized tax benefits at December 31, 2013.

3. Investments

Investments in equities and fixed income instruments are reported at fair market value, and investment in real estate is reported at cost. Investment income and realized and unrealized net gains and losses on investments of permanently restricted net assets are reported as follows: as increases or decreases in temporarily restricted net assets if the terms of the gift impose restrictions on the use of the income and/or net gains; as increases or decreases in unrestricted net assets in all other cases. Cost, market value and unrealized appreciation (depreciation) at December 31, 2013 are summarized as follows:

	Cost	Market Value	Unrealized Appreciation (Depreciation)
Money market funds	\$ 1,855	\$ 1,855	\$ --
Stocks and mutual funds	6,019,011	6,868,720	849,709
Certificate of deposit	316,195	316,195	--
Corporate and U.S. bonds	2,417,263	2,597,785	180,522
Real estate	5,007,611	5,007,611	--
Real Estate Trust	550,000	513,714	(36,286)
Total	\$14,311,985	\$15,305,880	\$ 993,945

4. Endowment Funds

The Society’s endowment funds consist of several funds established to fund awards, as well as an educational endowment fund, publications endowment fund and an ECS endowment fund. The endowment funds include both donor-restricted funds and funds designated by the Board of Directors to function as endowments. As required by generally accepted accounting principles (GAAP), net assets associated with endowment funds are classified based on the existence or absence of donor-imposed restrictions.

The Society’s policy requires the preservation of the fair value of the original gift as of the gift date of the donor-restricted endowment funds absent explicit donor stipulations to the contrary. As a result, the Society classifies as permanently restricted net assets the original value of gifts donated to the permanent endowment and the original value of subsequent gifts to the permanent endowment. The remaining portion of the donor-restricted endowment fund that is not classified in permanently restricted net assets is classified as temporarily restricted net assets until those amounts are appropriated for expenditure by the Society.

5. ECS Holdings, LLC

ECS Holdings LLC was chartered in 1998 to manage the real estate assets of the Society. Current real estate holdings include five buildings at Howe Commons in Pennington, NJ valued at a cost of \$5,007,611. The Society occupies one of the buildings and the other four are classified as an investment. ECS Holdings LLC leases office space in these four buildings to various tenants under operating leases arrangements expiring through 2019. Rental income under the aforementioned leases totaled \$468,764 (net of Society’s rentals of \$90,117) for the year ended December 31, 2013.

6. Report of the ECS Audit Subcommittee

The ECS Audit Committee provides oversight of The Electrochemical Society’s financial reporting process on behalf of the Board of Directors. Management (ECS Staff Directors and Officers) is responsible for the financial statements and the financial reporting process, including the system of internal control. In fulfilling its oversight responsibilities, the Committee discussed the financial statements in the annual report with management, including a discussion of quality, not just the acceptability, of the accounting principles; the reasonableness of significant judgments; and the clarity of disclosures in the financial statements.

The members of the Audit Committee in 2013 were Peter Fedkiw (Chair), Bill Eggers, Petr Vanysek, Paul Natishan and Stuart Swirson.

The ECS Audit Committee discussed with the independent auditors the overall scope and plans for their respective audits. The Committee meets with the independent auditors with and without management present, to discuss the results of their examinations, their evaluations of the Society’s internal control, compliance with laws and regulations, and the overall quality of the Society’s financial reporting.

Based on the discussions referenced above, the ECS Audit Committee has recommended for acceptance to the Board of Directors the audited financial statements for the year ended December 31, 2013.

Board of Directors

(as of November 1, 2013)

Christina Bock, *Treasurer*
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James Burgess, *Chair, Organic and Biological Electrochemistry*
Roque Calvo, *Executive Director*
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Bor Yann Liaw, *Chair, Battery Division*
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Bruce Weisman, *Chair, Nanocarbons Division*
Giovanni Zangari, *Chair, Electrodeposition Division*
Xiao-Dong Zhou, *Chair, High Temperature Materials Division*

ECS Editorial Boards

(as of December 31, 2013)

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Robert F. Savinell, *Editor*
Gerald S. Frankel, *Technical Editor*
Thomas F. Fuller, *Technical Editor*
Charles L. Hussey, *Technical Editor*
Shelley D. Minter, *Technical Editor*
Rangachary Mukundan, *Technical Editor*
Dennis G. Peters, *Technical Editor*
John Weidner, *Technical Editor*
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Doron Aurbach, *Associate Editor*
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Takayuki Homma, *Associate Editor*
Thomas J. Schmidt, *Associate Editor*
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Solid State Science & Technology (SSST) Journals

Dennis W. Hess, *Editor*
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Stefan De Gendt, *Technical Editor*
Francis D'Souza, *Technical Editor*
Yue Kuo, *Technical Editor*
Kailash C. Mishra, *Technical Editor*
George Celler, *Associate Editor*

Interface

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Luis Echegoyen, *Nanocarbons Division Representative*
Uwe Happek, *Luminescence and Display Materials Division Representative*

Andrew C. Hillier, *Physical and Analytical Electrochemistry Division Representative*
Bor Yann Liaw, *Battery Division Representative*
Mani Manivannan, *Energy Technology Division Representative*
Durga Misra, *Dielectric Science and Technology Division Representative*
Jerzy Ruzyllo, *Electronics and Photonics Division Representative*
John Staser, *Industrial Electrochemistry and Electrochemical Engineering Division Representative*
Sanna Virtanen, *Corrosion Division Representative*
Nick Wu, *Sensor Division Representative*
Giovanni Zangari, *Electrodeposition Division Representative*
Xiao-Dong Zhou, *High Temperature Materials Division Representative*

ECS Transactions (ECST)

Jeffrey W. Fergus, *Editor*
D. Noel Buckley, *Electronics and Photonics Division Representative*
James Burgess, *Organic and Biological Electrochemistry Division Representative*
Bryan A. Chin, *Sensor Division Representative*
Hugh De Long, *Physical and Analytical Electrochemistry Division Representative*
James M. Fenton, *Energy Technology Division Representative*
Turgut Gur, *High Temperature Materials Division Representative*
Robert Kostecki, *Battery Division Representative*
Kailash C. Mishra, *Luminescence and Display Materials Division Representative*
Durgamadhhab Misra, *Dielectric Science and Technology Division Representative*
Elizabeth Podlaha-Murphy, *Electrodeposition Division Representative*
Sanna Virtanen, *Corrosion Division Representative*
John Weidner, *Industrial Electrochemistry and Electrochemical Engineering Division Representative*
R. Bruce Weisman, *Nanocarbons Division Representative*

Headquarters Staff

(as of June 30, 2014)

Roque J. Calvo, *Executive Director*
 Dinia Agrawala, *Interface Production Manager*
 Linda Cannon, *Staff Accountant*
 Karen Chmielewski, *Finance Associate*
 Paul Cooper, *Editorial Manager*
 Dan Fatton, *Director of Development*
 Timothy Gamberzky, *Sr. Director of Operations*
 Glenn Gang, *Director of Membership & Constituent Programs*
 Rob Gerth, *Director of Marketing & Digital Engagement*
 Annie Goedkoop, *Director of Publications*

Paul Grote, *Director of Finance*
 Andrea Guenzel, *Publications Specialist*
 Mary Hojlo, *Constituent Services Associate*
 Colleen Klepser, *Executive Operations Administrator*
 Christie Knief, *Meetings & Exhibits Manager*
 John Lewis, *Associate Director of Publications*
 Heather McAlinn, *Board Relations Administrator*
 Winnie Mutch, *Web Manager*
 Anna Olsen, *Constituent Services Associate*
 Elizabeth Schademann, *Publications Specialist*
 Keith Schlesinger, *Technical Programs Coordinator*
 Logan Streu, *Publications Assistant*
 Beth Anne Stuebe, *Meetings & Conference Content Coordinator*
 Mary Yess, *Deputy Executive Director and Publisher*

ECS Donors

The following individuals and organizations have helped support ECS's many activities. We thank them for their generous support of the Society.

Endowed Funds

ECS maintains several endowments, including:

ECS Endowment, which supports ECS's planning and investment in future initiatives to ensure organizational viability and longevity.

Education Endowment Fund, which supports ECS summer fellowships, provides student travel grants for ECS Meetings and cash prizes for student poster session awards.

Publications Endowment Fund, which supports ECS scientific journals and open access content in the ECS Digital Library.

We are grateful to the following donors for their generous support of \$500 or more to our endowments:

Frederick Strieter
 K.M. Abraham

Businesses, Organizations and Government

We are grateful to the following businesses, organizations, and government organizations for their generous support of \$5,000 and above in support of our mission:

American Elements	Hydro-Québec
AMETEK – Scientific Instruments	IBM Corporation
Applied Materials	IEEE Power Electronics Society
Army Research Office	Industrie De Nora S.P.A.
Asahi Kasei Corporation	Lam Research Corp.
Asahi Kasei E-Materials Group	Maccor Inc.
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Duracell	Office of Naval Research
ESL Electro-Science	Pine Research Instrumentation
Gamry Instruments	ProSys, Inc.
Gelest, Inc.	Saft Batteries, Specialty Batteries Group
Horiba Scientific	Scribner Associates

Individuals

We are grateful to the following individuals for their generous gifts of \$500 and above in support of our mission:

Shigeru Amemiya	Biao Liu
Kathryn Bullock	Henri Maget
Jerzy Chlistunoff	Wijian Miao
Francisco Di Quarto	Michael V. Mirkin
Zhifeng Ding	John S. Newman
Fu-Ren F. Fan	Yaw S. Obeng
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Bruce Arthur Kowert	Aiji A. Uchiyama
Mahadevaiyer Krishnan	Patrick Unwin
Chi-Woo Lee	Francisco A. Uribe
Peter Lewis	David Wipf
Xiao Li	

The Legacy Society

The Legacy Society honors benefactors who have provided for the Society in a variety of ways—through their wills, a charitable trust, a life-income arrangement, a life insurance policy, or a retirement plan.

Robert P. Frankenthal	Keith E. Johnson
George R. Gillooly	Mary E. Loonam
Stan Hancock	Edward G. Weston
Carl Hering	2 Anonymous Donors
W. Jean Horkans	

If you would like more information about making a planned gift, please contact Dan Fatton, Director of Development at 609.737.1902 ext. 115.



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Applied Spectra Inc	Hydro-Quebec	Precious Plate Incorporated
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Asahi Kasei E-Materials Corp	International Lead Zinc Research Org.	Quallion, LLC
Asylum Research, an Oxford Instruments Company	International Society of Electrochemistry	Reagent
Axiall Corporation	IonPower	RheoSense, Inc
Ballard Power Systems, Inc.	Ivium Technologies	Saft Batteries, Specialty Batteries Group
BASF Fuel Cell, Inc.	Johnson Controls Hybrid and Recycling GmbH	Sandia National Laboratories
Beijing Mikrouna	Kanto Chemical Co., Inc.	Scribner Associates, Inc.
Biolin Scientific	Koslow Scientific	Solartron Analytical - Ametek
Bio-Logic USA/Bio-Logic SAS	Lam Research Corp.	SolviCore GmbH & Co. KG
C. Uyemura & Co. Ltd.	Lawrence Berkeley National Laboratory	Stanford Research Systems
California Fuel Cell Partnership	Leclanche SA	Tanaka Kikinzoku Kogyo KK
Cambridge NanoTech Inc.	Los Alamos National Laboratory	TDK Corporation, Device Development Center
CAP Final Coat	Maccor	Technic Inc.
Central Electrochemical Research Institute	Materials Research Society	TEL/FSI
CH Instruments, Inc.	Mattson Technologies, Inc.	Teledyne Energy Systems, Inc.
ChemTrace	Mbraun USA	Texas University
Co-Operative Plating Co.	Meaglow	TIMCAL Ltd.
Dow Chemical Co.	Medtronic Inc.	Toshima Manufacturing Co., Ltd.
Duracell	Metrohm Autolab	Toyota Central R & D Labs., Inc.
Dynatronix Inc	Metrohm USA	Toyota Research Institute of North America
EaglePicher Technologies LLC	Mitsubishi Heavy Industries, Ltd	ULVAC Technologies
EL-Cell GmbH	Mobecomme Inc.	Umicore AG & Co. KG
Electrosynthesis Company, Inc.	MTI Corporation	Uniscan
ENEOS CELLTECH Co., Ltd.	N.E. CHEMCAT Corporation	Vigor Gas Purification Technologies Inc
Energizer	Netzch	Wildcat Discovery Technologies
ESL ElectroScience	Next Energy EWE - Forschungszentrum	Yeager Center for Electrochemical Sciences
Evans Analytical Group	Nissan Motor Co., Ltd.	ZSW
Evonik Litarion GmbH	Occidental Chemical Corp.	
Faraday Technology, Inc.	Office of Navy Research	

ECS Honor Roll

Past Presidents of the Society

J. W. Richards.....	1902-1904	F. C. Mathers.....	1940-1941	D. N. Bennion.....	1977-1978
H. S. Carhart.....	1904-1905	R. R. Ridgway.....	1941-1942	D. R. Turner.....	1978-1979
W. D. Bancroft.....	1905-1906	E. M. Baker.....	1942-1943	J. B. Berkowitz.....	1979-1980
C. Hering.....	1906-1907	R. M. Burns.....	1943-1944	E. M. Pell.....	1980-1981
C. F. Burgess.....	1907-1908	S. D. Kirkpatrick.....	1944-1945	R. J. Brodd.....	1981-1982
E. G. Acheson.....	1908-1909	W. R. Veazey.....	1945-1946	F. J. Strieter.....	1982-1983
L. H. Baekeland.....	1909-1910	W. C. Moore.....	1946-1947	J. B. Wagner, Jr.....	1983-1984
W. H. Walker.....	1910-1911	G. W. Heise.....	1947-1948	P. C. Milner.....	1984-1985
W. R. Whitney.....	1911-1912	J. A. Lee.....	1948-1949	R. C. Alkire.....	1985-1986
W. L. Miller.....	1912-1913	A. L. Ferguson.....	1949-1950	R. E. Enstrom.....	1986-1987
E. F. Roeber.....	1913-1914	C. L. Faust.....	1950-1951	F. G. Will.....	1987-1988
F. A. Lidbury.....	1914-1915	R. M. Hunter.....	1951-1952	B. E. Deal.....	1988-1989
L. Addicks.....	1915-1916	J. C. Warner.....	1952-1953	E. J. Cairns.....	1989-1990
F. A. J. FitzGerald.....	1916-1917	R. J. McKay.....	1953-1954	J. M. Woodall.....	1990-1991
C. G. Fink.....	1917-1918	M. J. Udy.....	1954-1955	L. R. Faulkner.....	1991-1992
F. J. Tone.....	1918-1919	H. H. Uhlig.....	1955-1956	W. L. Worrell.....	1992-1993
W. D. Bancroft.....	1919-1920	H. Thurnauer.....	1956-1957	R. P. Frankenthal.....	1993-1994
W. S. Landis.....	1920-1921	N. Hackerman.....	1957-1958	J. A. Amick.....	1994-1995
A. Smith.....	1921-1922	S. Swann.....	1958-1959	K. R. Bullock.....	1995-1996
C. G. Schluederberg.....	1922-1923	W. C. Gardiner.....	1959-1960	D. W. Hess.....	1996-1997
A. T. Hinckley.....	1923-1924	R. A. Schaefer.....	1960-1961	B. Miller.....	1997-1998
H. C. Parmelee.....	1924-1925	H. B. Linford.....	1961-1962	G. M. Blom.....	1998-1999
F. M. Becket.....	1925-1926	F. L. LaQue.....	1962-1963	D. E. Hall.....	1999-2000
W. Blum.....	1926-1927	W. J. Hamer.....	1963-1964	C. M. Osburn.....	2000-2001
S. C. Lind.....	1927-1928	L. I. Gilbertson.....	1964-1965	J. Talbot.....	2001-2002
P. J. Kruesi.....	1928-1929	E. B. Yeager.....	1965-1966	K. Spear.....	2002-2003
F. C. Frary.....	1929-1930	H. J. Read.....	1966-1967	B. Scrosati.....	2003-2004
L. Kahlenberg.....	1930-1931	H. C. Gatos.....	1967-1968	R. Susko.....	2004-2005
B. Stoughton.....	1931-1932	I. E. Campbell.....	1968-1969	W. Smyrl.....	2005-2006
R. A. Witherspoon.....	1932-1933	N. C. Cahoon.....	1969-1970	Mark Allendorf.....	2006-2007
J. Johnston.....	1933-1934	C. W. Tobias.....	1970-1971	Barry MacDougall.....	2007-2008
H. S. Lukens.....	1934-1935	C. V. King.....	1971-1972	D. Noel Buckley.....	2008-2009
J. H. Critchett.....	1935-1936	T. D. McKinley.....	1972-1973	Paul Natishan.....	2009-2010
D. A. MacInnes.....	1936-1937	N. B. Hannay.....	1973-1974	William D. Brown.....	2010-2011
W. G. Harvey.....	1937-1938	D. A. Vermilyea.....	1974-1975	Esther S. Takeuchi.....	2011-2012
R. L. Baldwin.....	1938-1939	T. R. Beck.....	1975-1976	Fernando Garzon.....	2012-2013
H. J. Creighton.....	1939-1940	M. J. Pryor.....	1976-1977		

Past Secretaries of the Society

C. Hering.....	1902	H. B. Linford.....	1949-1959	J. A. Amick.....	1984-1988
C. J. Reed.....	1902-1904	I. E. Campbell.....	1959-1965	E. W. Brooman.....	1988-1992
S. S. Sadtler.....	1904-1907	R. F. Bechtold.....	1965-1968	J. McBreen.....	1992-1996
J. W. Richards.....	1907-1921	D. R. Turner.....	1968-1974	R. Susko.....	1996-2000
C. G. Fink.....	1921-1947	P. C. Milner.....	1974-1980	P. Natishan.....	2000-2004
R. M. Burns.....	1947-1949	F. A. Trumbore.....	1980-1984	P. Vanýsek.....	2004-2008
				J. Leddy.....	2008-2012

Past Treasurers of the Society

P. G. Salom.....	1902-1920	E. G. Enck.....	1961-1964	R. E. White.....	1990-1994
F. A. Lidbury.....	1920-1924	R. H. Schaefer.....	1964-1967	W. M. Bullis.....	1994-1997
A. Smith.....	1924-1931	R. H. Cherry.....	1967-1973	Y. H. Wong.....	1997-1998
R. M. Burns.....	1931-1943	F. J. Strieter.....	1973-1976	W. D. Brown.....	1998-2002
W. W. Winship.....	1943-1949	J. L. Griffin.....	1976-1982	P. Fedkiw.....	2002-2006
E. G. Widell.....	1949-1955	J. Kruger.....	1982-1986	J. Susko.....	2006-2010
L. I. Gilbertson.....	1955-1961	R. P. Frankenthal.....	1986-1990		



Edward Goodrich Acheson Award

E. G. Acheson.....	1929
E. F. Northrup.....	1931
C. G. Fink.....	1933
F. J. Tone.....	1935
F. M. Becket.....	1937
F. C. Frary.....	1939
C. F. Burgess.....	1942
W. Blum.....	1944
H. J. Creighton.....	1946
D. A. MacInnes.....	1948
G. W. Vinal.....	1950
J. W. Marden.....	1952
G. W. Heise.....	1954
R. M. Burns.....	1956
W. J. Kroll.....	1958
H. B. Linford.....	1960
C. L. Faust.....	1962
E. A. Gulbransen.....	1964
W. C. Vosburgh.....	1966
F. L. LaQue.....	1968
S. Ruben.....	1970
C. W. Tobias.....	1972
C. V. King.....	1974
N. B. Hannay.....	1976
D. A. Vermilyea.....	1978
E. B. Yeager.....	1980
H. C. Gatos.....	1982
N. Hackerman.....	1984
E. M. Pell.....	1986
H. H. Uhlig.....	1988
T. R. Beck.....	1990
D. R. Turner.....	1992
J. B. Wagner, Jr.....	1994
R. C. Alkire.....	1996
J. M. Woodall.....	1998
L. R. Faulkner.....	2000
B. Deal.....	2002
W. L. Worrell.....	2004
V. de Nora.....	2006
Robert P. Frankenthal.....	2008
John Newman.....	2010
Dennis Hess.....	2012



Olin Palladium Medal Award

(formerly the Palladium Medal Award, 1951-1977)

C. W. Wagner.....	1951
N. H. Furman.....	1953
U. R. Evans.....	1955
K. F. Bonhoeffer.....	1957

A. N. Frumkin.....	1959
H. H. Uhlig.....	1961
N. Hackerman.....	1965
P. Delahay.....	1967
T. P. Hoar.....	1969
L. Brewer.....	1971
V. G. Levich.....	1973
M. J. N. Pourbaix.....	1975
H. Gerischer.....	1977
R. Parsons.....	1979
I. M. Kolthoff.....	1981
M. Cohen.....	1983
M. Fleischmann.....	1985
A. J. Bard.....	1987
B. E. Conway.....	1989
J. Newman.....	1991
J.-M. Savéant.....	1993
J. Kruger.....	1995
R. W. Murray.....	1997
J. B. Goodenough.....	1999
N. Sato.....	2001
E. Gileadi.....	2003
R. Rapp.....	2005
Sergio Trasatti.....	2007
Dieter M. Kolb.....	2009
Koji Hashimoto.....	2011
Ralph White.....	2013



Gordon E. Moore Medal for Outstanding Achievement in Solid-State Science and Technology

(formerly the Solid State Science & Technology Award, 1973-2005)

W. G. Pfann.....	1973
H. C. Gatos.....	1975
R. N. Hall.....	1977
M. B. Panish.....	1979
G. L. Pearson.....	1981
N. Holonyak, Jr.....	1983
J. M. Woodall.....	1985
A. Y. Cho.....	1987
J. F. Gibbons.....	1989
J. D. Plummer.....	1991
B. E. Deal.....	1993
W. L. Worrell.....	1995
K. E. Spear.....	1997
I. Akasaki.....	1999
A. Reisman.....	2001
R. B. Fair.....	2003
D. Hess.....	2005
Tak H. Ning.....	2007
C. Grant Willson.....	2009
Stephen Pearton.....	2011
Fan Ren.....	2013



Vittorio de Nora Award in Electrochemical Engineering and Technology

(formerly the Electrochemical Science and Technology Award, 1974-1977)

A. Brenner.....	1974
R. B. MacMullin.....	1976
F. T. Bacon.....	1978
H. B. Beer.....	1980
J. C. Schumacher.....	1982
D. E. Danly.....	1984
K. Kordesch.....	1986
A. Heller.....	1988
C. W. Tobias.....	1990
E. B. Yeager.....	1992
L. T. Romankiw.....	1994
R. Baboian.....	1996
W. G. Grot.....	1998
D. R. Turner.....	2000
R. C. Alkire.....	2004
F. Mansfeld.....	2006
John S. Newman.....	2008
Derek Pletcher.....	2010
Bruno Scrosati.....	2012



Carl Wagner Memorial Award

A. J. Bard.....	1981
G. C. Wood.....	1983
R. C. Alkire.....	1985
R. W. Murray.....	1987
W. L. Worrell.....	1989
D. D. Macdonald.....	1991
J. Jorné.....	1993
B. R. MacDougall.....	1995
M. J. Weaver.....	1997
C. R. Martin.....	1999
P. A. Kohl.....	2001
R. M. Crooks.....	2003
J. Hupp.....	2005
Philip N. Bartlett.....	2007
Henry S. White.....	2009
Peter Bruce.....	2011
Marc T. M. Koper.....	2013



Henry B. Linford Award for Distinguished Teaching

C. W. Tobias	1982
B. E. Conway	1984
A. J. Bard	1986
L. Brewer	1988
J. Newman	1990
K. Nobe	1992
J. O'M. Bockris	1994
T. C. Franklin	1996
R. A. Rapp	1998
G. Stoner	2000
D. Peters	2002
R. M. Latanision	2004
D. Pletcher	2006
Eliezer Gileadi	2008
Daniel T. Schwartz	2010
Mark E. Orazem	2012

Charles W. Tobias Young Investor Award

Stuart B. Adler	2004
Hock Min Ng	2006
Yang Shao-Horn	2008
Thomas J. Schmidt	2010
Bryan S. Pivovar	2012
Bilge Yildiz	2012

Honorary Members

Charles F. Chandler	1919
Edgar F. Smith	1919
Carl Hering	1922
Edward G. Acheson	1923
Wilder D. Bancroft	1925
Edward Weston	1926
Thomas A. Edison	1928
W. Lash Miller	1929
Edward Dean Adams	1930
Charles F. Burgess	1932
Frederick M. Becket	1934
L. H. Baekeland	1936
Robert A. Witherspoon	1940
Archer E. Wheeler	1941
W.R. Whitney	1944
Paul J. Kruesi	1944
Colin G. Fink	1946
Oliver W. Brown	1946
John W. Marden	1947
William Blum	1953
Robert M. Burns	1959
George W. Heise	1959
Frank C. Mathers	1959
Stanislaus Skowronski	1962
Oliver W. Storey	1962
A. Kenneth Graham	1963

Howard A. Acheson	1971
Charles L. Faust	1971
Cecil V. King	1973
Herbert H. Uhlig	1973
Norman Hackerman	1973
Henry B. Linford	1974
Sherlock Swann	1974
Ernest G. Enck	1975
W. C. Gardiner	1975
Ivor E. Campbell	1976
Ernest B. Yeager	1977
David A. Vermilyea	1977
Charles W. Tobias	1977
Harry C. Gatos	1978
Ralph M. Hunter	1979
Dennis R. Turner	1980
Henry F. Ivey	1980
Walter J. Hamer	1980
Michael J. Pryor	1981
Francis L. LaQue	1981
N. Bruce Hannay	1982
Theodore R. Beck	1982
Vittorio de Nora	1982
John L. Griffin	1983
Erik M. Pell	1983
Samuel Ruben	1983
Paul C. Milner	1986
Harold J. Read	1986
Forrest A. Trumbore	1986
Douglas N. Bennion	1987
Ralph J. Brodd	1987
Jerome Kruger	1987
Glenn W. Cullen	1990
James C. Acheson	1990
Richard C. Alkire	1991
Bertram Schwartz	1991
J. Bruce Wagner, Jr.	1991
V. H. Branneky	1991
R. S. Karpiuk	1996
F. J. Strieter	1996
W. L. Worrell	1996
Barry Miller	1999
Jefferson Cole	2001
L. Faulkner	2003
R. Frankenthal	2003
L. Romankiw	2003
Gordon E. Moore	2007
John S. Newman	2007
Jerry M. Woodall	2007
Allen J. Bard	2013
John B. Goodenough	2013

Fellows of The Electrochemical Society

Allen J. Bard	1990
Robert B. Comizzoli	1990
Glenn W. Cullen	1990
Theodore I. Kamins	1990
Paul C. Milner	1990
Edward H. Nicollian	1990
Robert A. Osteryoung	1990
Arnold Reisman	1990

Lubomyr T. Romankiw	1990
Geraldine C. Schwartz	1990
Ben G. Streetman	1990
J. Bruce Wagner, Jr.	1990
Theodore R. Beck	1991
Elton J. Cairns	1991
Bruce E. Deal	1991
Werner Kern	1991
William A. Pliskin	1991
Charles W. Tobias	1991
Rolf Weil	1991
Richard C. Alkire	1992
Vittorio de Nora	1992
Jerome Kruger	1992
Barry Miller	1992
Dennis R. Turner	1992
Jerry M. Woodall	1992
Richard P. Buck	1993
Larry R. Faulkner	1993
Dennis W. Hess	1993
Vik J. Kapoor	1993
Rolf H. Muller	1993
Carlton M. Osburn	1993
Robert A. Rapp	1993
George L. Schnable	1993
Y. H. Wong	1993
Petr Zuman	1993
George K. Celler	1994
Sung-Nee George Chu	1994
John P. Dismukes	1994
Richard B. Fair	1994
Adam Heller	1994
Richard A. Oriani	1994
Boone B. Owens	1994
Wayne L. Worrell	1994
Fred Anson	1995
Laurence D. Burke	1995
Brian E. Conway	1995
Robert P. Frankenthal	1995
Karl M. Kadish	1995
Digby D. Macdonald	1995
Gleb Mamantov	1995
Florian Mansfeld	1995
Royce W. Murray	1995
John Newman	1995
Yutaka Okinaka	1995
Howard W. Pickering	1995
George Rozgonyi	1995
Mordechay Schlesinger	1995
Karl E. Spear	1995
John M. Blocher, Jr.	1996
Hans K. Böhni	1996
Der-Tau Chin	1996
Hugh Isaacs	1996
Wolfgang J. Lorenz	1996
S. J. Pearton	1996
Subhash C. Singhal	1996
Venkataraman Swaminathan	1996
James A. Amick	1997
Denis Noel Buckley	1997
Eliezer Gileadi	1997
Michel J. Froment	1997

Fellows (continued)

Koji Hashimoto	1997	Israel Rubinstein	2002	Yury Gogotsi	2008
Chung-Chiun Liu	1997	Sigeru Torii	2002	Curtis F. Holmes	2008
Edward McCafferty	1997	Toshio Shibata	2002	Prashant V. Kamat	2008
Theodore D. Moustakas	1997	Sorin Cristoloveanu	2002	Patrik Schmuki	2008
Shyam P. Muraka	1997	David Duquette	2003	Gery R. Stafford	2008
Stella W. Pang	1997	Peter Fedkiw	2003	Joseph R. Stetter	2008
Joachim Walter Schultze	1997	Charles Hussey	2003	John Stickney	2008
James D. Sinclair	1997	Richard McCreery	2003	Thomas Thundat	2008
Norman L. Weinberg	1997	Frank McLarnon	2003	Vladimir Bagotsky	2009
Lawrence Young	1997	Robin Susko	2003	Ugo Bertocci	2009
Huk Y. Cheh	1998	Darrel Untereker	2003	Manfred Engelhardt	2009
Donald E. Danly	1998	Osamu Yamamoto	2003	Tom Fuller	2009
Dennis H. Evans	1998	G. T. Burstein	2004	Peter Hesketh	2009
Fumio Hine	1998	C. Clayton	2004	Uziel Landau	2009
Dennis C. Johnson	1998	G. Davis	2004	Dolf Landheer	2009
Zoltan Nagy	1998	M. J. Deen	2004	Thomas P. Moffat	2009
Katsumi Niki	1998	S. Fonash	2004	Ikuzo Nishiguchi	2009
Jun-ichi Nishizawa	1998	M. Meyyappan	2004	Kohei Uosaki	2009
Fan Ren	1998	J. F. Rusling	2004	Rudolph G. Buchheit	2010
Antonio J. Ricco	1998	M. Seo	2004	Francis D'Souza	2010
David A. Shores	1998	M. Shur	2004	Toshio Fuchigami	2010
William H. Smyrl	1998	J. Simonet	2004	Michel Houssa	2010
George Thompson	1998	M. Stratmann	2004	Robert G. Kelly	2010
Eric Brooman	1999	J. Talbot	2004	Roger C. Newman	2010
Stanley Bruckenstein	1999	M. S. Whittingham	2004	Peter N. Pintauro	2010
Kathryn Bullock	1999	R. Adzic	2005	Peter C. Searson	2010
Shimshon Gottesfeld	1999	J. Davidson	2005	David Shoosmith	2010
Yue Kuo	1999	T. Hattori	2005	Bernard Tribollet	2010
Dieter Landolt	1999	J. P. Leburton	2005	John W. Weidner	2010
Jerzy Ruzyllo	1999	P. Marcus	2005	David J. Young	2010
Norio Sato	1999	C. Martin	2005	Hugh C. DeLong	2011
Ralph White	1999	P. Natishan	2005	Hubert Gasteiger	2011
William Yen	1999	D. Pletcher	2005	Arumugam Manthiram	2011
Cammy Abernathy	2000	B. Scrosati	2005	Ashok Kumar Shukla	2011
Kuzhikalail M. Abraham	2000	J. Scully	2005	Paul C. Trulove	2011
John C. Angus	2000	R. Singh	2005	Karim Zaghbi	2011
W. Ronald Fawcett	2000	H. H. Strehblow	2005	Giovanni Zangari	2011
David S. Ginley	2000	M. Williams	2005	Thomas A. Zawodzinski	2011
Yasuhiko Ito	2000	A. Baca	2006	Jeffrey R. Dahn	2012
Howard Huff	2000	S. Bandyopadhyay	2006	Stefan DeGendt	2012
Robert F. Savinell	2000	T. Fahidy	2006	Hariklia Deligianni	2012
Roger Staehle	2000	G. Frankel	2006	Andrew Gewirth	2012
Charles W. Struck	2000	C. Jagadish	2006	Meilin Liu	2012
Sergio Trasatti	2000	N. Koshida	2006	Junichi Murota	2012
Dieter M. Kolb	2001	J. Lessard	2006	Sri Narayan	2012
David J. Lockwood	2001	H. Massoud	2006	Trung Van Nguyen	2012
James McBreen	2001	H. Yokokawa	2006	Winston Revie	2012
Patrick J. Moran	2001	B. MacDougall	2006	Daniel Schwartz	2012
Shohei Nakahara	2001	M. Orazem	2006	Esther Takeuchi	2012
William E. O'Grady	2001	D. Misra	2006	Mark Verbrugge	2012
Supramanian Srinivasan	2001	A. Virkar	2006	Petr Vanýsek	2012
Mark Allendorf	2002	A. Wieckowski	2006	Bruce Weisman	2012
William Brown	2002	Simon S. Ang	2007	Hector Abruña	2013
Cor Claey's	2002	Viola Birss	2007	Nancy Dudney	2013
Martin Kendig	2002	Marc Cahay	2007	Gary Hunter	2013
Kim Kinoshita	2002	James M. Fenton	2007	Jiri Janata	2013
Paul Kohl	2002	Dennis G. Peters	2007	Johna Leddy	2013
Zempachi Ogumi	2002	Daniel A. Scherson	2007	Shelley Minteer	2013
Tetsuya Osaka	2002	Eric D. Wachsman	2007	Sanjeev Mukerjee	2013
Krishnan Rajeshwar	2002	Doron Aurbach	2008	Elizabeth Opila	2013
		Albert J. Fry	2008	Jan Robert Selman	2013
		Fernando Garzon	2008	Kalpathy Sundaram	2013

Fellows (continued)

Enrico Traversa	2013
Martin Winter	2013

**Edward G. Weston
Summer Fellowship**

(formerly the Edward G. Weston Fellowship, 1930-1945)

E. B. Sanigar	1930
K. Solliner	1931
M. E. Fogle	1932
R. D. Blue	1933
P. A. Jacquet	1934
M. A. Coler	1935
H. B. Linford	1936
G. L. Putnam	1937
V. de Nora	1938
W. P. Ruemmer	1940
R. E. Black	1941
W. E. Roake	1942
R. D. Misch	1947
M. T. Simnad	1948
R. L. Brubaker	1961
D. Yohe	1962
H. O. Daley, Jr.	1963
M. D. Hawley	1964
T. G. McCord	1965
J. D. McLean	1966
K. B. Prater	1967
K. Doblhofer	1968
L. R. Faulkner	1969
W. J. Horkans	1970
W. J. Horkans	1971
W. J. Bover	1972
B. J. Alexander	1973
S. S. Fratoni, Jr.	1974
M. Suchanski	1975
R. J. Nowak	1976
P. A. Kohl	1977
C. D. Jaeger	1978
L. Bottomley	1979
G. L. McIntire	1980
J. Pemberton	1981
M. E. Kordesch	1982
R. G. Tompson	1983
P. M. Kovach	1984
J. N. Harb	1985
S. E. Creager	1986
X. Zhang	1987
C. Amass	1988
R. J. Phillips	1989
J. E. Franke	1990
S. R. Snyder	1991
P. Pantano	1992
G. J. Edens	1993
B. Idriss	1994
D. Bizzotto	1995
L. A. Lyon	1996
C. Claypool	1997
B. Bath	1998
A. C. Templeton	1999
P. W. Wuelfing	2000

K. Balss	2001
T. Hu	2002
J. Mauzeroll	2003
J. Seegmiller	2004
E. Blair	2005
F. Laforge	2006
Aleix G. Güell	2007
Matthew J. Banholzer	2008
Shulei Chou	2009
Binh-Minh Nguyen	2010
Abrin Schmucker	2011
Sujat Sen	2012
Philippe Dauphin Ducharme	2013

**Colin Garfield Fink
Summer Fellowship**

P. Brown	1962
W. G. Lemmermann	1963
W. G. Stevens	1964
J. P. Carney	1965
S. Piekarski	1966
B. S. Pons	1967
R. E. Bonewitz	1968
L. Papouchado	1969
R. G. Reed	1970
R. Fike	1971
D. L. McAllister	1972
R. R. Chance	1973
P. I. Lee	1974
J. B. Flanagan	1975
J. S. Hammond	1976
P. D. Tyma	1977
S. M. Wilhelm	1978
J. D. Porter	1979
R. S. Glass	1980
E. E. Bancroft	1981
T. D. Cabeika	1982
B. L. Wheeler	1983
E. T. T. Jones	1984
D. A. Van Galen	1985
J. S. Hanson	1986
P. Gao	1987
D. T. Schwartz	1988
A. E. Russell	1989
J. Xue	1990
C. K. Rhee	1991
M. J. Shane	1992
C. M. Pharr	1993
J. M. Lauerhaus	1994
S. M. Hendrickson	1995
J. C. Hutchinson	1996
P. V. A. Pamidi	1997
G. S. Hwang	1998
W. Baker	1999
A. Crown	2000
R. Maus	2001
S. Peper	2002
M. Alpuche-Aviles	2003
A. Mugweru	2004
G. Lica	2005
A. Martinson	2006
Prabeer Barpanda	2007

Sau Yen Chew	2008
Hyea Kim	2009
Brian Adams	2010
Tae-Ho Shin	2011
Devika Sil	2012
Gabriel G. Rodríguez-Calero	2013

**Joseph W. Richards
Summer Fellowship**

V. E. Hauser, Jr.	1960
M. J. Schaer	1961
R. E. Visco	1961
A. K. Postma	1962
C. C. Liu	1963
M. J. Vasile	1964
M. J. Vasile	1965
C. C. Liu	1966
B. N. Baron	1967
L. P. Zajicek, Jr.	1968
K. R. Bullock	1969
S. H. Cadle	1970
J. W. Webb	1971
C. P. Keszthelyi	1972
M. Shabrang	1973
D. H. Karweik	1974
T. P. DeAngelis	1975
D. L. Feke	1976
H. Faulkner	1977
D. M. Novak	1978
B. R. Karas	1979
R. M. Cohen	1980
R. N. Dominey	1981
R. M. Ianniello	1982
D. F. Tessier	1983
N. T. Sleszynski	1984
C. M. Lieber	1985
J. L. Valdes	1986
R. Q. Bligh	1987
D. W. Conrad	1988
S. A. Schofield	1989
J. A. Roberts	1990
M. S. Freund	1991
L. Gao	1992
H. Gasteiger	1993
J. Schoer	1994
S. Morin	1995
N. Madigan	1996
S. Petrovic	1997
J. J. Sumner	1998
A. Wijayawardhana	1999
B. Liu	2000
C. Noble	2001
C. B. France	2002
P. Ramadass	2003
J. Carroll	2004
K. Salaita	2005
J. Breger	2006
Sadagopan Krishnan	2007
Meng Jiang	2008
Haizhou Liu	2009
Mohammad Rez Khajavi	2010
Jeyavel Velmurugan	2011

Joseph W. Richards Summer Fellowship (continued)

Balazs Berkes	2012
Yongjin Lee	2013

F. M. Becket Summer Fellowship

(formerly the F. M. Becket Memorial Award 1962-1999)

R. B. Johnson	1962
J. K. Johnstone	1964
K. Lehman	1966
H. K. Bowen	1967
T. E. Parker	1971
G. M. Crosbie	1973
N. A. Godshall	1975
J. D. Hodge	1977
W. Cheng	1979
P. Davies	1981
P. A. Barron	1983
G. J. Miller	1985
M. Rosenbluth	1987
J. D. Cotton	1989
J. Philliber	1991
P. Agarwal	1993
H. C. Slade	1995
K. S. Weil	1997
G. S. Hwang	1999
J. Parrish	2001
S. Wasileski	2002
E. Clark	2003
F. Deng	2004
S. Harrison	2005
Y. Yang	2006
Michael Orthner	2007
Marcos Jose Leitao Santos	2008
Steve Rhieu	2009
James Whitaker	2011
Celeste Morris	2012
Carlo Santoro	2013

Herbert H. Uhlig Summer Fellowship

Natalia Shustova	2008
Venkatasubramanian Viswanathan	2009
Swetha Puchakayala	2011
Julia van Drunen	2012
Junsi Gu	2013

Energy Research Summer Fellowship

(supported by the U.S. Department of Energy)

M. R. Deakin	1985
P. B. Johnson	1985
D. A. La Hurd	1985
S. E. Morris	1985
D. P. Wilkinson	1985
D. G. Frank	1986
K.-C. Ho	1986
R. G. Kelly	1986
I.-H. Yeo	1986
J. Kwak	1986
L. C. Dash	1987

S. A. Naftel	1987
T. R. Nolen	1987
D. Schwartz	1987
T. H. Wong	1987
S. D. Fritts	1988
D. A. Koos	1988
D. A. Hazlebeck	1988
M. O. Schlögl	1988
S. S. Perine	1988
J. E. Baur	1989
C.-P. Chen	1989
D. W. Eng	1989
R. L. McCarley	1989
C. J. Murphy	1989
C. K. Nguyen	1990
I.-H. Oh	1990
T. G. Strein	1990
J. W. Weidner	1990
S. E. Gilbert	1990
C. S. Johnson	1991
H. Huang	1991
D. R. Lawson	1991
B. D. Pendley	1991
C. C. Streinz	1991
P. A. Connick	1992
A. C. Hillier	1992
D. L. Taylor	1992
K. K. Lian	1992
T. T. Nadasdi	1992
D. G. Jensen	1993
J. C. Bart	1993
G. Seshadri	1993
J. A. Poirier	1993
K. W. Vogt	1993
Z. Shi	1994
C.-C. Hsueh	1994
V. A. Adamian	1994
K. M. Maness	1994
K. M. Richard	1994
Y.-E. Sung	1995
J. C. Conboy	1995
L. A. Zook	1995
W. R. Everett	1995
H. Zhang	1995
S. Grachtchak	1996
J.-B. Green	1996
S. Motupally	1996
C. Nasr	1996
S. Nayak	1996
K. Hu	1997
M. E. Williams	1997
A. Zolfaghari	1997
C. R. Horne	1997
G. K. Jennings	1997
M. Zhao	1998
S. Sriramulu	1998
J. Ritchie	1998
M. A. Elhamid	1998
S. Zou	1998
K. Cooper	2000

K. Grant	2000
D. Hansen	2000
J. F. Hicks	2000
Z. Liu	2000

Oronzio de Nora Industrial Electrochemistry Fellowship

N. Mano	2004
N. Mano	2005
N. Mano	2006
Vijayasekaran Boovaragavan	2007
Vijayasekaran Boovaragavan	2008
Vijayasekaran Boovaragavan	2009
Wenjing (Angela) Zhang	2010

Norman Hackerman Young Author Award

(formerly the Young Authors Prize, 1929-1988)

W. C. Gardiner	1929
D. K. Alpern	1930
F. L. Jones	1931
F. W. Godsey, Jr.	1932
B. L. Bailey	1933
J. R. Heard, Jr.	1934
U. B. Thomas, Jr.	1935
W. A. Johnson	1936
R. S. Soanes	1937
N. B. Nichols	1938
G. A. Moore	1939
J. S. Mackay	1940
E. Adler	1941
S. Speil	1942
W. G. Berl	1943
J. P. Coyle	1944
A. E. Hardy	1945
N. A. Nielsen	1946
H. Leidheiser, Jr.	1947
M. A. Streicher	1948
J. C. Griess, Jr.	1949
G. W. Murphy	1950
J. T. Byrne	1951
W. E. Kuhn	1952
J. Halpern	1953
M. J. Pryor	1954
M. Stern	1955
R. S. Cooper	1956
P. Ruetschi	1957
M. Stern	1958
F. A. Posey	1959
A. C. Makrides	1960
J. D. Newson	1961
M. J. Dignam	1962
J. A. Cunningham	1963
R. E. Westerman	1964
R. E. Visco	1965
J. Newman	1966
H. W. Pickering	1967
G. G. Charette	1968
G. Dryhurst	1969
J. Newman	1969
W. R. Parrish	1969

Norman Hackerman Young Author Award*(continued)*

A. J. Appleby	1970	H. A. Gasteiger	1994	M. Murthy	1994
D. C. Johnson	1970	F. R. Myers	1994	R. Munkundan	1995
D.-T. Chin	1971	R. Vidal	1995	A. E. Thomas	1995
M. S. Whittingham	1971	G. D. Papanoulis	1995	C. E. Ramberg	1995
M. A. Hopper	1972	J. H. Nordlien	1996	W. Wang	1995
F. Kuhn-Kuhnenfeld	1972	J. Lee	1996	S. Chen	1996
M. J. Bowden	1973	A. K. Padhi	1997	K. Kowal	1996
L. Thompson	1973	S. M. Han	1997	C. Leger	1997
D. Simonsson	1973	A. D. Robertson	1998	E. Potteau	1997
S. H. Cadle	1974	Y. Shao-Horn	1998	K. Bera	1998
A. D. Dalvi	1974	S. R. Kaluri	1998	E. Dickenson	1998
L. R. Faulkner	1975	A. Bautista	1999	G. Q. Lu	1998
S. Solmi	1975	P. A. O'Neil	1999	M. W. Riley	1998
P. Negrini	1975	R. T. Leah	2000	J. Pearton	1999
B. MacDougall	1976	J. W. Klaus	2000	A. Templeson	1999
S. K. Ubhayakar	1976	J. F. Whitacre	2001	N. Baydokhi	2000
C. W. Manke	1977	P. Feichtinger	2001	A. Pismenny	2000
W. J. Horkans	1977	T. J. Pricer	2002	A. Besing	2001
A. G. Gonzalez	1978	P. S. Lee	2002	V. Sochnikov	2001
C. H. Tsang	1978	K. Jambunathan	2003	S. Dimovski	2002
D. A. Antoniadis	1978	S. Noda	2003	P. Maitra	2002
D. Y. Wang	1979	M. Miyamoto	2003	H. Ohtsuka	2002
C. W. Magee	1979	R. Akolkar	2004	T. Wiley	2002
E. Takayama	1980	Y.-K. Hong	2004	P. Kavanagh	2003
H. Reller	1980	S. Borini	2005	B. Monahan	2003
W. J. P. Van Enckevort	1981	M. Kunimatsu	2005	O. Rabin	2003
M. W. M. Graef	1981	Mathieu Bervas	2006	P. Scopece	2003
C. Y. Chao	1981	Pradeep Dixit	2006	K. Yasuda	2003
L. F. Lin	1981	Steffen Eccarius	2007	M. Guan	2004
D. W. Sittari	1982	A. T. J. van Niftrik	2007	K. Kanaizuka	2004
T. P. Chow	1982	Kevin Ralston	2008	A. Oide	2004
P. G. Pickup	1983	Eu Jin Tan	2008	R. M. Todi	2004
K. F. Jensen	1983	Yudi Setiawan	2008	W. J. Cheong	2005
D. B. Graves	1983	Paul Albertus	2009	J. Chmiola	2005
N. A. Godshall	1984	Louis Hutin	2009	S. Chrisanti	2005
E. K. Broadbent	1984	Gijs Dingemans	2010	C. Drake	2005
J. C. Farmer	1985	Erik Langereis	2010	D. L. Gonzalez-Parra	2006
G. S. Oehrlein	1985	Stephen E. Potts	2010	Naoko Kamiura	2006
J. Richer	1986	Xingbao Zhu	2010	T. Takeyasu	2006
T. Tanaka	1986	Igor Volov	2011	Arun Vijayakumar	2006
C. P. Wilde	1987	Claudia Fleischmann	2011	Naoaki Hashimoto	2007
P. N. Bartlett	1987	Sebastien Couet	2011	Daisuke Kikutani	2007
J. Maier	1987	Koen Schouteden	2011	Toyoki Okumura	2007
J. A. Bardwell	1988	Philipp Hönicke	2011	Gholamreza Rostamikia	2007
C.-J. Han	1988	Kiersten Horning	2012	Arun Vijayakumar	2007
A. E. Husser	1989	Sykes Mason	2012	Rajwant Singh Bedi	2008
D. H. Craston	1989	Balavinayagam Ramalingam	2012	Bryan K. Boggs	2008
J. M. Rosamilia	1989	Rahul Malik	2013	John Chmiola	2008
J. H. Comfort	1989	Aziz Abdellahi	2013	Yuta Ishigami	2008
M. W. Verbrugge	1990			J. S. O'Brien	2008
C. J. Giunta	1990			Tyler Osborn	2008
T. J. Mountziaris	1991			Ralf Peipmann	2008
J. V. Cole	1991			Philippe Perret	2008
D. W. Suggs	1991			Kenji Takada	2008
B. W. Gregory	1991			Vinit Todi	2008
D. B. Bonham	1992			Natalia B. Shustova	2008
E. S. Aydil	1992			Joshua Snyder	2008
P. P. Apte	1993			Tomomasa Sugiyama	2008
A. West	1993			Anasuya Adibhatla	2009
				Magdalena Gizowska	2009
				Frederik Golks	2009
				Karina Kangas	2009

**Bruce Deal & Andy Grove
Young Author Award**

Konstantinos Spyrou.....2013

**ECS General Society
Student Poster Session Awards**

F. Forouzan	1993
D. L. Taylor	1993
L. Abraham	1994
A. J. Aldykiewicz	1994
A. Dalmia	1994

ECS General Society Student Poster Session Awards

(continued)

Kiera A. Kurak	2009
Manale Maalouf	2009
Debasish Mohanty	2009
Natalia Shustova	2009
Joko Sutrisno	2009
Jaroslav Syzdek	2009
Alex Avekians	2010
Shayna Brocato	2010
Pablo de la Iglesia	2010
Christian Desilets	2010
Ayesha Maria Hashambhoy	2010
Carolyn Lau	2010
Raja S. Mannam	2010
Joshua P. McClure	2010
Sarvesh Pasem	2010
Robert Sacci	2010
Misato Tashiro	2010
Jesse Benck	2011
Benjamin Caire	2011
Zhebo Chen	2011
Damilola Daramola	2011
Kirsten Marie Jensen	2011
Javed Khan	2011
Simon Lux	2011
Ashley Maes	2011
Lingchong Mai	2011
Francis Richey	2011
Neil Spinner	2011
Melissa Vandiver	2011
Georgi Bodurov	2012
Aurelien Etienne	2012
Kiersten Horning	2012
Yoon Jang Kim	2012
Prabhu Doss Mani	2012
K. Sykes Mason	2012
Seungha Oh	2012
Michael Siedlik	2012
Bong Seob Yang	2012
Yoshinobu Adachi	2012
Kwi Nam Han	2012
Takashi Hasegawa	2012
Cheng Ai Li	2012
Shigeta Yagyu	2012
Michal Osiak	2013
Andrew J. Naylor	2013
Danielle Smiley	2013
Mohammed Boota	2013
Kelsey B. Hatzall	2013
Christopher R. Dennison	2013
Tobias Placke	2013
Buido Schmuelling	2013
Richard Kloepsch	2013
Olga Fromm	2013
Sergej Rothermel	2013
Paul Meister	2013
Kristy Jost	2013
John McDonough	2013
Takashi Tsuda	2013
Masanari Hashimoto	2013

ECS Sponsored Meeting Student Poster Award Winners

Simposio Brasileiro de Electroquímica e Electroanalítica (SIBEE)

L. M. Nunes	2009
Felipe Ibanhi Pires	2011
V. Dos Santos	2013

China Semiconductor Technology International Conference (CSTIC)

C. Santini	2009
L. Ma	2010
M. B. Gonzalez	2011
Chien Chi Chen	2012
Tao Deng	2013

Euro CVD Award

A. Szkudlarek	2011
Not Awarded	2013

IC4N: From Nanoparticles and Nanomaterials to Nanodevices and Nanosystems

M. Gharbi	2009
H. N. Green	2011
Mariana Sendova	2013

Sociedad Mexicana de Electroquímica (SMEQ) and ECS Mexican Section Meeting

A. Mendez-Albores	2008
L. S. Hernandez-Munoz	2009
C. Avila-Gonzalez	2010
D. C. Martinez-Casillas	2011
Lidia G. Trujano-Ortiz	2012
Paola Yamela De la Cruz-Guzmán	2013

Turner Book Prize

S. Speil	1942
W. G. Berl	1943
J. P. Coyle	1944
J. T. Waber	1945
B. Cartwright	1946
A. E. Hardy	1947
M. A. Streicher	1948
R. E. Hoeckelman	1949
P. Delahay	1950
K. H. Stern	1951
C. C. Templeton	1951
P. T. Gilbert	1952
R. B. Holden	1953
D. A. Vermilyea	1954
J. G. Jewell	1955
J. H. Westbrook	1956
A. C. Makrides	1957
J. P. Pemsler	1958
R. G. Carlson	1959
R. E. Meyer	1960
P. C. Milner	1960
H. Freitag	1961
P. J. Boddy	1962
E. J. Cairns	1963
M. Weinstein	1963

R. W. Bartlett	1964
E. M. Hofer	1965
C. S. Tedmon, Jr.	1966
F. P. Kober	1967
J. M. Hale	1968

Leadership Circle Awards

Legacy Level

Dow Chemical Co., Central Research, received 2011
Olin Chlor Alkali Products Division, received 2011
Occidental Chemical Corp., received 2013

Medallion Level

Occidental Chemical Corp., received 2007
Atotech USA, Inc., received 2009
Energizer, received 2009

Diamond Level

General Electric Co., Corporate Research & Development, received 2001
General Motors Research Laboratories, received 2001
Rayovac, received 2002
Duracell, received 2006
IBM Corporation, received 2006

Gold Level

Toshiba Corp., Research & Development Center, received 1998
Siltronic AG, received 1998
Osram Sylvania, Inc., Chemical & Metallurgical Division, received 1999
Sandia National Laboratories, received 2000
International Lead Zinc Research Organization, Inc., received 2003
Medtronic, Inc., Energy and Component Center, received 2004
Toyota Central Research and Development Labs, Inc., received 2004
Yuasa Corp, received 2004
Princeton Applied Research/Solartron Analytical, received 2005
Saft Batteries, received 2006
CSIRO Minerals, received 2007
Industrie de Nora, received 2007
Ballard Power Systems, Inc., received 2008
ECO Energy Conversion, received 2008
Varta Automotive GmbH, Advanced Battery Division, received 2008
Greatbatch, Inc., received 2010
Leclanche S. A., received 2009
Max-Planck-Institut für Festkörperforschung, received 2009
Giner, Inc., received 2010
Greatbatch, Inc., received 2010
TIMCAL Graphite and Carbon Ltd., received 2011

Leadership Circle Award*(continued)***Silver Level**

Eltech Systems Corp., received 1992
 Tronox LLC, received 1994
 Japan Storage Battery Co., Ltd., received 1997
 3M Company, received 1998
 E. I. Du Pont de Nemours & Co., Inc.,
 HD Microsystems, received 1998
 Solartron Instruments, received 1999
 Central Electrochemical Research Institute,
 received 2002
 TDK Corp., R&D Center, received 2002
 Valence Technology, received 2002
 DAISO, Co., Ltd., received 2003
 Panasonic Corp., received 2003
 C. Uyemura & Co., Ltd., Central Research Lab,
 received 2005
 Electrosynthesis Co., Inc., received 2005
 FMC Corporation, Active Oxidants Division,
 received 2005
 Nacional de Grafite, LTDA, received 2005
 Permelec Electrode, Ltd., received 2005
 PG Industries, Inc., Chemicals Group Technical
 Center, received 2005
 Scribner Associates, Inc., received 2005
 Technic Inc., received 2005
 Advance Research Chemicals, Inc.,
 received 2007
 Yeager Center for Electrochemical Sciences at
 CWRU, received 2007
 PEC North America, received 2009
 Quallion, LLC, received 2009
 UTC Power, received 2009
 Broddarp of Nevada, received 2010
 Teledyne Energy Systems, Inc., received 2010
 OM Group, Inc., received 2012
 Evonik Degussa GmbH, received 2013
 Permascand AB, received 2013

Bronze Level

Hach Company, Radiometer Analytical Division,
 received 2002
 De Nora Technologie Elettrochimiche S.r.L.,
 received 2003
 BAE Systems Battery Technology Center,
 received 2005
 Agilent Laboratories, received 2008
 Evonik Degussa GmbH, received 2008
 Samsung SDI, received 2008
 GAIA-Akkumulatorenwerke GmbH,
 received 2009
 Permascand AB, received 2009
 ZSW Center for Solar Energy & Hydrogen
 Research, received 2009
 Coolohm, Inc., received 2010
 ElectroChem, Inc., received 2010
 Faraday Technology, Inc., received 2010
 Johnson Matthey, received 2010
 Metrohm USA, received 2010
 Pine Research Instrumentation, received 2010
 Sanyo Electric Co. Ltd., received 2011

Nissan Motor Co. Ltd., received 2011
 Hydro-Québec, received 2011
 Bio-Logic USA/Bio-Logic SAS, received 2012
 Gamry Instruments, received 2012
 Rockwood Lithium, received 2012
 ENEOS CELLTECH Co. Ltd., received 2012
 Fortu Research GmbH, received 2012

**Battery Division****Student Research Award**

J. R. Waggoner1980
 K. E. Yee1980
 W. A. van Schalkwijk1981
 C. Y. Mak1986
 T. I. Evans1987
 C. C. Streinz1988
 J. Weidner1989
 M. G. Lee1990
 E. J. Podlaha1991
 G. E. Gray1992
 D. Qu1993
 P. De Vidts1994
 S. Motupally1995
 J. Xu1996
 Y. Shao-Horn1997
 I. Courtney1998
 G.E. Rousse1999
 V. Srinivasan2000
 M. Zhao2001
 V. Subramaniam2001
 L. Fransson2002
 K.-W. Park2003
 A. Weber2004
 C. Delacourt2005
 K. Kang2006
 Feng Jiao2007
 Nonglak Meethong2009
 Yi-Chun Lu2010
 Christopher Fell2011
 Yuhui Chen2012
 Mohammed Ati2013

Battery Division Research Award

J. J. Lander1958
 D. M. Smyth1959
 T. P. Dirkse1962
 F. G. Will1964
 J. Burbank1966
 C. P. Wales1966
 D. Tuomi1968
 Y. Okinaka1970
 A. C. Simon1972
 S. M. Caulder1972
 J. McBreen1974
 T. Katan1976
 S. Szpak1976
 A. Heller1978

K. R. Bullock1980
 R. A. Huggins1982
 D. Pavlov1984
 G. H. J. Broers1985
 J. L. Devitt1986
 D. H. McClelland1986
 J. P. Gabano1987
 M. Armand1988
 J. Jorne1989
 A. N. Dey1990
 R. E. White1991
 D. N. Bennion1992
 E. Peled1993
 K. M. Abraham1995
 J. Dahn1996
 B. Scrosati1997
 C. Delmas1999
 J. B. Bates2000
 S. Wittingham2002
 K. Kinoshita2003
 J. Newman2004
 G. Ceder2004
 M. Thackeray2005
 T. Ohzuku2006
 Clare P. Grey2007
 Peter G. Bruce2008
 Linda Nazar2009
 Dominique Guyomard2010
 Yang-Kook Sun2011
 Stefano Passerini2012
 Doron Aurbach2013

Battery Division Technology Award

Y. Nishi1994
 K. Ozawa1994
 E. S. Takeuchi1995
 S. Gilman1996
 J.-M. Tarascon1997
 G. E. Blomgren1998
 A. Yoshino1999
 H. Y. Cheh2000
 B. B. Owens2001
 D. Wilkinson2002
 M. Winter2002
 J. Yamaki2003
 M. Yoshio2003
 M. Ue2004
 D. Aurbach2005
 P. Novak2005
 K. Lee2006
 Michel Broussely2007
 Hiroshi Inoue2008
 Satoshi Mizutani2008
 Eiji Endoh2009
 Khalil Amine2010
 Jeffrey Dahn2011
 Yet-Ming Chiang2012
 Karim Zaghib2013



Corrosion Division H. H. Uhlig Award

(formerly the Outstanding Achievement Award of the Corrosion Division 1973-1983)

M. Cohen	1973
D. A. Vermilyea	1975
J. Kruger	1977
M. J. Pryor	1979
T. R. Beck	1981
N. Sato	1983
P. Kofstad	1985
H. W. Pickering	1987
R. P. Frankenthal	1989
H. Leidheiser	1991
H. Isaacs	1993
W. H. Smyrl	1995
M. J. Graham	1997
K. Hashimoto	1999
D. Macdonald	2001
F. Mansfeld	2002
C. Leygraf	2003
R. Newman	2004
P. Marcus	2005
G. T. Burstein	2006
Edward McCafferty	2007
Martin Stratmann	2008
John R. Scully	2009
Gerald S. Frankel	2010
Patrik Schmuki	2011
Hans-Henning Strehblow	2012
Mário Ferreira	2013

Corrosion Division Morris Cohen Graduate Student Award

(formerly the Corrosion Division Award for Summer Study 1986-1988)

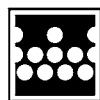
S. D. Scarberry	1986
C. C. Streinz	1987
R. Bianco	1988
M. A. Harper	1992
R. G. Buchheit	1993
J.-F. Yan	1994
B. V. Cockeram	1995
I. Odneval	1996
D. G. Kolman	1997
C. S. Brossia	1998
M. Verhoff	1999
S. Yu	2000
S. F. Nitodas	2001
K. Cooper	2002
T. Ramgopal	2003
Q. Meng	2004
D. Chidambaram	2005
H. Tsuchiya	2006
Magnus Johnson	2007
Christopher D. Taylor	2008
Mariano Iannuzzi	2009
Pouria Ghods	2010

Hongbo Cong	2011
Mariano Kappes	2012
Quentin Van Overmeere	2013



Dielectric Science and Technology Division Thomas D. Callinan Award

J. A. Davies	1968
J. P. S. Pringle	1968
G. M. Sessler	1970
J. E. West	1970
C. A. Mead	1971
W. Kern	1972
J. R. Szedon	1973
C. M. Osburn	1975
T. W. Hickmott	1976
J. R. Ligenza	1977
R. Williams	1978
R. J. Kriegler	1979
B. E. Deal	1982
L. Young	1983
A. K. Sinha	1985
A. C. Adams	1986
S. P. Murarka	1987
R. B. Comizzoli	1988
E. A. Irene	1988
R. A. Levy	1989
M. H. Woods	1990
V. J. Kapoor	1991
S. I. Raider	1992
D. W. Hess	1993
Y.-H. Wong	1994
K. L. Mittal	1995
W. D. Brown	1996
J. P. Dismukes	1997
R. Singh	1998
A. Rohatgi	1999
K. Saraswat	2000
P. Ho	2001
J. Deen	2002
S. K. Banerjee	2003
A. G. Revesz	2003
S. Fonash	2004
Paul A. Kohl	2008
Tsu-Jae King Liu	2011
Durgamadhhab (Durga) Misra	2013



Electrodeposition Division Research Award

W. Weil	1980
Y. Okinaka	1981
E. B. Budevski	1982
R. C. Alkire	1983
L. T. Romankiw	1984

R. J. von Gutfeld	1984
J. W. Dini	1985
H. R. Johnson	1985
H. Leidheiser	1986
J. P. Hoare	1987
H. Y. Cheh	1988
D. S. Lashmore	1989
S. Nakahara	1990
T. C. Franklin	1991
R. E. White	1992
P. C. Andricacos	1993
M. J. Froment	1994
D. Landolt	1995
T. Osaka	1996
M. Schlesinger	1997
Madhav Datta	1998
R. Winand	1999
H. Honma	2000
D. Kolb	2002
J. Switzer	2003
J. Dukovic	2004
P. Bartlett	2005
T. P. Moffat	2006
Ibro Tabakovic	2007
Olaf Magnussen	2008
John Stickney	2009
Takayuki Homma	2010
Philippe Allongue	2011
Hariklia Deligianni	2012
Daniel Lincot	2013



Electronics and Photonics Division Award

F. A. Trumbore	1970
F. C. Palilla	1971
M. B. Panish	1972
W. A. Pliskin	1973
B. E. Deal	1974
H. M. Manasevit	1975
M. G. Craford	1976
A. Y. Cho	1977
C. M. Wolfe	1978
E. Sirtl	1979
J. M. Woodall	1980
G. A. Rozgonyi	1981
G. W. Cullen	1982
D. W. Shaw	1983
A. Reisman	1984
S-M. Hu	1985
E. H. Nicollian	1986
B. Schwartz	1987
K. E. Bean	1988
T. Kamins	1989
D. M. Brown	1990
C. M. Osburn	1991
G. S. Oehrlein	1992
B. S. Meyerson	1993

Electronics and Photonics Division Award*(continued)*

G. K. Celler	1994
L. C. Kimerling	1995
H. Huff	1996
A. F. Tasch	1997
U. M. Gösele	1999
S. N. G. Chu	2000
S. P. Murarka	2001
S. Cristoloveanu	2002
T. Ohmi	2003
C. Claeys	2004
S. Pearton	2005
H. Massoud	2006
Yue Kuo	2007
Fan Ren	2008
Eicke R. Weber	2009
Lih J. Chen	2010
M. Jamal Deen	2011
Chennupati Jagadish	2012
Durgamadhhab (Durga) Misra	2013

**Energy Technology Division
Research Award**

M. W. Verbrugge	1994
S. Srinivasan	1996
H. R. Kunz	1998
A. W. Czanderna	1999
R. Selman	2001
I. Uchida	2001
A. Nozik	2003
K. Kinoshita	2004
K. Kanamura	2005
S. Licht	2006
Radoslav Adzic	2007
Yang Kook Sun	2007
Tom Fuller	2008
Krishnan Rajeshwar	2009
Jai Prakash	2009
John Weidner	2010
Karim Zaghib	2010
Claude Levy-Clément	2011
Piotr Zelenay	2013

**Energy Technology Division
Srinivasan Young Investigator Award**

Vijay Ramani	2012
Adam Weber	2012
Stefan Freunberger	2013

**Nanocarbons Division Richard E.
Smalley Research Award**

Sumio Iijima	2008
Phaedon Avouris	2009
Robert Haddon	2011
Nazario Martín	2013

**SES Research Young Investigator Award
of the Nanocarbons Division**

Nikhil Koratkar	2009
Mark C. Hersam	2010
Aurelio Mateo-Alonso	2012

**High Temperature Materials Division
Outstanding Achievement Award**

J. B. Wagner, Jr.	1986
W. L. Worrell	1988
R. A. Rapp	1990
H. Schmalzried	1992
S. C. Singhal	1994
C. G. Vayenas	1996
C. Bernard	2001
H. Yokokawa	2002
K. Spear	2004
A. Virkar	2006
David J. Young	2008
Harry L. Tuller	2010
Eric Wachsman	2012

**High Temperature Materials
Division J. B. Wagner, Jr.
Young Investigator Award**

S. Mohney	1999
S. M. Haile	2001
M. Swihart	2003
R. Mukundan	2005
Xiao-Dong Zhou	2007
Juan Claudio Nino	2009
Toshiaki Matsui	2011
Paul Gannon	2013

**Industrial Electrochemistry and
Electrochemical Engineering
Division New Electrochemical
Technology (NET) Award**

Asahi Glass Company	1999
DeNora Technologie	2005
E-Tek	2005
Bayer Material Science AG	2005
Ballard Power Systems	2007
FuelCell Energy	2009
U.S. Army Engineer Research and Development Center, Construction Engineering Research Laboratory, and Electro Tech CP	2011
UTC Power	2013

**Industrial Electrochemistry and
Electrochemical Engineering
Division H. H. Dow Memorial
Student Achievement Award**

R. Bakshi	1991
G. J. Yusem	1992
J. A. Poirier	1993
S. Siu	1994
M. Vreeke	1995
A. E. Thomas	1996
S. A. Leith	1997
P. Soo	1998
S. Sriramulu	1999
K. M. Jeerage	2000
A. L. Prieto	2001
W. He	2002
J. Zhang	2003
S. Basker	2004
V. Ramani	2005
N. Jalani	2006
Brenda L. Garcia-Diaz	2007
Sunil Roy	2008
Prabeer Barpanda	2009
Brandon Bartling	2010
Long Cai	2011
Meng Li	2012
Young Woo-Lee	2013

**Industrial Electrochemistry and
Electrochemical Engineering
Division Student Achievement Award**

Y.-E. Sung	1995
J. K. N. Mbindyo	1996
C. A. Smith	1997
J. A. Drake	1998
R. Lowrey	1999
C. Arvin	2000
B. Djurfors	2001
V. Subramanian	2002
P. M. Gomadam	2003

Industrial Electrochemistry and Electrochemical Engineering Division Student Achievement Award

(continued)

I. AlNashef	2004
V. Sethuraman	2006
Minhua Shao	2007
Vinten Dewikar	2008
Paul Albertus	2009
Satheesh Sambandam	2010
Venkatasailanathan Ramadesigan	2011
Rainer Kungas	2012
Wei Yan	2013
Christopher Arges	2013



Luminescence and Display Materials Division Centennial Award

A. Meijerink	2004
A. Srivastava	2004
H. Guedel	2006
David J. Lockwood	2010
Hajime Yamamoto	2012



Organic and Biological Electrochemistry Division Manuel Baizer Memorial Award

T. Shono	1994
H. Lund	1996
H. Schäfer	1998
S. Torii	1998
J. Simonet	2000
J. Utley	2000
J. M. Savéant	2002
M. Tokuda	2004
D. Evans	2004
I. Nishiguchi	2006
Albert Fry	2008
Toshio Fuchigami	2010
Dennis Peters	2012



Physical and Analytical Electrochemistry Division David C. Grahame Award

F. C. Anson	1983
J. Newman	1985
A. Heller	1987
M. J. Weaver	1989
B. Miller	1991
A. T. Hubbard	1993
R. M. Wightman	1995

D. M. Kolb	1997
P. N. Ross, Jr.	1999
D. A. Scherson	2001
A. Wieckowski	2003
H. White	2005
Joseph T. Hupp	2007
Héctor D. Abruña	2009
Masatoshi Osawa	2011
Richard L. McCreery	2013

Physical and Analytical Electrochemistry Division Max Bredig Award in Molten Salt Chemistry

M. Blander	1987
G. P. Smith	1990
R. A. Osteryoung	1992
G. Mamantov	1994
N. Bjerrum	1996
H. A. Øye	1998
Y. Ito	1999
G. N. Papatheodorou	2002
M. Gaune-Escard	2004
J. Wilkes	2006
Bernard Gilbert	2008
C. Austen Angell	2010
Derek Fray	2012



Sensor Division Outstanding Achievement Award

J. Janata	1994
R. P. Buck	1996
I. Lundström	1998
A. J. Ricco	2000
M. Aizawa	2002
N. Yamazoe	2004
W. Heineman	2006
Chung-Chiun Liu	2008
Thomas Thundat	2010
Sheikh Ali Akbar	2012



Sensor Division Student Paper Award

Jeffrey Kirsch	2012
Kazuaki Edagawa	2012

Gwendolyn B. Wood Section Excellence Award

Metropolitan New York Section	1975-1976
Columbus Section	1976-1977
Chicago Section	1979-1980
Chicago Section	1980-1981
Chicago Section	1981-1982

Southern Wisconsin Section	1982-1983
Southern Wisconsin Section	1983-1984
Southern Wisconsin Section	1984-1985
National Capital Section	1985-1986
North Texas Section	1986-1987
Southern Wisconsin Section	1987-1988
Chicago Section	1988-1989
Southern Wisconsin Section	1989-1990
North Texas Section	1990-1991
Southern Wisconsin Section	1991-1992
Southern Wisconsin Section	1992-1993
New England Section	1993-1994
National Capital Section	1994-1995
National Capital Section	1995-1996
National Capital Section	1996-1997
Canadian Section and National Capital Section	1997-1998
Chicago Section	1998-1999
New England Section	1999-2000
National Capital and New England Section	2000-2001
National Capital Section	2001-2002
National Capital Section	2002-2003
San Francisco Section	2003-2004
San Francisco Section	2004-2005
San Francisco Section	2005-2006

Canada Section Electrochemical Award

E. J. Casey	1982
Brian E. Conway	1986
L. Young	1990
S. Flengas	1994
Jacek Lipkowski	1998
Jean Lessard	2002
Jeffrey R. Dahn	2006
David Shoosmith	2010

Canada Section R. C. Jacobsen Award

George Fraser	1988
Barry MacDougall	1990
Louis Brossard	1994
Ernest E. Criddle	2002
Sharon G. Roscoe	2006
Jacek Lipkowski	2010

Canada Section W. Lash Miller Award

J. L. Ord	1969
J. E. Desnoyers	1971
A. K. Vijh	1973
W. R. Fawcett	1975
W. A. Adams, A. J. Spring Thorpe	1977
Barry MacDougall	1979
David W. Shoosmith	1981
A. Belanger	1983
Viola I. Birss	1985
S. Das Gupta	1987
K. Tomantscher, D. Leaist	1989
Jennifer Bardwell	1991
Jeff Dahn	1993
Alireza Zolfaghari-Hesari	1999

Daniel Bizzotto	2001
Jamie Noel	2003
Aicheng Chen	2009
Hua-Zhong (Hogan) Yu	2011
Not Awarded	2013

Canada Section Student Award

Jean St-Pierre	1988
Gessie Brisard	1989
James Hinatsu	1990
Gregory Jerkiewicz	1991
Hubert Dumont	1992
Meijie Zhang	1993
Dan Bizzotto	1994
Sylvie Morin	1995
Alexandre Brolo	1996
Aicheng Chen	1997
Ian A. Courtney	1998
Dany Brouillette	1999
Shiyuan Qian	1999
Bryan Park	2000
Luc Beaulieu	2001
Vlad Zamliny	2002
Sandra Rifai	2003
Amy Lloyd	2004
M. Toupin	2006
Thamara Laredo	2007
Arash Shahryari	2008
Mohamed Naser	2009
Mohammed Naser	2010
Ahmad Ghahremaninezhad	2011
Karen Chan	2012
Drew Higgins	2013

Cleveland Section Ernest B. Yeager Electrochemistry Award

B. Miller	2004
Richard McCreery	2006
Uziel Landau	2008
Jacek Lipkowski	2010
Gerald Frankel	2012

Europe Section Gerischer Award

Akira Fujishima	2003
Michael Graetzel	2005
Allen J. Bard	2007
Rüdiger Memming	2009
Helmut Tributsch	2011
Arthur Nozik	2013

Europe Section

Alessandra Volta Award

M. Armand	2000
J.-M. Tarascon	2002
R. G. Compton	2004
Bruno Scrosati	2006
Not Awarded	2010
Jean-Noël Chazalviel	2012

Georgia Section Student Award

Matthew Lynch	2012
Kara Evanoff	2013

Korea Section Student Award

Ho-Suk Ryu	2006
Jae-Hwan Oh	2007
Sung Ki Cho	2008
Cheol-Min Park	2009
Ji-Hyung Han	2010
Young Woo Lee	2011
Not Awarded	2012
Seong Min Bak	2013

National Capital Section

William Blum Award

W. Blum	1958
S. Schuldiner	1960
D. N. Craig	1962
A. Brenner	1964
J. Kruger	1966
J. Burbank	1969
K. H. Stern	1972
B. F. Brown	1974
A. C. Simon	1976
R. T. Foley	1978
R. de Levine	1980
E. McCafferty	1982
R. L. Jones	1984
Ugo Bertocci	1986
P. J. Moran	1988
M. H. Peterson	1990
D. S. Lashmore	1992
J. R. Scully	1994
Paul M. Natishan	1996
G. D. Davis	1998
W. E. O'Grady	2000
Thomas P. Moffat	2002
J. L. Hudson	2004

National Capital Section

Robert T. Foley Award

R.T. Foley	1989
W.J. Hamer	1991
G.E. Stoner	1993
P.J. Moran	1995
P.M. Natishan	1997
J. Kruger	1999
R.G. Kelly	2001

San Francisco Section Daniel Cubicciotti Student Award

L. J. Oblonsky	1995
Y. Ma	1996
C. Wade	1997
C. R. Horne	1998
M. Tucker	1999
L. V. Protsailo	2000
H. Visser	2001
D. Wheeler	2002
J. Hollingsworth	2003
E. Guyer	2004
D. Steingert	2005
Sarah Stewart	2006
James Wilcox	2007
Susan Ambrose	2008
Que Anh Nguyen	Honorable Mention 2008
Yuan Yang	Honorable Mention 2008
Paul Albertus	2009
Andrew Lee	Honorable Mention 2009
Mark Oliver	Honorable Mention 2009
Venkat Viswanathan	2010
Yi Wei Chen	Honorable Mention 2010
Thomas Conry	Honorable Mention 2010
Maureen Tang	2011
Yi Wei Chen	Honorable Mention 2011
Thomas Conry	Honorable Mention 2011
Allison Engstrom	2012
Matthew McDowell	Honorable Mention 2012
Xiongwu Kang	Honorable Mention 2012
Daniel Cohen	2013
Mallory Hammock	Honorable Mention 2013
Anthony Ferrese	Honorable Mention 2013