

Better than Ever

CS strives to provide value to the worldwide community of scientists and engineers who are conducting research in electrochemistry and allied subjects. This value is primarily found in the information that the Society disseminates, and it ultimately provides the stimulus to advance electrochemical and solid state science and technology, which is our mission. In reviewing the accomplishments for the fiscal year ending December 31, 2009, we are very pleased to inform you that ECS advanced the science and satisfied the mission better than any other year in our 108-year history.

Considering the past success of ECS, that would seem like a pretty bold statement; however, the data from our major program areas speak for themselves. Starting with the *Journal of The Electrochemical Society* (JES) and *Electrochemical & Solid State Letters* (ESL), we published a record 1,313 manuscripts in these two peer-reviewed journals. The meeting publications also set new standards as we published a record 91 new issues and 2,407 papers in *ECS Transactions* (ECST); and a combined record of 4,775 abstracts from our spring meeting in San Francisco and fall meeting in Vienna.

The meetings and membership areas also experienced record high interest levels. Membership reached a total of 8,933, and the biannual meetings had a combined total of 4,890 attendees. You will also find some other notable highlights from 2009 in this annual report, such as excellent growth in the financial

assets of ECS, and Bylaw amendments to improve our governance and the Board's fiduciary responsibilities. This all helps to support and improve the ECS mission, which is...

"...to advance the theory and practice at the forefront of electrochemistry, solid-state science, and allied subjects. To encourage research, discussion, critical assessment, and dissemination of knowledge in these fields, the Society holds meetings, publishes scientific papers, fosters training and education of scientists and engineers, and cooperates with other organizations to promote science and technology in the public interest."

It has not changed much in 108 years, but we are better than ever at satisfying our mission and serving a very important and dynamic scientific community.

Paul M. Natishan *President*

Roque J. Calvo Executive Director

Publications

ECS is proud of its long history of publishing some of the best papers in the field. In 2009, we paused from our busy year of breaking records, to look back at the most highly-cited papers



that have been published in JES. In the spring 2009 issue, *Interface* asked its Divisions to name a specific paper from JES that had maximal impact on the technical activities of its particular group of scientists and engineers. The results read like a "Who's Who" in the field. One cannot but help be impressed by the overall quality and collective impact of the works—they are "classics" in every sense of the word. The Society's journals continue to publish the work of outstanding and influential scientists.

In March 2009, **ECS Transactions** successfully published its 5,000th article, totaling over 50,000 pages from more than 15 regional and international conferences. Over a decade ago, when the subject of creating a digital proceedings publication



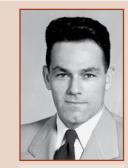
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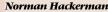
was first broached at the Society, no one could have expected that *ECS Transactions* (ECST) would hit such a seminal milestone in such a short period of time. *ECS Transactions*, established to replace the long-running Proceedings Volumes (PVs), began publishing printed, hardcopy books in 2005. In 2005, the 208th Society meeting was held in Los Angeles, California and produced eight hardcover and electronic issues and another 27 e-only issues, which was a significant increase over the average 12 PVs published per meeting in the past. In May 2006, when the ECS

Digital Library was launched, ECST electronic issues (e-issues) were added. All in all, ECST became a successful, full-fledged publication in just a few years.

One of the Society's long-standing awards not only commemorates the contributions of a past JES Editor and past President, but it also rewards the best efforts young authors. In 2009, ECS received a significant contribution for the **Norman Hackerman Young Author Awards**, in the form of a matching gift of \$50,000 from ECS past President Jerry M. Woodall. The gift completes the challenge campaign he engaged in with ECS to establish the endowment in honor of his mentor and friend, the late Norman Hackerman. ECS successfully secured \$50,000 in charitable gifts from its membership, and from the family and friends of Dr. Hackerman.

Thanks to the generosity of Dr. Woodall, ECS can now increase the awards given for the two best papers published in the JES by a young author or co-author. The award amounts







Jerry Woodall

have been increased to \$1,500 per paper to be divided among the eligible authors. In addition, a \$1,000 travel grant will be given per paper in order that the winners may attend the ECS meeting where the award will be presented.

This outstanding gift is one of the largest ever made to ECS. It is an investment in the future of electrochemical and solid-state science and technology and will sustain an opportunity for a student or students to aspire to be the best they can be.

The excellent growth we have experienced in the content of the **ECS Digital Library** leads to an increase in the dissemination of the science and technology to our membership, at

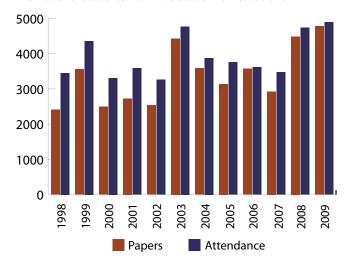


our meetings and through our publications. Although institutional subscriptions increased 7% over 2008, they are not at the level we experienced years ago

before the high priced commercial publications cut deeply into library budgets. However, the 7% increase in subscriptions represents excellent new and renewed interest in ECS journals, and our ability to distribute the content has surpassed all historical levels. The power of new types of search engines and the accessibility of the ECS Digital Library have led to dramatic increases in the usage of our publications. Specifically, JES, ESL, ECST, and Meeting Abstracts have experienced a 6.6% increase in full text downloads from the previous record high.

Meetings

The **215th ECS Meeting** was held in San Francisco in May 2009, our eighth visit to that "City by the Bay." Attendees took advantage of their visit to sample the myriad charms of this well-known town: Fisherman's Wharf, trolley cars, architecture old and new, and too many eateries to count. The meeting itself was also an array of scientific sights and sounds: 47 symposia, 1,579 papers, and over 1,650 attendees. In addition to the technical presentations, our meetings are host to interesting technical exhibits, and the San Francisco meeting showed off the equipment and services of 22 exhibitors. Student activity was a big part of the San Francisco meeting, with over 480 international students from 198 academic institutions.



The Monday Evening Mixer proved to be as popular as ever, with 71 student poster presentations vying for the awards. Approximately 100 international students attended the third ECS Student Mixer held at the local San Francisco club, Biscuits and Blues, to meet their peers and distinguished members of ECS. Noel Buckley, ECS 2008-09 President, along with Board member Doug Hansen and other ECS representatives, greeted students while they enjoyed delicious southern cuisine. Student

representatives from established Student Chapters such as the University of California, Berkeley and the University of Central Illinois shared their local Chapter activities while many student representatives expressed interest in starting a Student Chapter.

Vienna, Austria was the site of the second largest meeting in our history. The **216th ECS Meeting** was host to 3,200 meeting attendees; and offered 3,225 papers in 44 symposia, in a wide variety of technical areas, including many energy and energy-related topics. Stephansplatz became a familiar stop on the Metro system in Vienna as many attendees made their way between the meeting site and the many delights the city had to offer, from Wiener schnitzel and sacher torte, the opera houses and museums, or even a pleasant walk along the river or canal.

The meeting also was host to some special conferences, including Solid Oxide Fuel Cells XI and EuroCVD/CVD 17, both with a very full program of standing-room only talks and special banquets and tours. The meeting also hosted the In Situ Diagnosis of PEM Fuel Cells Conference sponsored by the German Federal Ministry of Education.

Over 80 sponsors and exhibitors were on hand to supplement the technical program; and we recognized some long-standing Corporate Members for their support of the Society. A "Hot Topic" lecture was given by E. Jennings Taylor on "A Small Business Model for Facilitating Partnerships in the Innovation Ecosystem." The IE&EE Division continued its outreach to high school-aged students, this time at the Gymnasium und Realgymnasium des Instituts Neulandschule in Vienna.

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ECS





Federico Capasso, of Harvard University, delivered The ECS Lecture entitled "Quantum Cascade Lasers for the Mid- to Far-Infrared: Band-Structure Engineering, Beam Engineering, and Applications" at the 215th ECS Meeting in San Francisco.



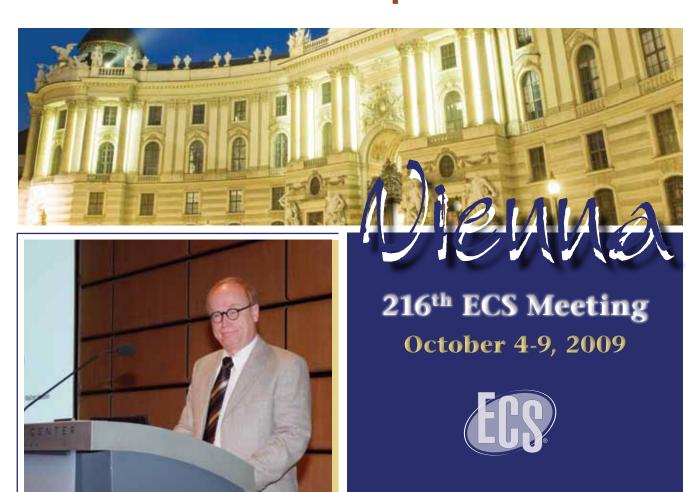
The 2009 Gordon E. Moore Medal for Outstanding Achievement in Solid State Science and Technology was presented to **C. Grant Willson** (right) by **Noel Buckley** (left), 2008-09 ECS President, at the ECS meeting in San Francisco. The Moore Medal is one of the Society's most prestigious awards.



Many past Presidents customarily attend the Annual Business Meeting. From left to right are: **William Smyrl** (2005-06), **Jerry Woodall** (1990-91), **Richard Alkire** (1985-86), **Elton Cairns** (1989-90), **Kathryn Bullock** (1995-96), **Dennis Hess** (1996-97), **Robin Susko** (2004-05), and **Barry MacDougall** (2007-08).



The Student Poster Session at the ECS spring meeting in San Francisco received 71 poster submissions. The best poster awards were presented at the Society's Annual Business meeting. In the front is winner **Karina Kangas**. In the back row, from left to right, are: **Doug Hansen**, one of the session judges; **Debasish Mohanty**; **Natalia Shustova**; **Kiera A. Kurak**; **Anasuya Adibhatla**; **Vimal Chaitanya**, lead organizer; and **Pawel Kulesza**, another one of the session judges.



Martin Stratmann delivered The ECS Lecture at the plenary session of the 216th ECS Meeting in Vienna, Austria. Dr. Stratmann's talk was on "Electrochemical Design of Novel Zinc Alloys for the Corrosion Protection of Steel."



Henry S. White (right) received the 2009 Carl Wagner Memorial Award from **Paul Natishan** (left), 2009-10 ECS President. The award recognizes 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.



Dieter M. Kolb (right) received the 2009 Olin Palladium Award from **Paul Natishan** (left), 2009-10 ECS President. The award is one of the Society's most prestigious, and recognizes outstanding contributions to the fundamental understanding of all types of electrochemical and corrosion phenomena and processes.



Paul Natishan (photo at left, fifth from the left), 2009-10 ECS President, inducted the 2009 Class of ECS Fellows. Standing from left to right are: **Kohei Uosaki, Manfred Engelhardt, Uziel Landau, Dolf Landheer**, (President Natishan), **Tom Fuller**, and **Thomas P. Moffat. Ikuzo Nishiguchi** (photo at right) was also named to the 2009 Class of ECS Fellows. Missing from the photo were **Vladimir S. Bagotsky**, **Ugo Bertocci**, and **Peter Hesketh**.



The Vienna Meeting Student Poster Session award winners received their certificates from Paul Natishan, 2009-10 ECS President. Pictured (standing, from left to right) are: **E. Jennings Taylor** (one of the judges), **Gerri Botte** (one of the session organizers), **Venkat Subramanian** (session chair), ECS President **Paul Natishan**, Poster Session winner **Frederik Golks**, winner **Manale Maalouf**, and **Oana Leonte** (judge). Kneeling in front is winner **Jaroslaw Syzdek**. Missing from the photo are award winner **Magdalena Gizowska** and the many other judges who assisted with the competition.

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Technical Divisions

One of the challenges that educators and scientists in electrochemical engineering confront is to attract the next generation of researchers and educators in the field. The **Industrial Electrochemistry and Electrochemical Engineering (IE&EE) Division** successfully completed its sixth and seventh volunteer Outreach Programs during the ECS meetings in San Francisco and Vienna. The events took

place at local high schools, where students participated in a fuel cell car competition designed to introduce them to new electrochemical technology and its potential future impact on our everyday life. The program employs active learning techniques and uses miniature fuel cell cars that can be purchased online, and which were donated to the school at the conclusion of the program. (See this issue for a full story on the Outreach program).



Gymnasium und Realgymnasium des Instituts Neulandschule student participants and ECS facilitators at the IE&EE Outreach program in Vienna. Pictured on the right-hand side of the photo are the IE&EE leaders. From right to left are: **Satheesh Sambandam**, Illinois Institute of Technology; **Venkat Subramanian**, Washington University in St. Louis; **Dennie Mah**, DuPont Company; **Venkatasailanathan Ramadesigan**, Washington University in St. Louis; **Rebecca King**, Ohio University; **Vijay Ramani**, Illinois Institute of Technology; and **Gerardine Botte**, Ohio University.



The ECS IE&EE Division presented the 2009 New Electrochemical Technology (NET) Award to FuelCell Energy (FCE) at its Division Luncheon and Business Meeting in San Francisco last May. From left to right are: **Mohammad Farooque**, Senior Vice-President and Distinguished Fellow at FCE; **Pinakin Patel**, key DFC cell and stack developer at FCE; **John Weidner**, IE&EE Chair; and **Gerri Botte**, IE&EE Vice-Chair. Other FCE staff who received the award included: **Bernard S. Baker** (deceased), who was the research, development, and commercialization pioneer at FCE; **Hansraj C. Maru**, the research and development leader in commercially introducing Direct FuelCell (DFC) power plants; **Chao-Yi Yuh**, a key developer of the DFC core technology; and **Joel Doyon**, a key developer of the core DFC components.

Membership and Governance

To keep the Society on its astonishing path of "bests," the ECS **Board of Directors** (comprised of the Society's Officers and representatives from the Divisions) is constantly on the alert for ways to be responsive to its members, authors, meeting attendees, and readership. One of the reasons we have been able to maintain—and grow—our programs has been not only our 108-year financial stability, but also our ability to change to meet the needs of an ever-growing constituency.

The Society's governance documents received a major overhaul in 2008, and in 2009, additional Bylaws changes were approved, notably in the area of the composition of the Board of Directors. To better meet its fiduciary responsibilities and its desire to maintain the integrity of the Society, the Board voted to include a nonprofit financial professional as a voting member of the Board. Changes in U.S. law, and suggested good practices for nonprofit organizations, require that a Board of Directors must ensure that all financial matters of the organization are conducted legally, ethically, and in accordance with proper accounting rules. This nonprofit financial professional will ensure that the Board has the "financial literacy" necessary to understand financial statements, to evaluate bids of accounting firms that may undertake an audit or review, and to make sound financial decisions.

ECS members have been doing their part to make the Society the "best ever," primarily by excelling in their technical areas. Members receive many awards throughout their careers, but the highest technology award they can win in the U.S. is the **National Medal of Technology and Innovation**. A number of ECS members have received either this medal or the National Medal of Science. In 2009, Esther S. Takeuchi, ECS 2009-2010 Second Vice-President, was awarded the 2008 medal. Prof. Takeuchi is the Greatbatch Professor in Power Sources Research in the University at Buffalo School of

Membership Statistics

(as of October 1, 2009)

Table I. ECS Membership by Class

Category	2003	2004	2005	2006	2007	2008	2009	2009/2008 %Change
Active	5411	5405	5126	5061	4974	5082	5129	0.9
Member Reps	63	66	61	73	89	116	98	-15.5
Life	52	46	46	46	45	46	46	0.0
Emeritus	246	215	230	229	234	248	266	7.3
Honorary	29	27	25	24	26	25	24	-4.0
Subtotal Active in Good Standing	5801	5759	5488	5433	5368	5517	5563	0.8
Delinquent	797	823	1054	1014	941	945	1130	19.6
Total Active on Record	6598	6582	6542	6447	6309	6462	6693	3.6
Students	882	889	792	864	1206	1428	1592	11.5
Delinquent	330	389	450	440	304	512	648	26.6
Total Students	1212	1278	1242	1304	1510	1940	2240	15.5
Total Individual Members	7810	7860	7784	7751	7819	8402	8933	6.3

Table II. ECS Membership by Division*

Division	2003	2004	2005	2006	2007	2008	2009	2009/2008 %Change
Battery	2500	2625	2549	2511	1378	1450	1130	-22.1
Corrosion	1682	1716	1656	1584	531	521	515	-1.2
Dielectric Science & Technology	1399	1425	1339	1278	377	375	377	0.5
Electrodeposition	1802	1888	1782	1727	509	509	500	-1.8
Electronics & Photonics	2154	2152	1999	1812	815	759	821	8.2
Energy Technology	2155	2377	2427	2434	929	1060	1145	8.0
Fullerenes, Nanotubes and Carbon Nanostructures	503	706	687	713	194	205	212	3.4
High Temperature Materials	1061	1113	1096	991	205	196	209	6.6
Industrial Electrochemistry & Electrochemical Engr	1365	1454	1393	1343	277	297	301	1.3
Luminescence & Display Materials	777	841	793	701	110	120	122	1.7
Organic & Biological Electrochemistry	1112	1243	1122	1026	188	215	222	3.3
Physical & Analytical Electrochemistry	2500	2614	2554	2426	643	664	652	-1.8
Sensor	1253	1419	1382	1271	242	247	276	11.7

^{*}From 2007 division statistics include only primary interest. Previous years' include primary secondary interests.

Engineering and Applied Sciences. She received the medal from President Obama at a White House ceremony in October.

In a statement, President Obama described the medal's four awardees—of whom Takeuchi is the only woman—as embodying "the very best of American ingenuity and inspiring a new generation of thinkers and innovators. Their extraordinary achievements strengthen our nation every day—not just intellectually and technologically but also economically, by helping create new industries and opportunities that others before them could never have imagined."

The following is a list of ECS members who have received one of the U.S. National Medals. National Medal of Science winner include: Alfred Cho (1993), Norman Hackerman (1993), Nick Holonyak (1990), Rudolph Marcus (1989), Fred Seitz (1973), and Peter Debye (1965). In addition to Dr. Takeuchi, National Medal of



A military aide prepares to hand a National Medal of Technology and Innovation to **President Barack Obama**, who presented the award to **Esther Takeuchi** (far left). *Photo by Ryan K. Morris, National Science & Technology Medals Foundation.*

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____Annual Report

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Technology and Innovation winners include: Adam Heller (2007), C. Grant Willson (2007), Alfred Cho (2005), Nick Holonyak (2002), Jerry Woodall (2001), Wilson Greatbatch (1990), and Gordon Moore (1990).

ECS Corporate Membership enables organizations to participate in, and contribute to, the best ECS has to offer. Every year, ECS recognizes those that have remained loyal members and contributed to the Society's purpose. In 2009, seven organizations reached milestones in their Corporate membership history with ECS: GAIA Akkumulatorenwerke; Leclanche S.A.; PEC North America; Permascand AB; Quallion, LLC; UTC Power; and ZSW, Center for Solar Energy & Hydrogen Research.



At the ECS meeting in San Francisco, Quallion, LLC received a Silver Level Leadership Circle Award, for ten years of corporate membership with ECS. **Hisashi Tsukamoto** (right) received the award from **Noel Buckley** (left), 2008-09 ECS President.



Permascand AB also received a Bronze Level Leadership Circle Award, in San Francisco, for five years of corporate membership with ECS. Receiving the award was **Lars-Ake Näslund** from Permascand AB.



ZSW, Center for Solar Energy & Hydrogen Research, received a Bronze Level Leadership Circle Award, for the 5 years of corporate membership with ECS. **Noel Buckley** (left), 2008-09 ECS President, presented the award to ZSW representative **Pierre Kubiak** (right) at the ECS meeting in San Francisco.



Paul Natishan (center), 2009-10 ECS President, presented Leadership Circle Awards in Vienna to a number of Corporate Members for their years of membership. From left to right are: **Stef Leemans**, PEC North America, Bronze Level (5 years); **Rob Darling**, UTC Power, Silver Level (10 years); (President Natishan); **Hilmi BuQa**, Leclanche S.A., Gold Level (25 years); and **Stephan Fellner**, GAIA Akkumulatorenwerke, Bronze Level (5 years).

Sections & Student Chapters



Participants at the fall symposium of the ECS Canadian Section in November 2009.

ECS Sections promote the advancement of the best in solid-state and electrochemical science and technology in geographically-relevant groupings throughout the world. Sections have a rich array of programming, from special-topic symposia to tours of local organizations to awards and travel grants for students and other members.

The **Canadian Section** was extremely active in 2009. The Section's spring meeting, "Frontier in Electrochemistry," organized by Jacek Lipowski and Gregory Jerkiewicz, included the Canadian Society of Chemistry (CSC). The invited international speakers were Dieter M. Kolb from Germany, who spoke on "Structure-Reactivity Relations in Electrochemistry," and Hector Abruña from the U.S., who spoke on "Surfaces, Interfaces, and Morphology Effects in Electrocatalysis." The 2009 recipient of the Lash Miller Award was Aicheng Chen from Lakehead University in Ontario.

The Section's fall symposium, organized by Heather Andreas and Sharon Roscoe, presented seven speakers who gave lectures on the topic of "Electrochemistry and the Future: Solving Today's Problems for a Better Tomorrow." Phil Bartlett from the University of Northampton gave the keynote lecture entitled, "Discrimination of Mutations in DNA Using Electrochemical SERS;" Aicheng Chen of Lakehead University presented a lecture entitled, "Electrochemical Study of Nanomaterials for Green Chemistry Applications;" and Mohamed Naser from McMaster University, who received the 2009 Student Award of the Canadian Section, presented a lecture entitled, "Theoretical Modeling of Quantum Dot Infrared Photodetectors."

The **Detroit Section** had a varied program in 2009, covering various topics in the areas of fuel cells, batteries, supercapacitors, and hydrogen energy. The speakers were from both industry and academia. Advanced batteries pose one of the biggest challenges and opportunities on the road to electrifying the automobile. Thus, the Section held a meeting on "Advanced

Automotive Batteries," along with the Society of Automotive Engineers (SAE), to kick off the 2009-2010 seminar year. The topic proved to be very popular with over 350 attendees and seven exhibitors joining the event. The year concluded with Dawn Bernardi, from Ford Motor Company, presented a well-attended talk entitled, "Mathematical Modeling of Pulse and Relaxation Behavior in Lithium-ion Batteries."

ECS Student Chapters are great way for students to have an opportunity to understand electrochemical and solid-state sciences, have a venue for meeting fellow students, and to receive recognition for their organized scholarly activities and community services.

The **Atlanta Student Chapter at Georgia Tech** and the Georgia Section jointly presented an ECS Mini Symposium in February 2009 at Georgia Tech. The event was presided over by

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The Atlanta Student Chapter hosted **Noel Buckley** (fourth from left), 2008-09 ECS President, at its Mini Symposium. Student Chapter key organizers are also pictured. From left to right are: **Serdar Ozdemir**, **Rajeswari Chandrasekaran**, **Shruti Prakash**, (Pres. Buckley), **Tyler Osborn**, and **Zhengchun Peng**.

ECS Student Chapters

- Atlanta Student Chapter at Georgia Tech, founded 2008, Peter J. Hesketh, Faculty Advisor
- Auburn University Student Chapter, founded 2007, Jeffrey Fergus, Faculty Advisor
- Boston Student Chapter, founded 2009, Advisors: Shriram Ramanathan, Yet-Ming Chiang, and Eugene Smotkin
- Technical University Brno Student Chapter, founded 2006, Jiri Vondrak, Faculty Advisor
- University of California Berkeley Student Chapter, founded 2006, John Newman, Faculty Advisor
- University of Central Florida Student Chapter, founded 2000, Kalpathy Sundaram, Faculty Advisor
- **Central Illinois Student Chapter**, founded 2008, Andrzej Wiekowski, Faculty Advisor
- University of Cincinnati Student Chapter, founded 2007, Marc Cahay, Faculty Advisor
- ECS Cleveland Section and Ernest B. Yeager Center for Electrochemical Sciences Joint Student Chapter, founded 2005, Dan Scherson, Faculty Advisor
- Florida International University Student Chapter, founded 2009, Chunlei Wang, Faculty Advisor
- University of Florida Student Chapter, founded 2005, Eric Wachsman, Faculty Advisor
- Grand Valley State University Student Chapter, founded 2008, Cory M. DiCarlo, Faculty Advisor
- **Kerala, India Student Chapter at CUSAT**, founded 2008, M. K. Jayaraj, Faculty Advisor
- **Lahore, Pakistan Student Chapter**, founded 2008, Inam Ul Haque, Faculty Advisor
- New York Capital Region Student Chapter, founded 2006, Dan Lewis, Faculty Advisor
- The Ohio State University Student Chapter, founded 2006, Gerald Frankel, Faculty Advisor
- Research Triangle Student Chapter Student Chapter, founded 2009, Wesley Henderson, Faculty Advisor
- University of Rome "Tor Vergata" Student Chapter, founded 2006, Enrico Traversa, Faculty Advisor
- **Tel Aviv University Student Chapter**, founded 2009, Advisors: Eliezer Gileadi and Yosi Shacham-Diamand
- University of Texas at Austin Student Chapter, founded 2006, Ram Manthiram, Faculty Advisor
- University of Virginia Student Chapter, founded 2006, Rob Kelly, Faculty Advisor

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Noel Buckley, 2008-09 ECS President. A total of 45 ECS student and active members from various departments at Georgia Tech and the University of Georgia at Athens were in attendance. The lunch session before the symposium provided ample opportunity for interaction among all the attendees.

Gathered at the U.S. Consulate in Lahore, students shared their experiences and vision for the future as Public Affairs Officer T. Mell officially launched the **Lahore Student Chapter of ECS**, lauding the student's initiative and drive. "With the launch of the Lahore Student Chapter, you are joining a vibrant community of over 8,000 scientists and engineers in





School children during the spectroscope making (top) and attending the practical classes (bottom) during the **CUSAT Chapter's** ten-day workshop for school children in collaboration with Department of Physics at CUSAT.

over 70 countries striving for a common goal—bridging the gap between academia, research, and engineering," remarked the U.S. diplomat while greeting students and faculty from the Chemistry Department of the University of Engineering and Technology (UET). Briefing the audience about the history of ECS and its international membership was faculty member S. Iqbal. The Lahore, Pakistan Student Chapter is the first in the region and among 20 such chapters in North America and Europe.

The ECS Lahore-Pakistan Student Chapter organized a lecture by Peter Langer from the Department of Chemistry at the University of Rostock, Germany. The event was held in July 2009 at UET in Lahore. Dr. Langer shared his experiences on the "Synthesis of Carba- and Heterocycles Based on One-Pot Cyclizations of Free and Masked Dianions."

Mohammad Ashraf Tahir, Director of Laboratories and

Mohammad Ashraf Tahir, Director of Laboratories and Training Programs, and the DNA Technical Manager, for the Office of the Cuyahoga County Coroner (U.S.) made a short

visit to Lahore, and delivered a lecture in August at UET. He gave a brief introduction to forensic sciences; its importance; and the utilization of the latest analytical techniques, especially on DNA sequencing and mass spectrometry in probing crucial criminal cases.

The Cochin University of Science and Technology (CÚSAT) Student Chapter (Kerala, India) was officially inaugurated on February 28, 2009—which was also National Science Day in honor of Sir C. V. Raman—by Louis Godfrey, HOD Department of Physics, CUSAT. Technical discussions were carried out by K. P. Vijayakumar on "Third Generation Solar Cells: Physics and Materials," and by S. Jayalekshmi with excerpts from a "Chandrayaan Dream." M. K. Jayaraj, Chapter Advisor, gave a vote of thanks. The Chapter has been organizing monthly lectures on various topics on solidelectrochemistry, state physics, optoelectronics, and other advanced topics.

The Chapter also organized a tenday workshop for school children in collaboration with Department of Physics, CUSAT. The workshop was held in April. N. Chandramohanakumar (Registrar, CUSAT) delivered the inaugural address. Godfrey Louis, HOD, Department of Physics, CUSAT, presided over the function, V. C. Kuriakose welcomed the gathering, and M. K. Jayaraj proposed a vote of thanks.

The workshop was intended to provide the budding scientists with hands-on experience in various experiments. They also were given an opportunity to become familiar with the research programs of the Department of Physics. Classes were conducted by eminent teachers to improve their basic understanding of the subject.

The **Grand Valley State University Student Chapter** of ECS had a very good first year. Helping them through their organizational progress were Chapter President Renee Bouley and Vice-President Benjamin Eggleston. Two main areas of service were pursed by Chapter members

during the past academic year. The first was to aid in the Chemistry Department's attempts at integrating a larger amount of electrochemical subject matter in the curriculum. With the help of students from the Chapter acting as lab "guinea pigs," and with assistance with materials from an in-house Pew Teaching and Technology Grant, a cyclic voltammetry laboratory session neared completion. Real guinea pigs were actually part of the focus of the second service activity for the Chapter as members were also helping at a local small animal rescue.





The Grand Valley State University Student Chapter held a student poster/presentation competition in 2009. Two students were awarded a paid conference registration to an ECS international or local meeting. Pictured are **Derek Loutzenhiser** (top photo, in the white shirt), explained his project to other interested students; **Renee Bouley** (bottom photo), gave an oral presentation during the same competition.

Outreach



Presentation of the 2009 CSTIC Student and Engineer Awards, from left to right are: **Jay Chen**, SEMI China Advisory Board Member; TEL China President **Shangzhou Jiang**; **Claudia Santini**, award winner; **Yu Xiaopeng Shelby**, award winner; **Jerzy Ruzyllo**, ECS; **Yujie Ai**, award winner; **Jin Hua Liu**, award winner; **Rongling Chen**, SEMI China President; **Qi Liu**, award winner; and **David Huang**, CSTIC 2009 Conference Chair.

ECS sponsors or actively participates in many meetings, small and large, throughout the year. Sometimes the sponsorship is requested by a conference that desires to have the benefits of the ECS name affiliated with its meeting. In other instances, ECS plays a more substantial role, such as our sponsorship of the **China Semiconductor Technology International Conference (CSTIC)**. The 2009 edition was held in March 2009, with 239 speakers and 550 attendees



ECS sponsored IC4N, held in June 2009 in Greece. Pictured at the conference were (from left to right): **Constantin Politis** (IC4N Co-Chair), **Michael Graetzel** (Plenary Speaker), **Krishnan Rajeshwar** (Plenary Session Chair), **Ron Elsenbaumer** (UTA VP Research), and **Stathis Meletis** (IC4N Chair)

from around the world. The conference was sponsored by ECS and by SEMI, a global industry association serving the manufacturing supply chains for the microelectronic, display, and photovoltaic industries. ECS again sponsored three travel awards for the best student poster presentations. These substantial awards provide free registrations to the winners and travel funds to allow the winners to attend an ECS meeting.

The conference had nine symposia covering most of the aspects of semiconductor technology including devices, design, lithography, integration, materials, processes, and manufacturing, as well as emerging semiconductor technologies and silicon material applications. Papers from the conference were published in ECS Transactions.

The second international conference, "**From Nanoparticles and Nanomaterials to Nanodevices and Nanosystems**" (IC4N) was held in June 2009 on the Island of Rhodes, Greece. The IC4N was co-sponsored by ECS and the conference had many member attendees and symposia organizers including Krishnan Rajeshwar (Editor of *Interface*). The ECS Student Poster Award winner was Mohamed Gharbi (University of Houston), for "The Origins of Electromechanical Indentation Size Effect in Ferroelectrics." This winner received one year of ECS student membership; a registration waiver to the 217th ECS Meeting in Vancouver (April 2010); and a \$1,000 travel grant to attend that meeting.

Because ECS is headquartered in the U.S., we participate in a program called **Congressional Visits Days** (CVDs). The Federation of Materials Societies (FMS), of which ECS is a member, organizes such CVDs annually and it mobilizes scientists and engineers to address the importance of adequately funding research and development in the sciences and engineering. Each spring scientists, engineers, and students from universities arrive in Washington, DC to discuss these issues with their representatives in Congress.



Petr Vanýsek (left) ECS Trustee to FMS, and **Bill Foster**, U.S. Representative from Illinois, during the 2009 Congressional Visits Day.

Within a month of the 2009 CVD visit (on April 27, 2009), U.S. President Obama gave a speech before the National Academies of Science—"The Necessity of Science"—reflecting the goals communicated by the FMS delegations on Capitol Hill. In the speech he affirmed his commitment to double funding for science and STEM (science, technology, engineering, and mathematics) education. President Obama said, "At such a difficult moment, there are those who say we cannot afford to invest in science, that support for research is somehow a luxury at moments defined by necessities. I fundamentally disagree. Science is more essential for our prosperity, our security, our health, our environment, and our quality of life than it has ever been before."

While record-setting and achieving the best in any given year are true accomplishments, ECS is committed to continually do our part in bringing the best in our science to the world-wide community that will address the challenges ahead of us all.

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

We are grateful to the following donor for its generous support of our Education Endowment. This endowment helps to insure the continuation of bold advances in electrochemical and solid-state science and technology.

Fondazione Oronzio de Nora Casella

Businesses, Corporations, and Organizations

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

Bio-Logic USA

Cambridge NanoTech, Inc.

Gelest, Inc

Maccor

Merck kGaA

NexTech Materials Ltd

Ningbo Institute of Material Technology & Engineering (NIMTE)

Plansee AG

SOFC Society of Japan

Government

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

Air Force Office of Scientific Research
Office of Naval Research

Individuals

We are grateful to the following individuals for their generous gifts of \$1,000 and above in support of our mission.

James Acheson

James Amick

Larry Faulkner

Karl Kadish

Kelly Lazzaroni

Edward W. Miller

Jerry M. Woodall

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

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Annual Report

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(as of October 2009)

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(as of December 31, 2009)

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ECS Transactions

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ENEOS CELLTECH Co., Ltd.

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ESL Elektronik GmbH EV Group E. Thallner GmbH Evans Analytical Group Evonik Litarion GmbH Exponent, Inc. Faraday Technology, Inc.

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iNULA / Metrohm Autolab

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Johnson Matthey Technology Centre Jusung Engineering

KEMSTREAM

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Kurt J. Lesker Company

Lam Research

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Laboratory Leclanche SA Levitronix LLC LLNI

Los Alamos National Laboratory

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Marubeni Information Systems Co.,

Mateck GmbH Materials Mates Italia Matheson Tri-Gas Mattson Technology, Inc. Maxtek, A Division of Inficon Measurenet Technology Medtronic Inc. Merck KGaA Metrohm Autolab

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MTI Corporation

Metrohm USA

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Next Energy - EWE -Forschungzentrum fuer Energie-Technologie

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Ningbo Institute of Material Technology and Engineering (NIMTE)

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Nissan Motor Co., Ltd.

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Picnsun

Pine Research Instrumentation

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Pred Materials International, Inc. QUALCOMM

Quallion, LLC Quantachrome Instruments

Radiometer Analytical, A Hach Company Brand

Rayovac Battery Group Renner Kenner Resodyn Acoustic Mixers Robert Bosch GmbH Rohm & Haas

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SAFC Hitech

Saft Batteries, Specialty Batteries

Group

Sandia National Labs SANYO Electric Co., Ltd.

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Scribner Associates, Inc.

SDI

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TDK Corporation, Device Development Center

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UTC Power Corporation Valence Technology Varian, Inc. Veeco Instruments Voltaix LLC

Wasatch Molecular Williamson Intellectual Property Law,

Yamatke Corporation Yeager Ctr for Electrochemical

ZAHNER-elecktrik GmbH & Co. KG Zhangjiagang Guotai Harong New

Chemical ZSW



Financial Summary

Consolidated Statement of Financial Positions (For the year ended December 31, 2009)

Assets	
Cash and cash equivalents	\$ 989,327
Accounts receivable, net	197,441
Prepaid expenses, deposits, and other assets	117,602
Investments in marketable securities	5,453,003
Custodial account investments	634,119
Deferred Rent	67,537
Investments in real estate:	
Land	1,603,427
Buildings, less accumulated depreciation of \$265,884	3,011,455
Total assets	\$12,073,911

Liabilities and Net Assets	
Liabilities	
Accounts payable and accrued expenses	\$ 409,522
Deferred revenue	844,568
Custodial Account Liability	634,119
Security deposits	40,453
Deferred Compensation	3,088
	1,931,750
Net assets	
Unrestriced	8,916,135
Temporarily restricted	417,173
Permanently restricted	808,853
Total net assets	10,142,161
Total liabilites and net assets	\$12,073,911

Consolidated Statement of Changes in Net Assets (For the year ended December 31, 2009)

Revenues	
Publications	\$ 2,917,414
Membership	703,672
Society meetings and activities	2,241,386
Interest and dividend income	398,091
Contributions and grants	67,858
Rental Income	442,325
Other revenues	29,8727
	\$ 6,800,618

Expenses	
Program services	
Publications	\$ 2,192,140
Membership	155,451
Society meetings and activities	1,842,981
Awards, fellowships, and grants	196,001
,	\$ 4,386,573
Supporting services	· , ,
General and administrative	1,309,424
Fundrasing	31,183
Rental operations	467,951
	\$ 1,808,558
Increase in net assets from operations	\$ 605,487
Net change in fair value of investments	579,083
Change in net assets	1,184,570
Net assets, beginning of year	8,957,591
Net assets, end of year	\$ 10 142 161

These financial statements are a condensed version of the audited statements of ECS for the year ending December 31, 2009. ECS will be pleased to provide complete comples 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, and the LLC. All intercompany balances and transactions have been eliminated in consolidation.

The consolidated financial statements are prepared on the accrual basis of accounting and 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 — net assets subject to donor-imposed stipulations that they be maintained permanently by the Society. Generally, the donors permit the Society to use all or part of the income earned on related investment for various Society awards.

2-Reclassifications

At December 31, 2008, the untrestricted net assets on the consolidated level have been reduced by \$689,581. Approximately \$402,000 of this adjustment was to correct prior year earros in the classification of net assets. Also, at the consolidated level, at December 31, 2008, the temporarily restricted net assets have been increased by \$69,433 and the permanently restricted net assets have been increased by \$218,641 to correct prior year errors in the classification of net assets. However, in view of the reclassifications, the 2008 financial information is not comparable. Therefore, there is not a presentation of the December 31, 2008 financial information.

3—Income Tax Status and Income Taxes

ECS and its Divisions, Groups, and Sections qualify as a taxexempt 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 filing of ECS. The Society files tax returns in the U.S. federal jurisdiction and New Jersey. The Society has no open years prior to December 31, 2006. The Society adopted the accounting pronouncement that provides guidance on uncertain tax positions as of January 1, 2009. Upon adoption of this accounting pronouncement, the Society had no unrecognized tax benefits. Furthermore, the Society has no unrecognized tax benefits at December 31, 2009.

4-Investments

Investments in equities and fixed income instruments are reported at fair market value, and investment in real estate are 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, 2009 are summarized as follows:

	Cost	Market Value	Unrealized Appreciation (Depreciation)
Money market funds	\$ 208,877	\$ 208,877	\$
Mutual funds	2,949,619	2,976,538	26,919
Certificate of deposit	1,300,858	1,319,758	18,900
Corporate and U.S. bonds	1,419,129	1,581,949	162,820
Real Estate	4,039,993	4,039,993	
Total	\$9,918,476	\$10,127,115	\$ 208,639

5-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 Trustees to function as endowments. As required by GAAP, net assets associated with endowment funds are classified based on the existence or absence of donor-imposed restrictions.

The Society's policy requires 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 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.

6-ECS Holding 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 \$4,420,926. 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 \$442,325 (net of Society's rentals of \$74,340) for the year ended December 31, 2009.

7—Independent Accounting Firm

The Society engaged the services of the independent accounting firm, WithumSmith+Brown, PC (WS+B), to conduct the 2009 annual audit. In the opinion of WS+B the Society's financial statements present fairly, in all material respects, the financial position of The Electrochemical Society and subsidiaries as of December 31, 2009 and the changes in their net assets and their cash flows for the years then ended in conformity with accounting principles generally accepted in the United States of America.

8—Report of the ECS Audit Subcommittee

The ECS Audit Subcommittee 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 Subcommittee 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 Financial Policy Advisory Audit Subcommittee in 2009 were Ralph White (Chair), Robin Susko, Petr Vanysek, Robert Kelly and Lloyd George.

The ECS Audit Subcommittee with the exception of Petr Vanysek (not present) discussed with the independent auditors the overall scope and plans for their respective audits. The Subcommittee 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 Subcommittee has recommended for acceptance to the Board of Directors the audited financial statements for the year ended December 31, 2009. The Subcommittee has also recommended the retention of WithumSmith+Brown, PC as the Society's independent auditors for the year ending December 31, 2010.

ECS Honor Roll

Past Presidents of the	Society				
J. W. Richards	1902-1904	H. J. Creighton	1939-1940	D. A. Vermilyea	1974-1975
H. S. Carhart		F. C. Mathers		T. R. Beck	
W. D. Bancroft		R. R. Ridgway		M. J. Pryor	
C. Hering		E. M. Baker		D. N. Bennion	
C. F. Burgess		R. M. Burns	1943-1944	D. R. Turner	
E. G. Acheson		S. D. Kirkpatrick		J. B. Berkowitz	
L. H. Baekeland	1909-1910	W. R. Veazey		E. M. Pell	
W. H. Walker		W. C. Moore		R. J. Brodd	
W. R. Whitney		G. W. Heise	1947-1948	F. J. Strieter	
W. L. Miller		J. A. Lee	1948-1949	J. B. Wagner, Jr	
E. F. Roeber		A. L. Ferguson	1949-1950	P. C. Milner	
F. A. Lidbury	1914-1915	C. L. Faust	1950-1951	R. C. Alkire	
L. Addicks	1915-1916	R. M. Hunter	1951-1952	R. E. Enstrom	
F. A. J. FitzGerald	1916-1917	J. C. Warner	1952-1953	F. G. Will	1987-1988
C. G. Fink	1917-1918	R. J. McKay	1953-1954	B. E. Deal	
F. J. Tone	1918-1919	M. J. Udy		E. J. Cairns	
W. D. Bancroft		H. H. Uhlig	1955-1956	J. M. Woodall	1990-1991
W. S. Landis	1920-1921	H. Thurnauer	1956-1957	L. R. Faulkner	1991-1992
A. Smith	1921-1922	N. Hackerman	1957-1958	W. L. Worrell	1992-1993
C. G. Schluederberg		S. Swann		R. P. Frankenthal	
A. T. Hinckley		W. C. Gardiner		J. A. Amick	
H. C. Parmelee		R. A. Schaefer		K. R. Bullock	1995-1996
F. M. Becket		H. B. Linford		D. W. Hess	1996-1997
W. Blum		F. L. LaQue		B. Miller	1997-1998
S. C. Lind		W. J. Hamer		G. M. Blom	1998-1999
P. J. Kruesi		L. I. Gilbertson		D.E. Hall	1999-2000
F. C. Frary		E. B. Yeager		C. M. Osburn	2000-2001
L. Kahlenberg		H. J. Read		J. Talbot	
B. Stoughton		H. C. Gatos		K. Spear	2002-2003
R. A. Witherspoon		I. E. Campbell		B. Scrosati	2003-2004
J. Johnston		N. C. Cahoon		R. Susko	2004-2005
H. S. Lukens		C. W. Tobias		W. Smyrl	
J. H. Critchett		C. V. King		Mark Allendorf	
D. A. MacInnes		T. D. McKinley		Barry MacDougall	
W. G. Harvey	1937-1938	N. B. Hannay	1973-1974	D. Noel Buckley	2008-2009
R. L. Baldwin	1938-1939				

Past Secretaries of the Society C. Hering......1902 I. E. Campbell......1959-1965 E. W. Brooman 1988-1992 C. J. Reed...... 1902-1904 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 P. C. Milner......1974-1980 P. Natishan 2000-2004 C. G. Fink 1921-1947

Past Treasurers of the	Society			
P. G. Salom		L. I. Gilbertson 1955-1961	J. Kruger	
F. A. Lidbury	1920-1924	E. G. Enck 1961-1964	R. P. Frankenthal	
A. Smith	1924-1931	R. H. Schaefer1964-1967	R. E. White	
R. M. Burns	1931-1943	R. H. Cherry 1967-1973	W. M. Bullis	1994-1997
W. W. Winship	1943-1949	F. J. Strieter 1973-1976	Y. H. Wong	1997-1998
E. G. Widell	1949-1955	J. L. Griffin1976-1982	W. D. Brown	1998-2002
			P. Fedkiw	2002-2006



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	
C. W. Tobias	1972
C. V. King	1974
N. B. Hannay	
D. A. Vermilyea	1978
E. B. Yeager	
H. C. Gatos	1982
N. Hackerman	
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	
W. L. Worrell	2004
V. de Nora	2006
Robert P. Frankenthal	2008



Olin Palladium Medal Award

(formerly the Palladium Medal Award, 1951-1977)	
C. W. Wagner	1951
N. H. Furman	
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	
V. G. Levich	1973
M. J. N. Pourbaix	1975
H. Gerischer	

R. Parsons	1979
. M. Kolthoff	
M. Cohen	1983
M. Fleischmann	1985
A. J. Bard	1987
B. E. Conway	1989
J. Newman	1991
JM. Savéant	
J. Kruger	1995
R. W. Murray	
J. B. Goodenough	1999
N. Sato	
E. Gileadi	2003
R. Rapp	2005
Sergio Trasatti	
Dieter M. Kolb	



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	
K. E. Spear	1997
I. Akasaki	1999
A. Reisman	
R. B. Fair	
D. Hess	
Tak H. Ning	2007
C. Grant Willson	2009



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



Carl Wagner Memorial Award

A. J. Bard	1981
G. C. Wood	1983
R. C. Alkire	1985
R. W. Murray	1987
W. L. Worrell	
D. D. Macdonald	1991
J. Jorné	1993
B. R. MacDougall	1995
M. J. Weaver	
C. R. Martin	1999
P. A. Kohl	2001
R. M. Crooks	2003
J. Hupp	2005
F. Mansfeld	
Philip N. Bartlett	2007
Henry S. White	2009
•	



Henry B. Linford Award for Distinguished Teaching

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

Charles W. Tobias Young Investor Award

Stuart B. Adler	2004
Hock Min Ng	2006
Yang Shao-Horn	

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Herbert H. Uhlig1	
Norman Hackerman1	
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Sherlock Swann1	
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Harry C. Gatos1	
Ralph M. Hunter1	
Dennis R. Turner1	
Henry F. Ivey1	980
Walter J. Hamer1	980
Michael J. Pryor1	
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Theodore R. Beck1	
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John L. Griffin1	983
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Paul C. Milner1	
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Jerome Kruger1	
Glenn W. Cullen1	
James C. Acheson	
Richard C. Alkire1 Bertram Schwartz1	
J. Bruce Wagner, Jr1	
V. H. Branneky1	
R. S. Karpiuk1	
F. J. Strieter1	
W. I. Worrell 1	

Barry Miller Jefferson Cole	2001
L. Faulkner	2003
R. Frankenthal	
L. Romankiw	2003
Gordon E. Moore	2007
John S. Newman	2007
Jerry M. Woodall	2007

Allen J. Bard......1990

Honorary Associate Members

Mrs. Colin G. Fink

Fellows of The Electrochemical Society

Robert B. Comizzoli1	
Glenn W. Cullen1	990
Theodore I. Kamins1	990
Paul C. Milner1	990
Edward H. Nicollian1	990
Robert A. Osteryoung1	990
Arnold Reisman1	990
Lubomyr T. Romankiw1	990
Geraldine C. Schwartz1	990
Ben G. Streetman1	990
J. Bruce Wagner, Jr1	aan
Theodore R. Beck1	001
Elton J. Cairns1	
Prugo E Dool	001
Bruce E. Deal1	991
Werner Kern1	991
William A. Pliskin1	991
Charles W. Tobias1	991
Rolf Weil1	991
Richard C. Alkire1	992
Vittorio de Nora1	992
Jerome Kruger1	992
Barry Miller1	992
Dennis R. Turner1	992
Jerry M. Woodall1	
Richard P. Buck1	
Larry. R. Faulkner1	993
Dennis W. Hess1	993
Vik J. Kapoor1	993
Rolf H. Muller1	
Carlton M. Osburn1	
Robert A. Rapp1	220
George L. Schnable1	000
VII Wang	990
Y. H. Wong1	993
Petr Zuman1	993
George K. Celler1	
Sung-Nee George Chu1	994
John P. Dismukes1	994
Richard B. Fair1	994
Adam Heller1	994
Richard A. Oriani1	994
Boone B. Owens1	994
Wayne L. Worrell1	994
Fred Anson1	995
Laurence D. Burke1	995
Brian F. Conway	995
Robert P. Frankenthal1	995
Karl M. Kadish1	
Digby D. Macdonald1	
Gleb Mamantov1	
Florian Mansfeld1	995
Royce W. Murray1	333
John Newman1	320
Yutaka Okinaka1	995

Hausand M. Diakanina	1005
Howard W. Pickering	1995
George Rozgonyi	1995
Mordechay Schlesinger	1995
Karl E. Spear	1995
John M. Blocher, Jr.	1006
Hans K. Böhni	1996
Der-Tau Chin	1996
Hugh Isaacs	1996
Wolfgang J. Lorenz	1006
O I Dearter	1000
S. J. Pearton	1990
Subhash C. Singhal	1996
Venkataraman Swaminathan	1996
James A. Amick	
Denis Noel Buckley	
Dellis Noel Buckley	1997
Eliezer Gileadi	
Michel J. Froment	1997
Koji Hashimoto	1997
Chung-Chiun Liu	1007
Edward McCafferty	
Theodore D. Moustakas	1997
Shyam P. Muraka	1997
Stella W. Pang	
Joachim Walter Schultze	1007
James D. Sinclair	
Norman L. Weinberg	1997
Lawrence Young	1997
Huk Y. Cheh	
Donald E. Danly	1998
Dennis H. Evans	
Fumio Hine	1998
Dennis C. Johnson	
Zoltan Nagy	
Katsumi Niki	1998
Jun-ichi Nishizawa	1998
Fan Ren	1998
Antonio J. Ricco	
David A. Shores	
William H. Smyrl	
George Thompson	1998
Eric Brooman	1999
Stanley Bruckenstein	1000
Kathryn Bullock	1999
Shimshon Gottesfeld	
Yue Kuo	1999
Dieter Landolt	1999
Jerzy Ruzyllo	
Norio Sato	
Ralph White	
William Yen	1999
Cammy Abernathy	
Kuzhikalail M. Abraham	
John C. Angus	2000
W. Ronald Fawcett	2000
David S. Ginley	2000
Yasuhiko Ito	วกกก
Howard Huff	
Robert F. Savinell	
Roger Staehle	
Charles W. Struck	2000
Sergio Trasatti	
Dieter M. Kolb	2004
David J. Lockwood	
James McBreen	2001
Patrick J. Moran	
Shohei Nakahara	
William E. O'Grady	
Supramanian Srinivasan	
Mark Allendorf	2002
William Brown	
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(renows commueu)	
Cor Claeys	.2002
Martin Kendig	2002
Kim Kinoshita	.2002
Paul Kohl	2002
Zempachi Ogumi	2002
Tetsuya Osaka	2002
Krishnan Rajeshwar	2002
Israel Rubinstein	2002
Sigeru Torii	2002
Toshio Shibata	
Sorin Cristoloveanu	
Peter Fedkiw	
Charles Hussey	2003
Richard McCreery	
Frank McLarnon	
Robin Susko	.2003
Darrel Untereker	
Osamu Yamamoto	2003
G. T. Burstein	
C. Clayton	2004
G. Davis	
M. J. Deen	
S. Fonash	
M. Meyyappan	2004
J. F. Rusling M. Seo	2004
M. Shur	
J. Simonet	
M. Stratmann	.2004
J. Talbot	
M. S. Whittingham	.2004
R. Adzic	.2005
J. Davidson	
T. Hattori	
J. P. Leburton	
P. Marcus	2005
C. Martin	
P. Natishan D. Pletcher	
B. Scrosati	
J. Scully	
R. Singh	
H. H. Strehblow	.2005
M. Williams	
A. Baca	
S. Bandyopadhyay	
T. Fahidy	2006
G. Frankel	
C. Jagadish	2006
N. Koshida	
J. Lessard	
H. Massoud	
H. Yokokawa B. MacDougall	
M. Orazem	2006
D. Misra	
A. Virkar	
A. Wieckowski	
Simon S. Ang	
Viola Birss	2007
Marc Cahay	2007
James M. Fenton	
Dennis G. Peters	
Daniel A. Scherson	
Eric D. Wachsman	2007
Doron Aurbach	
Albert J. Fry	∠UUŏ

Fernando Garzon	2008
Yury Gogotsi	
Curtis F. Holmes	
Prashant V. Kamat	
Patrik Schmuki	
Gery R. Stafford	
Joseph R. Stetter	
John Stickney	
Thomas Thundat	
Vladimir Bagotsky	2009
Ugo Bertocci	
Manfred Engelhardt	2009
Tom Fuller	
Peter Hesketh	
Uziel Landau	
Dolf Landheer	
Thomas P. Moffat	
Ikuzo Nishiguchi	
Kohei Uosaki	
	000

Edward G. Weston Summer Fellowship

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

(Torrierly the Edward G. Weston Fellowship, 1950-1945)	
E. B. Sanigar	
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. Ruemmier	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	
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	
J. E. Franke	
S. R. Snyder	

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	
J. Seegmiller	2004
E. Blair	
F. Laforge	2006
Aleix G. Güell	2007
Matthew J. Banholzer	2008
Shulei Chou	2009

Colin Garfield Fink Summer Fellowship

P. Brown	
W. G. Lemmermann	1963
W. G. Stevens	1964
J. P. Carney	1965
S. Piekarski	1966
B. S. Pons	
R. E. Bonewitz	
L. Papouchado	1969
R. G. Reed	1970
R. Fike	1971
D. L. McAllister	
R. R. Chance	1973
P. I. Lee	
J. B. Flanagan	
J. S. Hammond	1976
P. D. Tyma	
S. M. Wilhelm	1978
J. D. Porter	1979
R. S. Glass	
E. E. Bancroft	
T. D. Cabeika	1982
B. L. Wheeler	
E. T. T. Jones	
D. A. Van Galen	1985
J. S. Hanson	1986
P. Gao	1987
D. T. Schwartz	
A. E. Russell	1989
J. Xue	
C. K. Rhee	
M. J. Shane	1992
C. M. Pharr	1993
J. M. Lauerhaus	1994
S. M. Hendrickson	
J. C. Hutchinson	1006
P. V. A. Pamidi	
G. S. Hwang	
W. Baker	1000
A. Crown	2000
R. Maus	
S. Peper	2001
M. Alpuche-Aviles	
A. Mugweru	
G. Lica	2004
G. Lica	2000

(continued on next page)

(Colin Garfield Fink Summer Fellowship con	itinued)
A. Martinson	2006
Prabeer Barpanda	.2007
Sau Yen Chew	.2008
Hyea Kim	
Joseph W. Richards	
Summer Fellowship	
V. E. Hauser, Jr.	1960
M. J. Schaer	.1961
R. E. Visco	
A. K. Postma	
C. C. Liu	
M. J. Vasile	
M. J. Vasile	.1965
B. N. Baron	
L. P. Zajicek, Jr.	
K. R. Bullock	
S. H. Cadle	
J. W. Webb	.1971
C. P. Keszthelyi	
M. Shabrang	.1973
D. H. Karweik	
T. P. DeAngelis	
D. L. Feke	
D. M. Novak	
B. R. Karas	
R. M. Cohen	
R. N. Dominey	
R. M. lanniello	.1982
D. F. Tessier	
N. T. Sleszynski	.1984
C. M. Lieber	
J. L. Valdes	
R. Q. Bligh D. W. Conrad	
S. A. Schofield	1989
J. A. Roberts	1990
M. S. Freund	
L. Gao	.1992
H. Gasteiger	
J. Schoer	.1994
S. Morin	
N. Madigan S. Petrovic	
J. J. Sumner	
A. Wijayawardhana	
B. Liu	
C. Noble	.2001
C. B. France	.2002
P. Ramadass	
J. Carroll	
K. Salaita	
J. BregerSadagopan Krishnan	
Meng Jiang	
Haizhou Liu	.2009
F. M. Becket Summer Fellowship	
(formerly the F. M. Becket Memorial Award 1962-1999)	
R. B. Johnson	.1962
J. K. Johnstone	
K. Lehman	.1966
LI I/ Dowon	1067

G. M. Crosbie	197
N. A. Godshall	197
J. D. Hodge	197
W. Cheng	1979
P. Davies	198
P. A. Barron	198
G. J. Miller	
M. Rosenbluth	198
J. D. Cotton	1989
J. Philliber	199 ⁻
P. Agarwal	199
H. C. Slade	
K. S. Weil	
G. S. Hwang	1999
J. Parrish	200
S. Wasileski	
E. Clark	
F. Deng	
S. Harrison	
Y. Yang	
Michael Orthner	
Marcos Jose Leitos Santos	200
Steve Rhieu	2009
Herbert H.Uhlia	

Summer Fellowship

Natalia Shustova	2008
Venkatasubramanian Viswanathan	2009

Energy Research Summer Fellowship

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

M. R. Deakin	198
P. B. Johnson	198
D. A. La Hurd	
S. E. Morris	198
D. P. Wilkinson	198
D. G. Frank	198
KC. Ho	198
R. G. Kelly	
IH. Yeo	
J. Kwak	198
L. C. Dash	198
S. A. Naftel	198
T. R. Nolen	
D. Schwartz	198
T. H. Wong	198
S. D. Fritts	198
D. A. Koos	
D. A. Hazlebeck	
M. O. Schloh	198
S. S. Perine	
J. E. Baur	198
CP. Chen	198
D. W. Eng	
R. L. McCarley	
C. J. Murphy	198
C. K. Nguyen	199
IH. Oh	
T. G. Strein	199
J. W. Weidner	199
S. E. Gilbert	
C. S. Johnson	199
H. Huang	
D. R. Lawson	
R D Dandlay	

C. C. Streinz1991

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	
G. Seshadri	1993
J. A. Poirier	1993
K. W. Vogt	1993
Z. Shi	
CC. Hsueh	
V. A. Adamian	1994
K. M. Maness	1994
K. M. Richard	1994
YE. Sung	
J. C. Conboy	
L. A. Zook	
W. R. Everett	1995
H. Zhang	1995
S. Grabtchak	
JB. Green	
S. Motupally	1996
C. Nasr	
S. Nayak	
K. Hu	
M. E. Williams	1997
A. Zolfaghari	1997
C. R. Horne	
G. K. Jennings	
M. Zhao	1998
S. Sriramulu	1998
J. Ritchie	1998
M. A. Elhamid	
S. Zou	
K. Cooper	
K. Grant	
D. Hansen	2000
J. F. Hicks	
Z. Liu	2000

Oronzio de Nora Industrial **Electrochemistry Fellowship**

N. Mano	2004
N. Mano	2005
N. Mano	2006
Vijayasekaran Boovaragavan	2007
Vijayasekaran Boovaragavan	2008
Vijavasekaran Roovaragayan	2000

Norman Hackerman **Young Author Award**

(formerly the Young Authors Prize, 1929-1988)

V. C. Gardiner	1929
). K. Alpern	1930
L. Jones	1931
. W. Godsey, Jr	1932
B. L. Bailey	1933
R. Heard, Jr	1934
J. B. Thomas, Jr	1935
V. A. Johnson	
R. S. Soanes	
I. B. Nichols	
G. A. Moore	1939
. S. Mackay	1940
. Adler	1941
S Sneil	1942

T. E. Parker.....1971

(Norman Hackerman Young Author Award continued)

W. G. Berl	-1	941
J. P. Coyle		04
J. F. Guyle	ا	244
A. E. Hardy	1	943
N. A. Nielsen	1	946
H. Leidheiser, Jr	1	947
M. A. Streicher	1	0/19
IVI. A. Ottelollel	اا	040
J. C. Griess, Jr	ا	948
G. W. Murphy	1	950
J. T. Byrne	1	95
W. E. Kuhn	1	953
I Halnarn		OE
J. Halpern	ا	950
M. J. Pryor	1	954
M. Stern	1	955
R. S. Cooper	1	956
P. Ruetschi		05
r. nuclsuii	ا	301
M. Stern	1	958
F. A. Posey	1	959
A. C. Makrides	1	960
J. D. Newson	1	96-
M I Dianama	!	20
M. J. Dignam	ا	904
J. A. Cunningham	1	963
R. E. Westerman	1	964
R. E. Visco	1	96
I Nouman		000
J. Newman	ا	900
H. W. Pickering	1	96
G. G. Charette	1	968
G. Dryhurst	1	969
J. Newman		060
J. Newillall	ا	200
W. R. Parrish	ا	968
A. J. Appleby	1	970
D. C. Johnson	1	970
DT. Chin	1	97-
M. S. Whittingham	!	07-
IVI. 3. WIIILIIIYIIAIII	ا	91
M. A. Hopper	1	9/2
F. Kuhn-Kuhnenfeld	1	972
M. J. Bowden	1	973
L. Thompson	1	071
D. O	اا	070
D. Simonsson	ا	9/3
S. H. Cadle	1	974
A. D. Dalvi	1	974
L. R. Faulkner	1	97
S. Solmi		071
5. 50IIII	ا	973
P. Negrini	1	9/3
B. MacDougall	1	976
S. K. Ubhayakar	1	976
C. W. Manke	1	97
W. I. Hawkana	!	07
W. J. Horkans	ا	97
A. G. Gonzalez	1	9/8
C. H. Tsang	1	978
D. A. Antoniadis	1	978
D. Y. Wang		070
D. T. Wally	ا	9/3
C. W. Magee	1	9/
E. Takayama	1	980
H. Reller	1	980
W. J. P. Van Enckevort	1	ag-
M. W. M. Graef	ا	30
C. Y. Chao	1	98
L. F. Lin	1	98
D. W. Sittari	. 1	982
T. P. Chow		
D. C. Dialam	ا	004
P. G. Pickup	1	98
K. F. Jensen		
D. B. Graves		
N. A. Godshall		
E. K. Broadbent		
J. C. Farmer		

G. S. Oehrlein1	085
J. Richer1	200
J. KIUTEL	900
T. Tanaka1	986
C. P. Wilde1	
P. N. Bartlett1	987
J. Maier1	987
J. A. Bardwell1	988
CJ. Han1	988
A. E. Husser1	989
D. H. Craston1	989
J. M. Rosamilia1	989
J. H. Comfort1	000
J. 11. GUIIIIUIL	000
M. W. Verbrugge1	990
C. J. Giunta1	990
T. J. Mountziaris1	991
J. V. Cole1	991
D. W. Suggs1	991
3. W. Gregory1	991
D. B. Bonham1	992
E. S. Aydil1	
P. P. Apte1	
A. West1	993
H. A. Gasteiger1	
R. Myers1	
R. Vidal1	
G. D. Papasouliotis1	995
J. H. Nordlien1	
J. Lee1	996
A. K. Padhi1	997
S. M. Han1	
A. D. Robertson1	998
/. Shao-Horn1	aag
S. R. Kaluri1	
A. Bautista1	999
P. A. O'Neil1	999
R. T. Leah2	
I. W. Klaus2	2000
J. F. Whitacre2	
P. Feichtinger2	2001
T. J. Pricer2	2002
P. S. Lee	2002
K. Jambunathan2	
S. Noda	กกร
VI. Miyamoto	
R. Akolkar2	
7K. Hong	.00 1
7N. ПОПУ	1004
6. Borini	
VI. Kunimatsu2	
Mathieu Bervas2	
Pradeep Dixit2	2006
Steffen Eccarius2	2007
A. T. J. van Niftrik2	2007
Kevin Ralston2	2008
Eu Jin Tan2	2008
/udi Setiawan2	
Paul Albertus2	
ouis Hutin	
-0uis Hutiii2	.009
Turner Book Prize	
S. Speil1	042
V. G. Berl1	
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J. P. Coyle1	943 944
J. P. Coyle1 J. T. Waber1	943 944 945
1. P. Coyle	943 944 945 946
1. P. Coyle	943 944 945 946 947
J. P. Coyle	943 944 945 946 947 948
I. P. Coyle	943 944 945 946 947 948 949

K. H. Stern
Leadership Circle Awards
Medallion Level (65-69 years) Dow Chemical Co., Central Research
Diamond Lovel (EQ C4 vegre)
Diamond Level (50-64 years) General Electric Co., Corporate
Research & Development1952
General Motors
Research Laboratories1952
Rayovac
Duracell1957
IBM Corporation1957
Gold Level (25-49 years)
Toshiba Corp., Research
& Development Center1974
Siltronic AG1974
Osram Sylvania, Inc., Chemical
& Metallurgical Division1975
Sandia National Laboratories1976
International Lead Zinc Research Organization,
Inc1979 Medtronic, Inc., Energy
and Component Center1980
Toyota Central Research
and Development Labs, Inc1980
Yuasa Corp1980
Princeton Applied Research/Solartron
Analytical1981
Saft Batteries
CSIRO Minerals1983
Industrie de Nora1983 Ballard Power Systems, Inc1984
ECO Energy Conversion1984
Varta Automotive GmbH,
Advanced Battery Division1984
Greatbatch, Inc
Leclanche S.A1985
Max-Planck-Institut
für Festkorperförschung1985

(Leadership Circle Awards continued)

Silver Level (10-24 years)	
Eltech Systems Corp1983	
Tronox LLC1985	
Giner, Inc1986	
TIMCAL Graphite and Carbon Ltd 1987	
Japan Storage Battery Co., Ltd1988	
3M Company1989	
E. I. Du Pont de Nemours & Co., Inc.,	
HD Microsystems1989	
Solartron Instruments1990	
Central Electrochemical	
Research Institute1993	
TDK Corp., R&D Center1993	
Valence Technology1993	
DAISO, Co., Ltd1994	
Panasonic Crop1994	
C. Uyemura & Co., Ltd.,	
Central Research Lab1996	
Electrosynthesis Co., Inc1996	
FMC Corporation,	
Active Oxidant's Division1996	
Nacional de Grafite, LTDA1996	
Permelec Electrode, Ltd1996	
PPG Industries, Inc., Chemicals Group	
Technical Center1996	
Scribner Associates, Inc1996	
Technic Inc1996	
Advance Research Chemicals, Inc1998	
Yeager Center for Electrochemical	
Sciences at CWRU1998	
Teledyne Energy Systems, Inc1999	
Quallion, LLC2000	
UTC Fuel Cells2000	
Propre Level (E. O. vecto)	
Bronze Level (5-9 years) Hach Company, Radiometer	
Analytical Division1998	
De Nora Technologie	
Elettrochimiche S.r.L1999	
BAE Systems Battery	
Technology Center2001	
Broddarp of Nevada2001	
OM Group, Inc2001	
GAIA-Akkumulatorenwerke GmbH	
Permascand AB2003	
Agilent Laboratories2004	
Evonik Degussa GmbH2004	
Samsung SDI2004	
ZSW Center for Solar Energy	
& Hydrogen Research2004	
PEC North America2004	
ممر	
	_
Battery Division	-
Battery Division Student Research Award	_
•	_

 W. A. van Schalkwijk
 1981

 C. Y. Mak
 1986

 T. I. Evans
 1987

 C. C. Streinz
 1988

 J. Weidner
 1989

M. G. Lee	1990
E. J. Podlaha	1991
G. E. Gray	1992
D. Qu	1993
P. De Vidts	1994
S. Motupally	1995
J. Xu	1996
Y. Shao-Horn	1997
I. Courtney	1998
G.E. Rousse	
V. Srinivasan	2000
M. Zhao	2001
V. Subramaniam	2001
L. Fransson	2002
KW. Park	2003
A. Weber	2004
C. Delacourt	2005
K. Kang	2006
Feng Jiao	
Nonglak Meethong	2009
3	

Battery Division Research Award

J. J. Lander1	958
D. M. Smyth1	
Г. P. Dirkse1	962
- G. Will1	964
J. Burbank1	
C. P. Wales	966
D. Tuomi1	968
Y. Okinaka1	970
A. C. Simon1	972
S. M. Caulder1	972
J. McBreen1	974
Г. Katan1	976
S. Szpak1	976
A. Heller1	978
K. R. Bullock	
R. A. Huggins1	
D. Pavlov1	
G. H. J. Broers1	
J. L. Devitt1	
D. H. McClelland1	
J. P. Gabano1	987
VI. Armand1	
J. Jorne1	
A. N. Dey1	990
R. E. White1	
D. N. Bennion1	992
E. Peled1	993
K. M. Abraham1	995
J. Dahn1	
3. Scrosati1	
C. Delmas1	
J. B. Bates2	
S. Wittingham2	
K. Kinoshita2	2003
J. Newman2	
G. Ceder2	2004
M. Thackeray2	
Г. Ohzuku	2006
Clare P. Grey2	2007
Peter G. Bruce2	2008
_inda Nazar2	

Battery Division Technology Award

Y. NISNI	1994
K. Ozawa	1994
E. S. Takeuchi	1995
S. Gilman	1996
JM. Tarascon	1997
G. E. Blomgren	1998
A. Yoshino	1999
H. Y. Cheh	2000
B. B. Owens	2001
D. Wilkinson	2002
M. Winter	2002
J. Yamaki	2003
M. Yoshio	2003
M. Ue	2004
D. Aurbach	2005
P. Novak	2005
K. Lee	2006
Michel Broussely	2007
Hiroshi Inoue	2008
Satoshi Mizutani	2008
Fiii Endoh	2000



Corrosion Division H. H. Uhlig Award

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

2.1.0.0.1 10.0 1000)	
M. Cohen	1973
D. A. Vermilyea	1975
J. Kruger	1977
M. J. Pryor	
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	
P. Marcus	2005
G. T. Burstein	2006
Edward McCafferty	2007
Martin Stratmann	2008
John R. Scully	2009
•	

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
JF. Yan	1994
B. V. Cockeram	1995
I. Odnevall	1996
D. G. Kolman	1997

(Corrosion Division Morris Cohen Graduate Student Award continued)

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	
H. Tsuchiya	2006
Magnus Johnson	2007
Christopher D. Taylor	2008
Mariano lannuzzi	2009



Dielectric Science and Technology Division Thomas D. Callinan Award

J. A. Davies	
J. P. S. Pringle	1968
G. M. Sessler	
J. E. West	
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	
R. B. Comizzoli	1988
E. A. Irene	
R. A. Levy	1989
M. H. Woods	
V. J. Kapoor	1991
S. I. Raider	
D. W. Hess	1993
YH. Wong	
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	
S. Fonash	2004
Daul A Kohl	2002



Electrodeposition Division Research Award

w. weii	
Y. Okinaka	
E. B. Budevski	1982
R. C. Alkire	1983
L. T. Romankiw	1984
R. J. von Gutfeld	
J. W. Dini	1985
H. R. Johnson	
H. Leidheiser	1986
J. P. Hoare	
H. Y. Cheh	1988
D. S. Lashmore	
S. Nakahara	1990
T. C. Franklin	
R. E. White	
P. C. Andricacos	1993
M. J. Froment	
D. Landolt	
T. Osaka	
M. Schlesinger	1997
Madhav Datta	
R. Winand	1999
H. Honma	
D. Kolb	
J. Switzer	
J. Dukovic	
P. Bartlett	
T. P. Moffat	
lbro Tabakovic	
Olaf Magnussen	2008
John Stickney	



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	
M. G. Craford	
A. Y. Cho	
C. M. Wolfe	1978
E. Sirtl	
J. M. Woodall	
G. A. Rozgonyi	
G. W. Cullen	
D. W. Shaw	
A. Reisman	
S-M. Hu	1985
E. H. Nicollian	1986
B. Schwartz	
K. E. Bean	
T. Kamins	1989
D. M. Brown	
C. M. Osburn	
G. S. Oehrlein	

B. S. Meyerson	1993
G. K. Celler	
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	
T. Ohmi	2003
C. Claeys	2004
S. Pearton	
H. Massoud	2006
Yue Kuo	2007
Fan Ren	2008
Eicke R. Weber	2009



Energy Technology Division Research Award

M. W. Verbrugge	1994
S. Srinivasan	
H. R. Kunz	1998
A. W. Czanderna	1999
R. Selman	
. Uchida	2001
A. Nozik	2003
K. Kinoshita	2004
K. Kanamura	2005
S. Licht	2006
Radoslav Adzic	2007
Yang Kook Sun	
Tom Fuller	2008
Krishnan Rajeshwar	
Jai Prakash	



Fullerenes, Nanotubes, and Carbon Nanostructures Richard E. Smalley Research Award

Sumio Ijima	2008
Phaedon Avouris	2009



Fullerenes, Nanotubes, and Carbon Nanostructures SES Research Young Investigator Award

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Nikhil Koratkar	2009

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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	
David J. Young	2008

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

S. Mohney	1999
S. M. Haile	
M. Swihart	2003
R. Mukundan	2005
Xiao-Dong Zhou	2007
Juan Claudio Nino	2009



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

Asahi Glass Company	1999
DeNora Tecnologie	2005
E-Tek	2005
Bayer Material Science AG	2005
Ballard Power Systems	2007
FuelCell Energy	2009

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	
P. Soo	1998
S. Sriramulu	1999
K. M. Jeerage	2000
A. L. Prieto	200
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	
•	

Industrial Electrochemistry and Electrochemical Engineering Division Student Achievement Award

YE. Sung	1995
J. K. N. Mbindyo	
C. A. Smith	
J. A. Drake	1998
R. Lowrey	1999
C. Arvin	
B. Djurfors	2001
V. Subramanian	2002
P. M. Gomadam	
I. AlNashef	2004
V. Sethuraman	2006
Minhua Shao	2007
Vinten Dewikar	2008
Paul Albertus	2009



Luminescence and Display Materials Division Centennial Award

A. Meijerink	2004
A. Srivastava	
H. Guedel	2006



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	
M. Tokuda	2004

D. Evans	2004
I. Nishiguchi	2006
Albert Fry	



Physical and Analytical Electrochemistry Division David C. Grahame Award

F. C. Anson	
J. Newman	1985
A. Heller	1987
M. J. Weaver	1989
B. Miller	1991
A. T. Hubbard	1993
R. M. Wightman	
D. M. Kolb	1997
P. N. Ross, Jr	1999
D. A. Scherson	
A. Wieckowski	2003
H. White	2005
Joseph T. Hupp	2007
Héctor D. Abruña	2009

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	
Y. Ito	
G. N. Papatheodorou	2002
M. Gaune-Escard	2004
J. Wilkes	2006
Bernard Gilbert	2008



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
Chuna-Chiun Liu	2008