

# ECS annual report

2005

## anniversaries and innovations

*Some significant innovations in 2005 are noted in this report, and both are related to anniversaries celebrated that year: 40 years ago, Gordon E. Moore made a now-famous prediction; and 25 years ago, ECS hired Roque Calvo.*



**GORDON E. MOORE**, chairman emeritus and co-founder of Intel, addressed the special two-day symposium on "Moore's Law at 40." Moore is a long-time member of ECS and has delivered two plenary lectures at ECS meetings.

**GORDON E. MOORE'S** 1965 observation and prediction was about the exponential growth in the power of semiconductor technology. Roughly put, Gordon Moore observed that semiconductor technology had doubled in power every year and he predicted that innovation would continue along this path. (In 1975 he updated this doubling to occur about every two years.) History has thus far proven Moore correct; and today, global change marches to the beat set by the technology behind Moore's law. On May 12 and 13, the Chemical Heritage Foundation (CHF) joined with ECS in a program to assess "innovation's curve," its implications, and the role of the chemical sciences and technologies. Moore, chairman emeritus and cofounder of Intel, has been a member of ECS since 1957, and delivered two plenary lectures at ECS meetings (1981 and 1997).

The ECS Electronics Division has long been a home for a variety of activities in semiconductor technology. The Division's technical breadth has experienced its own share of innovations and underwent a name change to become the **ELECTRONICS AND PHOTONICS DIVISION**. The new name more accurately reflects the present mission and activities of the Division. For new members (particularly students) who are active in lightwave/photonics technology, and are unfamiliar with the ECS Divisional structure, it will be more obvious which Division to join.

For 25 years, ECS Executive Director **ROQUE CALVO** has led the Society in achieving many successful advances: from the installation of the Society's first computer systems to the complete re-vamping of the Journal's editorial system; from rented quarters to the Society's ownership of a four-building property; from the Society's first joint international meeting to the introduction of a new journal; from the successful management of major satellite meetings to the introduction of a new logo and use of ECS as an official acronym. There are many more important markers in his career as the ECS CEO; but in summary, Calvo has been a major force behind the Society's sheer staying power as a viable,



ECS Executive Director **ROQUE CALVO** (left) received a special award for his 25 years of service to ECS from ECS President **WILLIAM SMYRL**. The award recognized Calvo's "exceptional leadership, which has contributed so greatly to the continued growth and success of the Society."

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# 2005

financially stable, and well-respected scholarly society that has remained true to its core values over the Society's 104 years.

The Physical Electrochemistry Division is now the **PHYSICAL AND ANALYTICAL ELECTROCHEMISTRY DIVISION**. Adding "Analytical" to the title more clearly communicates the Division's interests and activities to those unfamiliar with ECS's technical structure. The name change also serves to align the Division with the groupings of papers in the Society's journals, which currently includes the category of "Physical and Analytical Electrochemistry." The new name will be helpful to prospective members who are active in electroanalytical chemistry.

Interest in fuel cells outside ECS has been mirrored by intense fuel cell activity within ECS. The Society has established a **FUEL CELLS SUBCOMMITTEE** to coordinate fuel cell symposia for ECS and to promote ECS as the leading professional organization for the development of fuel cells. Chaired by Tom Fuller, the committee has been working on a number of projects, including workshops, short courses, and a new Web page on the ECS website. The committee is responsible for coordinating fuel cell symposia at ECS; and for exploring jointly-sponsored symposia on fuel cells with other professional societies, particularly those that complement the strengths of ECS.

## ecstransactions new and enhanced content venues



The Society introduced its newest publication, **ECS TRANSACTIONS** (ECST), a high-quality venue for authors and another excellent resource for researchers. This new title was designed as an online database that provides access to full-text versions of content that has been presented at ECS meetings and ECS sponsored meetings. John Weinder, chair of the ECST Steering Committee, noted that "The papers appearing in ECST are reviewed to ensure that submissions meet generally accepted scientific standards." This new publication completely replaces the Society's proceedings volume (PV) series; the approach allows for much wider dissemination of the content at a much lower cost than the hard-cover PVs. Papers that were not included in a PV and not submitted to the ECS journals had nowhere else to be published at ECS, resulting in lost content and a break in the cohesiveness of the content presented at ECS symposia. The papers are available online—as individual articles or as part of an issue—to be downloaded by a user to a hard drive, CD-ROM, or other display device. ECS makes "on-demand" book editions available as well. **JOHN LEWIS** joined the staff as the ECST Manager; and he is responsible for all facets of ECST, from guiding authors and editors through the online process, to producing and marketing the finished issues.

The digitization project for the **JOURNAL OF THE ELECTROCHEMICAL SOCIETY** (JES) continued in 2005. The project captured a large segment of JES: 21 years of issues, from 1995 back to 1975. In 2006, ECS members and subscribers will have access to this archive. The process of capturing this content involved many steps. Full-text PDF articles were created, as well as HTML formatted tables of contents, abstract pages, and searchable database records. Scientific indexing terms were also assigned to these articles. The Society hopes to capture the rest of its technical journal content, all the way back to when ECS was founded in 1902; however, a project of this scope requires a large investment of time and money. ECS development activities have raised some of the money required and will continue to appeal for support.

In 2005, ECS and the American Institute of Physics (AIP) announced an agreement for AIP's Circulation and Fulfillment Division to provide fulfillment and customer service for the print editions of three ECS publications, *JES*, *Electrochemical and Solid-State Letters* (ESL), and the ECS quarterly news magazine, *Interface*. AIP not only will serve ECS as a fulfillment vendor, but also as a partner in serving ECS subscribers. ECS joins the more than 150 scientific publications published by 15 societies for whom AIP's Circulation and Fulfillment Division now provides fulfillment services.

## continued growth for meetings

The Society met in **QUÉBEC CITY, CANADA** for the first time ever for the spring 2005 meeting, with 2,019 attendees choosing from 1,801 presentations in 47 symposia. This was the second largest ECS meeting held on the North American mainland. Arthur Carty, National Science Advisor to the Prime Minister of Canada, presented the plenary lecture entitled "Successes and Future Challenges for Canadian Research and Development." As part of the series of Sunday evening talks planned to provide opportunities to learn more about other areas of electrochemical

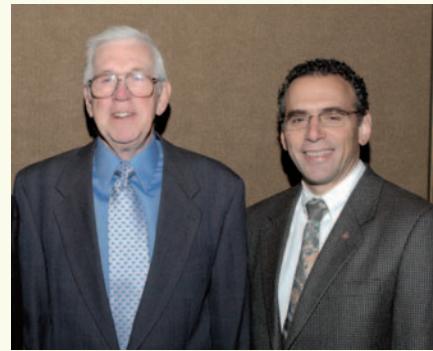
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**DENNIS W. HESS** (left) received the 2005 Solid State Science and Technology Award. The award recognizes outstanding contributions to the fundamental understanding and technological applications of solid-state materials, phenomena, and processes. **TIMOTHY ANDERSON** (right) introduced the new awardee.



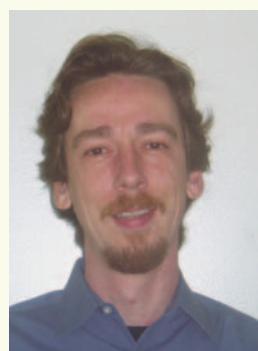
**JOSEPH HUPP** (right) received the 2005 Carl Wagner Award, given for significant achievements in research in areas of interest to ECS, and significant contributions in the guidance and development of students or colleagues in education, industry, or government. Presenting him with the award was ECS President **WILLIAM SMYRL**.



**ROBERT RAPP** (left) received the 2005 Olin Palladium Award for outstanding contributions to the fundamental understanding of all types of electrochemical and corrosion phenomena and processes. **JERRY FRANKEL** (right), Director of the OSU Fontana Corrosion Center, introduced the award recipient.



The 2005 Class of ECS Fellows were inducted at the honors and awards sessions by ECS president **WILLIAM SMYRL**. Seated, from left to right are: **TAKESHI HATTORI**, **RADOSLAV ADZIC**, **JOHN R. SCULLY**, (**PRESIDENT BILL SMYRL**), **HANS-HENNING STREHBLOW**, **PHILIPPE MARCUS**, and **PAUL NATISHAN**. Standing, from left to right, are: **DEREK PLETCHER**, **BRUNO SCROSATI**, **MARK WILLIAMS**, **JEAN-PIERRE LEBURTON**, **JIM L. DAVIDSON**, **CHARLES MARTIN**, and **RAJIV SINGH**.

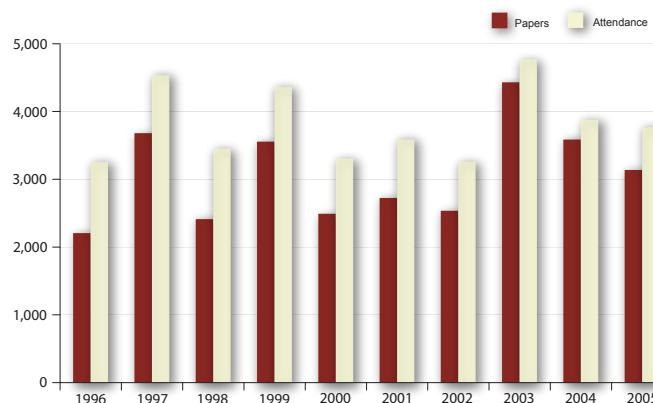


ECS welcomed three new staff members in 2005: **JOHN LEWIS**, ECS Transactions Manager; **HEIDI RIXMAN**, Director of Membership and Development; and **AMIR ZAMAN**, Associate Director of Development.

# 2005

## ECS Meetings

Paper submission and attendance.



Co. It consisted of six parallel technical sessions: Device Modeling and Reliability; Lithography, Materials, and Equipment; Advanced Processing; Manufacturing Science; and Chemical Mechanical Polishing Technology.

and solid-state research within ECS, Andrew Gewirth of the University of Illinois presented "Atomic Force and Scanning Tunneling Microscopy for the Rest of Us."

The fall 2005 meeting, held in **LOS ANGELES, CALIFORNIA**, included 1,735 attendees choosing from 1,335 presentations in 39 symposia. Nathan Lewis presented the plenary lecture entitled "Scientific Challenges in Sustainable Energy Technology." Clare P. Grey of the State University of New York at Stony Brook presented "Lithium-Ion Battery Materials... for the Rest of Us."

ISTC, the ECS **INTERNATIONAL SEMICONDUCTOR TECHNOLOGY CONFERENCE** was established in 2000. For the past four years, ISTC has been held in China or Japan. For the first time, in 2005, the ECS ISTC meeting cooperated with SEMI, the global industry association providing manufacturing technology and materials to the semiconductor and related microelectronics industries. The fields of solid-state science and technology are an important and fast-moving field in China; and the heart of the ISTC 2005 conference was the technical program. The conference was organized by Ming Yang, CEO of IC Spectrum,



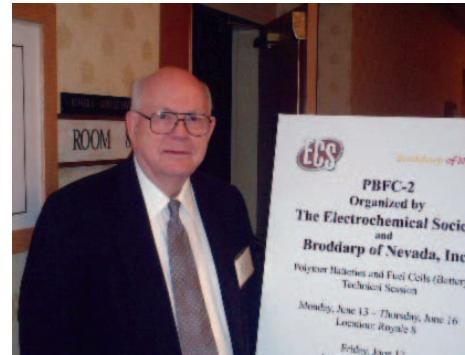
**QUÉBEC CITY**, site of the Society's 2005 spring meeting, was the second largest ECS meeting on the North American mainland. **ARTHUR CARTY** (third from left), the National Science Advisor to the Prime Minister of Canada, delivered the plenary lecture at the 207<sup>th</sup> ECS meeting in Québec City. ECS President **ROBIN SUSKO** (second from right) thanked him for his talk. ECS Vice-President **BARRY MACDOUGALL** (far left) introduced Dr. Carty and **CHRISTINA BOCK** (far right) welcomed attendees on behalf of the ECS Canadian Section.



**LOS ANGELES, CALIFORNIA**, was the site of the fall 2005 ECS meeting. The Los Angeles meeting's plenary session, given by **NATHAN S. LEWIS**, of Caltech, gave meeting attendees a broad, global view of the challenges in achieving affordable, environmentally responsible, and sustainable energy. Pictured above are Prof. Lewis (right) and ECS President **WILLIAM SMYRE**.



Enjoying the **ISTC** meeting's international reception at the Sofitel Jingjiang Oriental Hotel were (from left to right): **MARK DING**, President, SEMI China; **TETSURO (TERRY) HIGASHI**, Chair, SEMI Board of Directors and Chair/CEO of Tokyo Electron Ltd.; **ROBIN SUSKO**, of IBM, and ECS's President; **MING YANG**, ISTC meeting Chair; and **STANLEY T. MYERS**, President and CEO of SEMI.



**RALPH BRODD**, chair of PBFC-2, which was organized by Broddarp of Nevada and ECS.

In June of 2005, ECS sponsored and managed the **SECOND INTERNATIONAL CONFERENCE ON POLYMER BATTERIES AND FUEL CELLS** (PBFC-2), held in Las Vegas, Nevada. Approximately 227 participants attended and contributed to the scientific program, which consisted of 194 technical presentations. The topics included the structure of the cathode materials, ionic liquids, polymer electrolyte membrane composition, and structure.

## supporting the future

In May, Gordon E. Moore, co-founder of Intel and a 49-year member of ECS, accepted a proposal to change the Solid State Science and Technology Award, established to distinguish contributions to the field of solid-state science, to honor him. The new name of the award will be, the **GORDON E. MOORE MEDAL FOR OUTSTANDING ACHIEVEMENT IN SOLID STATE SCIENCE AND TECHNOLOGY**. The next presentation will occur at the 211<sup>th</sup> ECS Meeting in Chicago, Illinois. Intel has agreed to endow the award in his honor.

The Society hired **HEIDI RIXMAN** as Director of Membership and Development to oversee membership activities as well as a variety of development programs. The ECS **CENTENNIAL CAMPAIGN** had another successful year with an all time record high of 287 donors, an increase of 50% from the previous year. Countries that accounted for most contributions included the United States, Japan, and Italy. ECS also received first time contributions from the Czech Republic and Serbia and Montenegro.

Over the last four years, the Centennial Campaign has financially supported several new initiatives. First, ECS members and friends of past president Charles Tobias funded the creation of the **CHARLES W. TOBIAS YOUNG INVESTIGATOR AWARD**. The award was established in 2003 to recognize outstanding scientific and/or engineering work in fundamental or applied electrochemistry or solid-state science and technology by a young scientist or engineer. The **ORONZIO DE NORA FELLOWSHIP**, funded through the Italian company Gruppo DeNora, was established in 2003 to assist a postdoctoral scientist or engineer in the research of the field of industrial electrochemistry. The campaign also supported three student chapters with the hope of establishing several more in the upcoming year. Finally, through the help of members and friends, the Society was able to create a special membership fund to annually support members who cannot pay their membership dues because of temporary financial hardships.

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**H. H. UHLIG**



**CHARLES TOBIAS**



**KEITH E. JOHNSON** (right) was acknowledged by ECS President **ROBIN SUSKO** for Dr. Johnson's generous contribution to the ECS Centennial Campaign, which will go toward funding educational programs at ECS, including a new Summer Fellowship.

# 2005



The **ECS LEADERSHIP CIRCLE AWARDS** recognize long-term supporters of ECS. At the Québec City meeting, a number of Corporate Members were acknowledged for their contributions. In the photo at left, from left to right, are **FERNANDA VIEIRA**, Nacional de Grafite, LTDA, Silver Award (10 years); **WEIDONG AN**, FMC Corporation, Silver Award (10 years); ECS President **ROBIN SUSKO**; **BILL EGGERS**, Princeton Applied Research, Gold Award (25 years); and **KAZMIERZ (KAZ) WIKIEL**, Technic Inc., Silver Award (10 years); **JAMES C. MASSINGILL** (center photo) received a Bronze Award (5 years) on behalf of the Battery Technology Center of BAE Systems; **J. DAVID GENDERS** (second photo from right) received a Silver Award (10 years) on behalf of the Electrosynthesis Company; and **LOUIE SCRIBNER** (far right photo) received a Silver Award (10 years) on behalf of Scribner Associates, Inc.



ECS Secretary **PETR VANÝSEK** (right) and **TOM KALAPOS**, chair of the new joint student chapter of the ECS Cleveland Section and Yeager Center for Electrochemical Sciences (YCES).

In 2005, ECS initiated a campaign to raise \$100,000 to endow the ECS **HERBERT H. UHLIG SUMMER FELLOWSHIP**. This fellowship will provide \$5,000 of support to an exceptional graduate student during the summer months in the pursuit of work in a field of interest to ECS. The Society began awarding summer fellowships in 1930, and has awarded over 250 since that date. Past summer fellowship recipients went on to notable careers, including Larry Faulkner (1969 Edward G. Weston Fellowship), a past president of ECS and past president of The University of Texas; and Vittorio de Nora (1938 Edward Weston Fellowship), instrumental in the manufacture of chlorine and the development of the dimensionally stable anode. Herbert H. Uhlig was president of The Electrochemical Society from 1955 to 1956. He was elected vice-president in 1952 and was active in Society affairs beginning in 1937 and until his death in 1993.

**AMIR ZAMAN** was hired as Associate Director of Development to assess and meet the needs of businesses and corporations. These companies showed a renewed interest in supporting ECS because of an excellent benefits package that includes access to the top-ranked ECS journals. The **CORPORATE MEMBERSHIP** program remained steady at 68 members with a total income of over \$100,000. The ECS **TECHNICAL EXHIBITS** featured a total of 58 companies between the fall and spring meetings.

The **ECS CLEVELAND SECTION** and the Yeager Center for Electrochemical Sciences (YCES) collaborated to form a new, jointly-sponsored, **STUDENT CHAPTER**. The activities of the Chapter's first year were very well-attended and received.

*These celebrations and long-range plans that have come to fruition have not been the conclusion of business; they have been a hallmark of this member-driven organization and lay the ground-work for innovations and anniversaries yet to come.*

## membership statistics

(as of October 1, 2005)

### ECS Membership by Class

Category	2000	2001	2002	2003	2004	2005	2004/2005 %Change
Active	5523	5525	5297	5411	5405	5126	-5.2
Member Reps	79	79	58	63	66	61	-7.6
Life	57	57	51	52	46	46	0.0
Emeritus	240	235	247	246	215	230	7.0
Honorary	26	27	26	29	27	25	-7.4
<b>Subtotal Active in Good Standing</b>	<b>5925</b>	<b>5923</b>	<b>5679</b>	<b>5801</b>	<b>5759</b>	<b>5488</b>	<b>-4.7</b>
Delinquent	710	851	961	797	823	1054	28.1
<b>Total Active on Record</b>	<b>6635</b>	<b>6774</b>	<b>6640</b>	<b>6598</b>	<b>6582</b>	<b>6542</b>	<b>-0.6</b>
Students	960	876	869	882	889	792	-10.9
Delinquent	250	382	315	330	389	450	15.7
<b>Total Students</b>	<b>1210</b>	<b>1258</b>	<b>1184</b>	<b>1212</b>	<b>1278</b>	<b>1242</b>	<b>-2.8</b>
<b>Total Individual Members</b>	<b>7845</b>	<b>8032</b>	<b>7824</b>	<b>7810</b>	<b>7860</b>	<b>7784</b>	<b>-1.0</b>

### ECS Membership by Section

Section	2000	2001	2002	2003	2004	2005	2004/2005 %Change	
Arizona				106	122	125	115	-8.0
Brazilian		47	45	34	32	39	21.9	
Canadian	250	220	213	223	241	292	21.2	
Chicago	178	161	149	178	174	162	-6.9	
Cincinnati	60	54	52	46	57	48	-15.8	
Cleveland	111	107	123	125	135	122	-9.6	
Detroit	92	106	94	90	95	81	-14.7	
European	1093	1025	1029	1178	1033	1062	2.8	
Georgia	142	163	173	172	198	161	-18.7	
Israel	41	42	34	35	35	30	-14.3	
Japan	681	692	698	754	774	755	-2.5	
Korea	219	235	213	224	197	192	-2.5	
Metropolitan New York	362	388	337	322	315	257	-18.4	
Midland	21	21	21	17				
National Capital	230	253	238	217	212	186	-12.3	
New England	346	344	347	353	351	326	-7.1	
Pacific Northwest	115	117	115	125	121			
Philadelphia	143	136	138	119				
Pittsburgh	100	101	88	89	84	88	4.8	
San Francisco	437	422	404	379	419	383	-8.6	
South Texas	177	167	183	172	198	178	-10.1	
Southern Wisconsin	52	45						
Twin Cities	106	98	80	77	85	92	8.2	
Non-Section	1929	1800	1668	1632	1767	1723	-2.5	
<b>SUBTOTAL All classes (current)</b>	<b>6885</b>	<b>6744</b>	<b>6548</b>	<b>6683</b>	<b>6648</b>	<b>6292</b>	<b>-5.4</b>	
Delinquents (Active & Student)	960	1288	1276	1127	1212	1492	23.1	
<b>TOTAL</b>	<b>7845</b>	<b>8032</b>	<b>7824</b>	<b>7810</b>	<b>7860</b>	<b>7784</b>	<b>-1.0</b>	

### ECS Membership by Division\*

Section	2000	2001	2002	2003	2004	2005	2004/2005 %Change
Battery	2258	2314	2381	2500	2625	2549	-2.9
Corrosion	1616	1535	1561	1682	1716	1656	-3.5
Dielectric Science & Technology	1519	1409	1328	1399	1425	1339	-6.0
Electrodeposition	1612	1610	1660	1802	1888	1782	-5.6
Electronics	2357	2234	2118	2154	2152	1999	-7.1
Energy Technology	1739	1797	1935	2155	2377	2427	2.1
Fullerenes, Nanotubes and Carbon Nanostructures	216	234	287	503	706	687	-2.7
High Temperature Materials	931	899	923	1061	1113	1096	-1.5
Industrial Electrolysis & Electrochemical Engr	1214	1175	1221	1365	1454	1393	-4.2
Luminescence & Display Materials	699	698	690	777	841	793	-5.7
Organic & Biological Electrochemistry	974	953	984	1112	1243	1122	-9.7
Physical Electrochemistry	2341	2317	2368	2500	2614	2554	-2.3
Sensor	963	994	1077	1253	1419	1382	-2.6

\*A member may be included in the count of several Divisions

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# 2005

## corporate partners

(companies listed in bold are new for 2005)

3M Company	<b>Fideris</b>	OM Group, Inc.
Accent Optical Technologies	FMC Corporation, Active Oxidants Division	Osram Sylvania, Inc.
Advance Research Chemicals	FMC Lithium	<b>Palm Instruments</b>
Agilent Technologies	<b>Freescale Semiconductor</b>	PEC North America
<b>AIXTRON AG (Germany)</b>	<b>FSI International</b>	Permascand AB ( <i>Sweden</i> )
Aktron	Fuel Cell Technologies	Permelec Electrode Ltd. ( <i>Japan</i> )
Anelva Corporation	<b>FuelCon</b>	<b>Philips Lighting (France)</b>
AnnealSys ( <i>France</i> )	Gamry Instruments	Philips Semiconductors ( <i>The Netherlands</i> )
<b>Applied Materials</b>	General Electric Co., Global Research	<b>Pine Research Instrumentation</b>
Arbin Instruments	General Motors Research Laboratories	PPG Industries
Argonne National Lab	<b>GENUS, Inc.</b>	<b>Praxair Electronics</b>
Asahi Glass Company ( <i>Japan</i> )	Giner, Inc.	Princeton Applied Research
Asahi Kasei Chemicals ( <i>Japan</i> )	Hach Company, Radiometer Analytical Division	<b>Protiveris, Inc.</b>
<b>ASM (The Netherlands)</b>	<b>HC Starck</b>	Quallion, LLC
Asylum Research	<b>Heka Electronics Inc. (Canada)</b>	Rayovac Corporation
Atotech USA	<b>Hitachi Global Storage Technologies (Japan)</b>	<b>Redox Engineering</b>
<b>Aviza Technologies</b>	<b>Hydro-Quebec (Canada)</b>	Saft America
<b>Axcelis Technologies Inc.</b>	Ibiden Co., Ltd. ( <i>Japan</i> )	Samsung SDI Co., Ltd. ( <i>Korea</i> )
BAE Systems Applied Technologies Inc.	IBM	Sandia National Labs
Ballard Power Systems ( <i>Canada</i> )	<b>InDEC B.V. (The Netherlands)</b>	Scribner Associates
Battery Design Company	Intel	<b>Semitool, Inc.</b>
Battery Power Magazine/Webcom Communications	International Lead Zinc Research Organization, Inc.	<b>Shanghai Simgui Technology Co., Ltd. (China)</b>
BCS Fuel Systems, Inc.	<b>IOP Publications (United Kingdom)</b>	Sigma Aldrich
Brinkmann Instruments, Inc.	<b>IVIUM Technologies (The Netherlands)</b>	Siltronic ( <i>Germany</i> )
Broddarp of Nevada	<b>Johnson Controls</b>	Solartron Analytical, Inc.
C. Uyemura & Co., Ltd. ( <i>Japan</i> )	Jusung Engineering ( <i>Korea</i> )	Springer
Central Electrochemical Research Institute ( <i>India</i> )	<b>Kerafol GmbH (Germany)</b>	Stanford Research Systems
<b>Chemetall Foote Corporation</b>	Kerr-McGee Chemical	<b>Sud Chemie (Germany)</b>
<b>Chemical Heritage Foundation</b>	Koslow Scientific	<b>Swagelok</b>
<b>Chemionic Technologies</b>	Lawrence Berkeley National Laboratory	TDK Corporation, Research & Development Center ( <i>Japan</i> )
CITIC Guoan Mengguli Power Source Tech ( <i>China</i> )	Leclanche SA ( <i>Switzerland</i> )	Technic, Inc.
Comsol, Inc.	Maccor, Inc.	<b>Test Solutions</b>
CSIRO Minerals ( <i>Australia</i> )	MALT Group ( <i>Japan</i> )	<b>Thermal Hazard Technology</b>
Daiso Co., Ltd. ( <i>Japan</i> )	<b>Materials and Systems Research, Inc.</b>	TIMCAL Graphite and Carbon Ltd. ( <i>Switzerland</i> )
De Nora Technologie Elettrochimiche S.r.l. ( <i>Italy</i> )	Materials Today/Elsevier Ltd. ( <i>United Kingdom</i> )	Toshiba Corporation, Research & Development Center ( <i>Japan</i> )
Degussa AG ( <i>Germany</i> )	Matsushita Battery Industrial Co. ( <i>Japan</i> )	Toyota Central Research & Development Labs, Inc. ( <i>Japan</i> )
<b>Delphi Corporation</b>	<b>Mattson Technology</b>	<b>Treibacher Industrie (Canada)</b>
Dow Chemical	Max-Planck-Institut für Festkörperforschung ( <i>Germany</i> )	UTC Fuel Cells
E.I. DuPont de Nemours, HD Microsystems	Maxtek, Inc.	Valence Technology
Duracell	Medtronic, Inc.	Varta Automotive GmbH - Advanced Battery Division ( <i>Germany</i> )
ECO Energy Conversion	Merck KGaA ( <i>Germany</i> )	Veeco Instruments
<b>eDAQ, Inc.</b>	Mine Safety Appliances Company	Yteris Inc.
ElectroChem, Inc.	<b>MKS Instruments</b>	Wilson Greatbatch
<b>Electrolytica, Inc.</b>	Molecular Imaging Corp.	Yeager Center for Electrochemical Sciences at CWRU
Electrosynthesis Company, Inc.	Nacional de Grafite, LTDA ( <i>Brazil</i> )	Yuasa Corp. ( <i>Japan</i> )
Elsevier	<b>Nano Science and Technology Institute</b>	ZSW ( <i>Germany</i> )
ELTECH Systems Corporation	<b>National Research Council (Canada)</b>	
Energizer Battery	<b>NexTech Materials</b>	
ESA Inc./Cypress Systems	Novocontrol America, Inc.	
<b>ESL Electrosience</b>	Occidental Chemical Corp.	
E-TEK Division De Nora North America, Inc.	Olin ChlorAlkali Products Division	
<b>Evergreen Solar Inc.</b>		

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(as of October 2005)

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**David Shifler**, U.S. Naval Surface Warfare Center

**Walther Schwarzacher**, University of Bristol

**Robin Susko**, IBM Corporation

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(as of June 1, 2006)

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**Mary E. Yess**, Deputy Executive Director

**Brian P. Bosak**, Director of Information Technology

**Karen Chmielewski**, Administrative Assistant

**Anne Clementson**, Publications Assistant

**Paul Cooper**, Journals Systems Manager

**Ann F. Goedkoop**, Assistant Director of Publications

**Andrea L. Guenzel**, Journals Production Assistant

**John Lewis**, ECST Manager

**Susan M. Liggett**, Senior Customer Service Representative

**Patricia T. Lorynski**, Administrative Assistant

**Elisha Nicholson**, Publications Production Coordinator

**Stephanie Plassa**, Director of Meetings and Exhibits

**Donna Provost**, Customer Service Representative

**Heidi Rixman**, Director of Membership and Development

**Ellen M. Tiano**, Associate Director of Membership

**Carolyn R. Wroblewski**, Director of Finance

**Valerie Yacko**, Meetings and Program Coordinator

**Amir Zaman**, Associate Director of Development

(continued on next page)

**ECS Consolidated Balance Sheet**

(Years Ended December 31, 2005 and 2004)

<b>Assets</b>	<b>2005</b>	<b>2004</b>
Cash.....	\$139,791.....	\$139,358
Accounts Receivable.....	169,847.....	163,816
Contributions Receivable.....	9,700.....	20,025
Inventories.....	14,341.....	29,727
Prepaid expenses, deposits, and other assets.....	155,832.....	112,673
Investments (note 2):		
Marketable Securities.....	8,285,909.....	8,311,472
Real Estate.....	1,850,459.....	1,812,920
Land.....	350,608.....	350,608
Buildings.....	219,997.....	226,663
<b>Total Assets .....</b>	<b>\$11,196,484 .....</b>	<b>\$11,167,262</b>

<b>Liabilities and Net Assets</b>	<b>2005</b>	<b>2004</b>
<b>Liabilities:</b>		
Accounts Payable and accrued expenses.....	\$177,931.....	\$112,380
Deferred Revenue.....	630,942.....	1,077,207
Security Deposits.....	25,005.....	25,525
Deferred Compensation.....	32,120.....	40,804
<b>Total Liabilities .....</b>	<b>\$865,998 .....</b>	<b>\$1,255,916</b>
<b>Net Assets:</b>		
Unrestricted		
General Operating.....	\$396,447.....	\$101,793
Investment in land and buildings .....	570,605.....	577,271
Custodial .....	7,890,178.....	7,796,972
Designated .....	517,686.....	480,584
Designated earnings.....	142,509.....	125,749
Sections.....	116,905.....	123,160
<b>Total Unrestricted .....</b>	<b>\$9,634,330 .....</b>	<b>\$9,205,529</b>
Temporarily restricted.....	325,956.....	335,617
Permanently restricted .....	370,200.....	370,200
<b>Total Net Assets .....</b>	<b>\$10,330,486 .....</b>	<b>\$9,911,346</b>
<b>Total Liabilities &amp; Net Assets .....</b>	<b>\$11,196,484 .....</b>	<b>\$11,167,262</b>

## Consolidated Statement of Activities

(Years Ended December 31, 2005 and 2004)

<b>Revenues</b>	<b>2005</b>	<b>2004</b>
Publications .....	\$2,074,408	\$1,970,786
Membership.....	613,065	665,192
Society meetings and activities .....	1,557,118	1,497,954
Interest and dividend income .....	274,746	221,754
Contributions and grants.....	167,653	127,562
Rental income.....	400,444	397,860
Other revenues .....	38,914	26,815
Net assets released from restrictions for awards.....	(10,325)	(9,175)
<b>Total Revenues .....</b>	<b>\$5,116,023</b>	<b>\$4,898,748</b>
<b>Expenses</b>	<b>2005</b>	<b>2004</b>
<i>Program Services:</i>		
Publications .....	\$2,027,294	\$2,050,007
Membership.....	192,986	127,423
Society meetings and activities .....	1,065,450	966,968
Awards, fellowships, and grants.....	281,342	282,651
<b>Total Program Services .....</b>	<b>\$3,567,072</b>	<b>\$3,427,049</b>
<i>Supporting Services:</i>		
General and administrative .....	\$796,845	\$752,023
Rental Operations .....	318,442	314,871
<b>Total Supporting Services .....</b>	<b>\$1,115,287</b>	<b>\$1,066,894</b>
<b>Total Expenses.....</b>	<b>\$4,682,359</b>	<b>\$4,493,943</b>
Increase (decrease) in net assets from operations .....	433,664	404,805
Nonoperating gain (loss):		
Net change in fair value of investments .....	(14,524)	263,372
Increase (decrease) in net assets.....	\$419,140	668,177
<b>Net assets as of beginning of year .....</b>	<b>\$9,911,346</b>	<b>\$9,243,169</b>
<b>Net assets as of end of year.....</b>	<b>\$10,330,486</b>	<b>\$9,911,346</b>

## 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 its wholly owned subsidiaries, ECS Holdings LLC and ECS Fifty-Nine Holding LLC. All intercompany balances and transactions have been eliminated in consolidation.

These consolidated financial statements, which are presented on the accrual basis of accounting, have been prepared to focus on The Electrochemical Society, Inc. and subsidiaries (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

(continued on next page)

be maintained permanently by the Society. Generally, the donors permit the Society to use all or part of the income earned on related investments for various Society awards.

## **2—Investments**

Investments are carried at fair value and are generally held until maturity. Investments in real estate are carried 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.

Investments, other than real estate, are stated at fair value, as determined by quoted market prices provided by investment managers, and consist of the following as of December 31, 2005:

Money market funds.....	\$489,735
Equity mutual funds.....	3,602,387
Short-term corporate fund.....	195,859
Certificates of deposit .....	2,572,885
Corporate and US bonds .....	1,395,364
Accrued Interest receivable.....	29,679
Real Estate (ECS Holdings LLC) .....	1,437,733
Real Estate (ECS Fifty-Nine Holding LLC).....	412,726
<b>Total.....</b>	<b>\$10,136,368</b>

## **3—ECS Holdings LLC**

ECS Holdings LLC leases office space to various tenants under operating lease arrangements expiring through 2019. (Rental income under aforementioned leases totaled \$400,444 for the year ended December 31, 2005.)

## **4—Independent Accounting Firm**

The Society engaged the services of the independent accounting firm, Noble & Noble LLP, to conduct the 2004 annual audit. In the opinion of Noble & Noble LLP, the Society's financial statements present fairly, in all material respects, the financial position of The Electrochemical Society, Inc. and subsidiaries as of December 31, 2004, 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.

## **5—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 the quality, not just the acceptability, of the accounting principles; the reasonableness of significant judgments; and the clarity of disclosures in the financial statements.

The ECS Audit Subcommittee discussed with the Society's 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 referred to above, the ECS Audit Subcommittee has recommended for acceptance to the Board of Directors the audited financial statements for the year ended December 31, 2005. The Subcommittee has also recommended the retention of Noble & Noble LLP as the Society's independent auditors for the year ending December 31, 2006.

## contributors to the ECS centennial campaign

The following individuals and corporations made generous gifts to the Centennial Campaign in 2005. We thank them for their support of the Society.

### Centennial Campaign Donors

#### \$10,000 Level

(Annual gift of \$10,000 or more)

Aziz Asphahani

#### \$5,000 Level

(Annual gift of \$5,000 to \$9,999)

Exponent

Tatsuya Koizumi

Greta J. Uhlig

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(Annual gift of \$1,000 to \$4,999)

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Roque & Marianne Calvo\*

Sheldon W. Dean Jr.

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Robert P. Frankenthal\*

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Petr Zuman

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(continued on next page)

2005

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### Past Presidents of the Society

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

### 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		

### Past Treasurers of the Society

P. G. Salom .....	1902-1920	L. I. Gilbertson .....	1955-1961	J. Kruger .....	1982-1986
F. A. Lidbury .....	1920-1924	E. G. Enck .....	1961-1964	R. P. Frankenthal .....	1986-1990
A. Smith .....	1924-1931	R. H. Schaefer .....	1964-1967	R. E. White .....	1990-1994
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. Griffin .....	1976-1982	W. D. Brown .....	1998-2002



### 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



### 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



### 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



### Vittorio de Nora Award in Electrochemical Engineering and Technology

(formerly the Electrochemical Science and Technology Award in Electrochemical Engineering and Technology, 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



### 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



### 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

### 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

(continued on next page)

(Honorary Members continued)

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

**Honorary Associate Members**

Mrs. Colin G. Fink

**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
Koji Hashimoto .....	1997
Chung-Chiun Liu .....	1997
Edward McCafferty .....	1997
Theodore D. Moustakas .....	1997
Shyam P. Muraka .....	1997
Stella W. Pang .....	1997
Joachim Walter Schultze .....	1997
James D. Sinclair .....	1997
Norman L. Weinberg .....	1997
Lawrence Young .....	1997
Huk Y. Cheh .....	1998
Donald E. Danly .....	1998
Dennis H. Evans .....	1998
Fumio Hime .....	1998
Dennis C. Johnson .....	1998
Zoltan Nagy .....	1998
Katsumi Niki .....	1998
Jun-ichi Nishizawa .....	1998
Fan Ren .....	1998
Antonio J. Ricco .....	1998
David A. Shores .....	1998
William H. Smyrl .....	1998
George Thompson .....	1998
Eric Brooman .....	1999
Stanley Bruckenstein .....	1999
Kathryn Bullock .....	1999
Shimshon Gottesfeld .....	1999
Yue Kuo .....	1999
Dieter Landolt .....	1999
Jerzy Ruzyllo .....	1999
Norio Sato .....	1999
Ralph White .....	1999
William Yen .....	1999
Cammy Abernathy .....	2000
Kuzhikalai M. Abraham .....	2000
John C. Angus .....	2000
W. Ronald Fawcett .....	2000
David S. Ginley .....	2000
Yasuhiko Ito .....	2000
Howard Huff .....	2000
Robert F. Savinell .....	2000
Roger Staehle .....	2000
Charles W. Struck .....	2000
Sergio Trasatti .....	2000
Dieter M. Kolb .....	2001
David J. Lockwood .....	2001
James McBreen .....	2001
Patrick J. Moran .....	2001
Shohei Nakahara .....	2001
William E. O'Grady .....	2001
Supramanian Srinivasan .....	2001

Mark Allendorf .....	2002
William Brown .....	2002
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 .....	2002
Sorin Cristoloveanu .....	2002
David Duquette .....	2003
Peter Fedkiw .....	2003
Charles Hussey .....	2003
Richard McCreery .....	2003
Frank McLarnon .....	2003
Robin Susko .....	2003
Darrel Untereker .....	2003
Osamu Yamamoto .....	2003
G. T. Burstein .....	2004
C. Clayton .....	2004
G. Davis .....	2004
M. J. Deen .....	2004
S. Fonash .....	2004
M. Meyyappan .....	2004
J. F. Rusling .....	2004
M. Seo .....	2004
M. Shur .....	2004
J. Simonet .....	2004
M. Stratmann .....	2004
J. Talbot .....	2004
M. S. Whittingham .....	2004
R. Adzic .....	2005
J. Davidson .....	2005
T. Hattori .....	2005
J. P. Leburton .....	2005
P. Marcus .....	2005
C. Martin .....	2005
P. Natishan .....	2005
D. Pletcher .....	2005
B. Scrosati .....	2005
J. Scully .....	2005
R. Singh .....	2005
H. H. Strehblow .....	2005
M. Williams .....	2005

**Edward G. Weston Fellowship**

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. Ruemmier .....	1940
R. E. Black .....	1941
W. E. Roake .....	1942
R. D. Misch .....	1947
M. T. Simnad .....	1948
E. Blair .....	2005

**Edward G. Weston  
Summer Fellowship**

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

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

**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. Iannelli .....	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

(continued on next page)

**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

(*Joseph W. Richards Summer Fellowship continued*)

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

## 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. Phillipier .....	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

## 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. Schloh .....	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. Strein .....	1991
P. A. Connick .....	1992
A. C. Hillier .....	1992
D. L. Taylor .....	1992
K. K. Lian .....	1992
T. T. Nadasi .....	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. Grabtchak .....	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

## Oronzo de Nora Industrial Electrochemistry Fellowship

N. Mano .....	2004
N. Mano .....	2005

## 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
A. J. Appleby .....	1970
D. C. Johnson .....	1970
D.-T. Chin .....	1971
M. S. Whittingham .....	1971
M. A. Hopper .....	1972
F. Kuhn-Kuhnhenfeld .....	1972
M. J. Bowden .....	1973
L. Thompson .....	1973
D. Simonsson .....	1973
S. H. Cadle .....	1974
A. D. Dalvi .....	1974
L. R. Faulkner .....	1975
S. Solmi .....	1975
P. Negrini .....	1975
B. MacDougall .....	1976
S. K. Ubhayakar .....	1976
C. W. Manke .....	1977
W. J. Horkans .....	1977
A. G. Gonzalez .....	1978
C. H. Tsang .....	1978
D. A. Antoniadis .....	1978

D. Y. Wang .....	1979
C. W. Magee.....	1979
E. Takayama.....	1980
H. Reller .....	1980
W. J. P. Van Enckevort .....	1981
M. W. M. Graef.....	1981
C. Y. Chao .....	1981
L. F. Lin .....	1981
D. W. Sittari .....	1982
T. P. Chow .....	1982
P. G. Pickup .....	1983
K. F. Jensen.....	1983
D. B. Graves.....	1983
N. A. Godshall.....	1984
E. K. Broadbent.....	1984
J. C. Farmer .....	1985
G. S. Oehrlein.....	1985
J. Richer .....	1986
T. Tanaka .....	1986
C. P. Wilde .....	1987
P. N. Bartlett.....	1987
J. Maier .....	1987
J. A. Bardwell.....	1988
C.-J. Han .....	1988
A. E. Husser .....	1989
D. H. Craston .....	1989
J. M. Rosamilia.....	1989
J. H. Comfort .....	1989
M. W. Verbrugge .....	1990
C. J. Giunta .....	1990
T. J. Mountzaris .....	1991
J. V. Cole .....	1991
D. W. Suggs .....	1991
B. W. Gregory .....	1991
D. B. Bonham .....	1992
E. S. Aydil .....	1992
P. P. Apte .....	1993
A. West .....	1993
H. A. Gasteiger .....	1994
F. R. Myers .....	1994
R. Vidal .....	1995
G. D. Papasouliotis .....	1995
J. H. Nordlien .....	1996
J. Lee .....	1996
A. K. Padhi .....	1997
S. M. Han .....	1997
A. D. Robertson .....	1998
Y. Shao-Horn .....	1998
S. R. Kaluri .....	1998
A. Bautista .....	1999
P. A. O'Neil .....	1999
R. T. Leah .....	2000
J. W. Klaus .....	2000
J. F. Whitacre .....	2001
P. Feichtinger .....	2001
T. J. Pricer .....	2002
P. S. Lee .....	2002
K. Jambunathan .....	2003
S. Noda .....	2003
M. Miyamoto .....	2003
R. Akolkar .....	2004
Y.-K. Hong .....	2004
R. Akolkar .....	2005
Y. K. Hong .....	2005

**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

**Battery Division  
Student Research Award**

J. R. Waggoner .....	1980
K. E. Yee .....	1980
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 .....	1999
V. Srinivasan .....	2000
M. Zhao .....	2001
V. Subramaniam .....	2001
L. Fransson .....	2002
K.-W. Park .....	2003
A. Weber .....	2004
C. Delacourt .....	2005

**Battery Division Research Award**

J. J. Lander .....	1958
D. M. Smyth .....	1959
T. P. Dirkse .....	1962
F. G. Will .....	1964
J. Burbank .....	1966
C. P. Wales .....	1966
D. Tuomi .....	1968
Y. Okinaka .....	1970
A. C. Simon .....	1972
S. M. Caulder .....	1972
J. McBreen .....	1974
T. Katan .....	1976
S. Szpak .....	1976
A. Heller .....	1978
K. R. Bullock .....	1980
R. A. Huggins .....	1982
D. Pavlov .....	1984
G. H. J. Broers .....	1985
J. L. Devitt .....	1986
D. H. McClelland .....	1986
J. P. Gabano .....	1987
M. Armand .....	1988
J. Jorne .....	1989
A. N. Dey .....	1990
R. E. White .....	1991
D. N. Bennion .....	1992
E. Peled .....	1993
K. M. Abraham .....	1995
J. Dahn .....	1996
B. Scrosati .....	1997
C. Delmas .....	1999
J. B. Bates .....	2000
S. Wittingham .....	2002
K. Kinoshita .....	2003
J. Newman .....	2004
G. Ceder .....	2004
M. Thackeray .....	2005

**Battery Division Technology Award**

Y. Nishi .....	1994
K. Ozawa .....	1994
E. S. Takeuchi .....	1995
S. Gilman .....	1996
J.-M. 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

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## 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

## Corrosion Division Morris Cohen Graduate Student Award

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

S. D. Scarberry .....	1986
C. C. Streinze .....	1987
R. Bianco .....	1988
M. A. Harper .....	1992
R. G. Buchheit .....	1993
J.-F. Yan .....	1994
B. V. Cockeram .....	1995
I. Odnevall .....	1996
D. G. Kolman .....	1997
C. S. Brossia .....	1998
M. Verhoff .....	1999
S. Yu .....	2000
S. F. Nitidas .....	2001
K. Cooper .....	2002
T. Ramgopal .....	2003
Q. Meng .....	2004
D. Chidambaram .....	2005



## 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



## 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



## Electronics and Photonics Division Award

F. A. Trumbore .....	1970
F. C. Patilla .....	1971
M. B. Panish .....	1972
W. A. Pliskin .....	1973
B. E. Deal .....	1974
H. M. Manasevit .....	1975
M. G. Crawford .....	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
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. Pearson .....	2005



## 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



### **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

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

S. Mohney	1999
S. M. Haile	2001
M. Swihart	2003
R. Mukundan	2005



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

Asahi Glass Company	1999
DeNora Tecnologie	2005
E-Tek	2005
Bayer Material Science AG	2005

### **Industrial Electrolysis 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

### **Industrial Electrolysis 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
I. AlNashef	2004



### **Luminescence and Display Materials Division Centennial Award**

A. Meijerink	2004
A. Srivastava	2004



### **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



### **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

### **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. Papathodorou	2002
M. Gaune-Escard	2004



### **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