

philadelphia

Meeting Highlights



The Meeting of the Century: ECS Celebrates Its Centennial

It was a challenge for the century — to pack 100 years worth of celebrating into just six days — but the Society's Centennial meeting did it, and provided a host of new memories for the Society's next history book. The meeting included three plenary lectures, a record number of technical sessions, talks by two Nobel Laureates, a surprise visit by none other than Dr. Benjamin Franklin, visiting representatives of 21 “sister” societies from around the world, and a pull-out-the-stops closing celebration party for over 800 people.

The Philadelphia Inquirer (Friday, May 17, 2002, p. B13) covered the meeting, with the catchy headline, “Electrochemists Are Facing a Battery of New Challenges.” Writer Faye Flam said, “The electrochemists are back.” She meant back in town (Philadelphia), of course, but taken in any other context, it's clear that the electrochemists had never gone away, as was in evidence through the number and scope of papers presented. There were 1,576 papers presented in 53 sessions and nearly 2,000 attendees — not bad for meeting in a location other than Hawaii or Paris. Comments were heard in the hallways about the enormous breadth of the technical program at this particular meeting, in addition to the many special activities going on simultaneously. This rather overwhelming situation was likened to an elaborate buffet table where one could not quite decide where to start and what to partake. There are not many meetings (at least on a routine basis) where more than one Nobel Laureate is giving multiple lectures.



The Centennial Meeting opened on Sunday with several talks given to packed audiences by Nobel Laureate Sir Harold W. Kroto (Chemistry, 1996) on "Nanometerscale Architecture" and "Science and Engineering Technology on the Internet." From left to right are Bruce Weisman; Karl Kadish, past chairman of the Fullerenes Group; Harold Kroto; and Prashant Kamat, current chairman of the Society's newest Division—the Fullerenes, Nanotubes, and Carbon Nanostructures Division.

Fullerenes at the Boundary of Education and Research

The Sunday experiment that the ECS Education Committee and the Fullerenes Division (not a Group anymore!) began in the area of educational outreach programs continues to be very successful. A lecture given by Nobel Laureate Sir Harold W. Kroto, of the University of Sussex, entitled, "Nanometerscale Architecture," drew a packed audience. Professor Kroto talked about the heady days at Rice University with Smalley's group that ultimately led to the "discovery" of fullerenes. The quotation marks are intentional; Kroto drew attention to the fact that experimental data suggesting their stability and the existence of not only C_{60} , but the higher homologues (beyond C_{70}), existed well before the 1990s.

This talk was fast-paced with clever use of animation interspersed throughout the presentation. The talk drew to a close with a survey of the search for other useful materials including boron nitride and molybdenum disulfide, in nanoscopic form, both in Prof. Kroto's laboratory and elsewhere. The challenges involving a firm understanding of nanotube formation in carbon and other materials were also outlined.



Attendees who arrived on Sunday also had the opportunity to take advantage of a number of professional development workshops given by John Susko (above) on job interviewing tips and preparing cover letters for resumes.

Plasma Processing for the Rest of Us

Another innovation at recent ECS meetings has been a seminar series, also on Sunday, designed to introduce science topics to a broad swath of audience (including non-technical registrants). The latest in this series, "Plasma Processing for the Rest of Us," was presented by Dennis W. Hess, of the Georgia Institute of Technology, and a former president of the Society. (Ed. Note: A related account on this topic may be found in *Interface*, summer 1999, Vol. 8, No. 2).

Professor Hess gave a very lucid account of what plasmas can do in the microelectronics industry. He noted that they were applicable in three major areas, namely, to deposit films, to etch material, and to modify surfaces. A historical nugget was that the word "plasma" was coined by Irving Langmuir, who also developed the concept of an electron temperature, T_e . Hess reminded the audience that the plasma state was characterized

by a high electron density that itself could be varied over 18 orders of magnitude. Similarly, electron energy was tunable over a range of 6-7 orders of magnitude. The glow discharge plasma regime is most germane to deposition/etching applications. The energy range in this case spans 1-5 eV and the electron density is either 10^8 - 10^{10} cm^{-3} (low density) or $\sim 10^{12}$ cm^{-3} (high density plasma). The T_e value is in the 10^4 - 10^5 range. Some fundamental concepts in plasma chemistry were reviewed next.

Turning next to applications, Hess noted that plasma etching was similar in many aspects to the elementary steps in heterogeneous catalysis. The figures of merit for an etch process are etch rate, uniformity, anisotropy, selectivity, and damage. In spite of the many positives, Hess noted that the variables were many, and the connection between these variable levels and the end-quality of the etch was still sort of hit and miss.

After a description of reactor geometrics and plasma diagnostics (the latter mainly via light emission probes), Dr. Hess ended the talk with a look to the future and to applications beyond the Si microelectronics industry. Discussed here was the PI^3 process (plasma immersion ion implantation) for chemical modification purposes, plasma sterilization, shrink-proofing of wool fibers, and surface treatment of golf balls. Particularly intriguing was a plasma-assisted car wash machine!

This lecture in many ways epitomized the essence of what the "...For the Rest of Us" seminar series was designed to accomplish, that is, to spark the interest and whet the appetite of both specialists and neophytes alike.



Dennis Hess delivered a talk on "Plasma Processing for the Rest of Us" as part of the Society's new Sunday evening seminar series.

Chemistry Is Electric

Monday morning saw the official opening of the meeting, with the first of three plenary talks, this one sponsored by Wilson Greatbatch, Ltd. Arnold Thackray, pres-

ident of the Chemical Heritage Foundation, presented his lecture to a packed audience. Entitled “Chemistry is Electric: A Cavalcade of History from Benjamin Franklin and Alessandro Volta to Gordon Moore and Beyond,” his talk was a nostalgic trip through the history of electrochemical science and technology. Dr. Thackray reminded the audience that May 13 marked the 250th anniversary (to the day) of the first scientific demonstration (in 1752, before the Paris Academy of Science) verifying Ben Franklin’s theory of electricity. We were told of how, inspired by Franklin, Joseph Priestley chose a career in science; he was then followed by a gallery of giants including Galvani, Volta, Davy, and Faraday. Volta (of the “voltaic” pile fame) disproved Galvani’s theory of “animal electricity” and in 1801 he was also the first to claim someone no less than Napoleon Bonaparte as a demonstration assistant! After a golden period in British science — Davy discovered batteries and Michael Faraday demonstrated the electric motor in 1821 and the dynamo in 1831 — the field of modern electrochemistry was truly born with Grove’s description of a “gas battery” in 1862, which subsequently morphed into the fuel cell as we know it today.

Thackray described how the field of electrochemistry might have gotten a further fillip in the UK by the now popular practice of silver electroplating. Apparently this electroplating art was becoming quite fashionable in social circles because of the popularity and prestige associated with silverware. Obviously gold electroplating had not seen the light of day yet. There was a hiatus in electrochemical developments until 1855 when Charles Hall pioneered aluminum production leading to the founding of ALCOA (Aluminum Company of America). This development was followed by Herbert Dow’s electrolysis work in 1890, which subsequently led to formation of the Dow Chemical Company in 1897. (*Ed. Note: A fuller account of this fertile period in the U.S. chemical/electrochemical history may be found in the spring issue of Interface; Vol. 11, No. 1, p. 22, and in the new ECS history book written by F. A. Trumbore and D. R. Turner.*)

The latter part of Thackray’s lecture covered the period just prior to, and following, World War II. The invention of the TV set and the HgO battery based “handie-talkie” were mentioned as notable examples during this period, as was the ENIAC, the first electronic computer.

All in all, this lecture was very informative and entertaining. It set the right historical tone to an eventful meeting week that would culminate in a “Roast of ECS” at the Centennial Party, giving another fascinating peek back into history, but with a focus on the role that ECS and its constituent personalities played in molding it.

The Master of Electron-Transfer Processes

The “Marcus theory” of electron-transfer processes is instantly recognizable throughout chemistry and biology. It earned Rudolph A. Marcus the Nobel Prize in Chemistry, the first instance of the announcement of the prize occurring when the recipient was in attendance at an ECS meeting (Toronto, 1992). The theory that Professor Marcus developed is unusual in that it is of sufficient rigor to please the theorist while at the same time it is quite approachable and useful for the experimentalist. The wide range of applicability of Marcus theory was very much in evidence in the symposium, Mechanistic Aspects of Biological Electron Transfer. Professor Marcus led off the symposium with his lecture, “Electron Transfer in Chemical, Biological and Electrochemical Systems, an Overview,” in which he emphasized the wide variety of systems where electron-transfer reactions are important. Time and again throughout the symposium speakers invoked the Marcus theory to interpret their results in the light of its predictions. Professor Marcus was also co-author of a second paper in the symposium, “DNA Electron Transfer Through Partly Delocalized Bridge States: Enhancement of the Rate by Disorder” (with T. Renger).

Professor Marcus also participated in the Fifth International Manuel M. Baizer Award Symposium on Organic Electrochemistry. His presentation was entitled “Electron Transfer at Interfaces,” in which he described recent advances in the refinement and extension of the theory. The great impact of Marcus theory was demonstrated again by the significant number of papers in the symposium that applied the theory to new experimental results. An outgrowth of Marcus theory is the treatment of so-called dissociative electron-transfer reactions, reactions in which electron transfer and bond-breaking occur in concert. These reactions, which are most frequently encountered in organic systems, were the subject of several papers showing again how the ideas of Marcus continue to influence workers in a wide swath of science.



Bob Frankenthal (left), chairman of the Centennial Committee, was fêted himself at a special reception on Sunday evening, given in conjunction with a symposium held in his honor. Joining him here is his wife, Linda Frankenthal.



The Society was fortunate to have not one, but two Nobel Laureates giving papers at its Centennial meeting. Dr. Rudolph Marcus (above) received the Prize in 1992 for Chemistry and delivered two talks in Philadelphia, both on aspects of electron transfer theory. Attendees of the 1992 ECS meeting in Toronto will remember that Dr. Marcus received news of winning the Prize while delivering a paper at that spring meeting.



The Monday Evening Mixer opened with a bang—from a fife and drum, that is. In attendance was a special guest of honor—Dr. Benjamin Franklin, who delighted and amused the evening's guests.



It was eight years in the making, but the ECS Centennial Committee produced an unqualified success. Captured in a rare moment of standing still, members of the committee are (from left to right): Bruce E. Deal, chairman Robert P. Frankenthal, Dennis R. Turner, ECS president Jan Talbot, Forrest A. Trumbore, Wayne Worrell, and Paul C. Milner.



He may be almost 300 years old, but Dr. Franklin made the rounds of the Monday Evening Mixer. He is shown here visiting the booth of Solartron Analytical, the sponsor of the Sunday Evening Get Together and the Monday Evening Mixer. Pictured with Dr. Franklin at center are Christopher Berney (left) and Andrew Stagnari of Solartron.

Dr. Franklin Pays a Visit

The fife and drum playing at the entrance to Franklin Hall was the first clue that something was different about this Monday Evening Mixer. Zeffa Leddy Yeh, 8 months old, was not the least bit fazed by the rat-a-tat-tat of the drum, nor by the man in the 18th century frock coat and breeches. Attendees to the event paused at the door to have their pictures taken with the small band of musicians and with Dr. Benjamin Franklin, the special guest of honor. The event also benefited from the sponsorship of Solartron Analytical, which also sponsored the Sunday Evening Get-Together.

The fife and drum kit led Dr. Franklin, ECS president Jan Talbot, and members of the Centennial Committee up to the podium for a ceremony somewhat different from the usual ECS affairs. Dr. Franklin welcomed the group and announced he was thrilled to be invited to a meeting of such important scientists, but even more thrilled when he heard he would share the podium with the president. He said, "The last time I saw George Washington, why he was preparing a run for the presidency. We used to call him 'W,' you know." Dr. Talbot politely interrupted Dr. Franklin to tell him that *she* was the president with whom he would meet — president of The Electrochemical Society, that is. With that little misunderstanding cleared up, Dr. Talbot proceeded to introduce the Centennial Committee and remarked that the committee had been meeting for eight years to plan for the 2002 events. Once again, Dr. Franklin interrupted to remark that his 300th birthday was coming up in 2006, and would Bob Frankenthal (who had so much experience chairing the ECS Centennial Committee) be able to help out with that planning? Dr. Frankenthal responded that 2006 was only four years away, and that he was sorry, but there clearly was not enough time. Talbot was able to once again guide Dr. Franklin back to the agenda at hand, and she introduced Andrew Stagnari, vice-president of Solartron Analytical. Dr. Franklin had quite a bit to say, of course, about Solartron, but Talbot was able to once again take control of the agenda and to finally formally introduce Dr. Franklin. He gave a stirring speech (marked by several "huzzahs!") lauding the work of scientists. He claimed brotherhood with electrochemists, given his familiarity with electricity and his fondness for experimentation with it. Dr. Talbot then presented him with what was probably the Society's first honorary "Honorary Membership." The certificate claimed Franklin as "a true Renaissance man – scientist, inventor, and signer of both the Declaration of Independence and the United States Constitution – by all accounts, a man of letters and a man of action... and something of a rascal." Dr. Franklin proceeded to visit the guests at the event, throwing in some free advice, as is his nature. If you haven't guessed by now, the evening's fun was scripted in advance and Dr. Franklin was portrayed by the official Ben Franklin for the city of Philadelphia, Ralph Archbold. (Jan Talbot, Bob Frankenthal, and Andrew Stagnari portrayed themselves.)

The exhibit hall was packed and visitors enjoyed the refreshments and a wonderful array of technical and other exhibits. Two exceptional groups were on hand, the Chemical Heritage Foundation, with its "Chemistry Is Electric" exhibit; and the Edison Preservation Fund brought a fascinating exhibit about Thomas Edison, one of the century's greatest inventors and an early member of ECS.

The Future of Solid-State Science

Tuesday morning brought a second plenary lecture, sponsored by IBM. It was given by Carver Mead, chairman and founder of Foveon Inc., and professor emeritus at the California Institute of Technology, on "Perspectives on the Future of Solid-State Science and Technology," once again to a packed audience. The speaker was introduced by a long-time collaborator and an ECS luminary in his own right, Dr. Bruce Deal. Mead's lecture was remarkable in its clarity and in its ability to strike a chord even among people not well versed in solid-state technology and device physics/engineering. After a succinct discussion of the key variables that have an



Greetings from Around the World

To help celebrate the Society's Centennial, ECS invited representatives from sister societies from around the world to come to the meeting. Twenty-one societies were represented and came to Society's Annual Luncheon and Business Meeting. The program was turned over almost entirely to the presentation of greetings from each organization. These formal presentations ranged from a beautiful engraved scroll from the Italian Chemical Society to a hand-painted china plate from the International Society of Electrochemistry. Pictured above are the representatives of the sister societies.

(front row, from left to right)

Bernardo A. Frontana-Uribe from the Sociedad Mexicana de Electroquímica
 Dale Hall from the National Institute of Standards and Technology
 Gary Messing from The American Ceramic Society
 Erika Kalman from the International Society of Electrochemistry
 Maureen Chan from the American Chemical Society
 Betsy Houston from the Federation of Materials Societies
 Steven G. Louie from the American Physical Society
 Ted Witt from the American Electroplaters and Surface Finishers Society
 Dieter M. Kolb from the Deutsche Bunsengesellschaft für Physikalische Chemie

(back row, from left to right)

Donald L. Singleton from the National Research Council of Canada
 John C. Chen from the American Institute of Chemical Engineers
 Arnold Thackray from the Chemical Heritage Foundation
 Hiroshi Iwai from the IEEE Electron Devices Society
 Martin L. Green from the Materials Research Society
 James A. Harrington from SPIE—The International Society for Optical Engineering
 Bruno Scrosati from the Società Chimica Italiana
 Sergio Trasatti from the Società Chimica Italiana, Electrochemistry Division
 Akira Fujishima from The Electrochemical Society of Japan
 Ernesto Rafael Gonzalez from the Sociedad Iberoamericana de Electroquímica
 Raj L. Gupta from the Society of Chemical Industry
 Philip Bartlett from The Royal Society of Chemistry
 Chi Woo Lee from the Korean Electrochemical Society

Tuesday morning's plenary lecture was given by Carver Mead, professor emeritus at the California Institute of Technology and chairman and founder of Foveon Incorporated. Mead's lecture, sponsored by IBM, provided an interesting look at the future of solid-state science and technology. Dr. Mead (center) was introduced by Bruce Deal (right), a former collaborator of Mead's and an ECS past president. Opening the session that morning was Robin Susko (left), ECS's third vice president.





Past presidents of the Society were on hand at the Annual Society Luncheon and Business Meeting. This group photo carries on a tradition begun at the 25th anniversary of the Society in 1927, and is the largest group of past presidents ever photographed. Pictured in the front row, from left to right, are: Richard Alkire (85-86), Dale Hall (99-00), Dennis Turner (78-79), Ted Beck (75-76), Norman Hackerman (57-58), Elton Cairns (89-90), Bruce Deal (88-89), Joan Berkowitz (79-80), and Kathryn Bullock (95-96). In the back row, from left to right, are: Larry Faulkner (91-92), Ron Enstrom (86-87), Jim Amick (94-95), Barry Miller (97-98), Paul Milner (84-85), Jan Talbot (01-02), Fred Strieter (82-83), Ralph Brodd (81-82), Carl Osburn (00-01), Gerard Blom (98-99), Wayne Worrell (92-93), Dennis Hess (96-97), and Bob Frankenthal (93-94).



At a special ceremony on Tuesday evening, ECS presented a copy of its new history book to the Chemical Heritage Foundation (CHF) for inclusion in the Society's archives. Also presented to CHF was the only existing copy of the meeting program from the Society's first meeting in 1902. Above, ECS president Jan Talbot (right) presents the history book to CHF president Arnold Thackray. Dr. Thackray also presented the first of three plenary lectures delivered at the meeting. The history book, a copy of which was given to all meeting attendees, was written and edited by Forrest A. Trumbore and Dennis R. Turner.

impact on carrier transit delay times in n-p-n transistors, Mead presented some back-of-the-envelope calculations illustrating the design concepts that underpin fast switch times in these devices. He reminded the audience that these concepts crystallized 30 years ago.

His talk then turned to metal oxide semiconductor (MOS) junctions. He mentioned Hoeneisen and Mead's prediction in a classic paper in 1971 of the fabrication 10^7 - 10^8 junctions/cm² based on a 20 Å oxide thickness and 0.1 μm channel length. The importance of tunneling phenomena when the oxide thickness is further shrunk was emphasized. The discussion then turned to Moore's Law and its implications. In the technological evolution, he pointed out how each roadblock was clearly circumvented. For example, the spatial (i.e., the diffraction limit) limitation associated with the wavelength of light in photolithography was tackled by phase masks. High gate currents were overcome by barrier oxides with higher dielectric constants. When the chips became too hot, artificial diamond films were used to drain this heat efficiently.

The last part of Mead's lecture expressed a strong faith in the ability of silicon to sustain the next-generation microelectronics requirements. In other words, in his crystal ball perspective, silicon was not "going to go away." In terms of 30 years from now, single electron transistors, carbon nanotubes, biological computing, quantum bits, self-assembled systems, microelectromechanical systems (MEMS), and optical computing were identified as some of the technologies to watch for fulfilling the computational needs of tomorrow.

Electrochemistry: A Key Technology in the Nation's Recovery

The third in the series of plenary lectures, this one sponsored by BAE Systems, was given by Marye Anne Fox on Wednesday. Dr. Fox is Chancellor of North Carolina State University and the 2001-2002 president of Sigma Xi. Her talk was entitled "Electrochemistry: A Key Technology in the Nation's Recovery." She began her lecture with an examination of what science can do for the nation and what the nation can do for science. She noted that the post-war paradigm for issues surrounding science and technology was set by Vannevar Bush's classic report, "Science - The Endless Frontier." A subsequent document from the National Science Board (Council on Competitiveness) has appeared, scathingly entitled, "Endless Frontier - Limited Resources" (www.nsf.gov/nsb/documents/2001).

Fox referred to the challenges surrounding the development of a knowledge-intensive economy. Yet a steady decline in the number of skilled workers (using for example, BE degrees as a yardstick) and the federal funding outlay in science and technology have seriously eroded the nation's ability to be competitive in the high tech arena. Fox emphasized the need for reshaping the graduate education of scientists and engineers. She outlined some steps that her own institution, North Carolina State University, was taking in this direction. In particular, initiatives to forge close relationships between the campus and area businesses were mentioned. At the same time, mechanisms to speed up commercialization, and making changes to enable an academic institution to work at the "speed of business," were quoted as examples.

Fox concluded her lecture with examples of success stories on how cities like Austin, Texas and states like Georgia, California, and Michigan, were fostering high-tech development and achieving a knowledge-based new economy. Thus, the concept of developing synergies among clusters (e.g., electronics, media/entertainment, and software) grew out of Austin. The Hope Scholarships in Georgia were mentioned as an example of how the performance levels of students could be dramatically raised. Similarly, tobacco settlement funds were ploughed back into life sciences R&D in the state of Michigan.

Then Came the Feast!

The festivities, which begin at the beginning of the week, culminated in a big way, at the very special banquet on Wednesday night. Guests to the event found their way to the Wanamaker Building thanks to the help of musicians from the Philadelphia Mummers String Band. In the atrium, they continued to be entertained by the group and enjoyed a cocktail reception. The air was filled with the sounds of people greeting old friends not seen for a long time and folks just having fun. As the mummers played to call the guests into dinner, Joe Stetter got into the spirit of things, using some deft footwork to dance his way into the dining room. Dinner was held in the historic Crystal Tea Room, a lovely wood-paneled, chandeliered hall. Over 800 guests sat down to enjoy an evening of good food and good friends, and eagerly awaited the evening's program. They would not be disappointed.

Centennial Committee chairman Bob Frankenthal thanked the mummers for their part in making the evening a fun event, and he welcomed the guests. Past president Richard Alkire read a poem that was especially written for the occasion by award-winning poet, Mollee Kruger. Entitled "The Body Electric," Kruger's poem was an elegant, yet humorous ode to The Electrochemical Society. (The full text of the poem appears on page 16.) Kruger has been widely published and her oeuvre includes a number of books, including "Ladies First," poems about the wives of U.S. Presidents. She is on the Executive Board of the National League of American Pen Women and is listed in "Who's Who in America." She is also married to ECS's own Jerry Kruger, past chairman of the Corrosion Division.

"Ralph Waldo Emerson once said, 'Do not go where the path may lead, go instead where there is no path and leave a trail.' The Society has left a strong, clear trail for 100 years; let us toast to forging new trails in our next century." So ran the toast to the Society, led by ECS president Jan Talbot.



Marye Anne Fox presented the final of three plenary lectures on Wednesday morning, this one sponsored by BAE Systems. Dr. Fox is the Chancellor of North Carolina State University and the 2001-2002 president of Sigma Xi. Her talk, entitled, "Electrochemistry: A Key Technology in the Nation's Recovery," was delivered to a packed and appreciative audience. Pictured above are, left to right, Karl Spear, ECS's president-elect; Dr. Fox; and Bruno Scrosati, ECS's second vice-president.



Guests to the Centennial Party on Wednesday evening found their way to the Wanamaker Building thanks to the help of musicians from the Philadelphia Mummers String Band.

The Body Electric

by Mollee Kruger

"I sing the body electric" — Walt Whitman

Prologue

Observe the world one century ago,
A stage prepared by Volta, Faraday,
Galvani, who had made the current flow
Through legs of frogs...much to their green dismay,
This planet took what Edison had brought,
But couldn't speculate or even guess
What Science and what Engineering wrought
When Philadelphia birthed the ECS.
That classic period when we were new
Empowered Industry and made it grow;
Our bolt of progress lit the global view
And galvanized the future in its glow.

- 1 -

The yesteryears began a hard-run course
Of workaholics, a magnetic force
That drew us through a century's mad race,
From simple batteries to walks in space,
From silicon production, colloids, arcs,
Technology commenced to score high marks
With cobalt purified as well as nickel
We battled through the decades, fair or fickle,
To charge our members up, to trim dry rot:
This leopard changed its colors spot by spot,
And more than once reversed a downward trend
To rise anew, a phoenix on the mend.
By melding Government and Industry,
And wizards of the University.

- 2 -

We cast Athena whom we idolize
In rare palladium, a worthy prize,
Bright gold and silver medals to inspire,
Symposia to set the world on fire,
Our Journal flourished, monographs, a slew
Of papers, full length, (often overdue).

The seventy-five-word abstract made our day,
(A drag when one had nothing yet to say),
We moved to Princeton, modified our core,
And found professionals to run the store,
To book hotels, plan banquets, get things done,
To handle the Hall Process (that's a pun).
We welcomed modem, fax, and database,
A newborn publication, Interface,
And thanked our Nobel laureates, our mothers,
Our spouses, and our brave significant others,
Who spurred us on to wage the risky climb
And suffered when we talked shop all the time.

- 3 -

Our great Society played many parts,
We made our contributions, came and went,
We sweated, published, threw our sharpest darts,
And prayed our efforts made some sort of dent.
The body of electric Whitman sings,
Which celebrates today, eight thousand strong,
Has been one of those incandescent things
Uniting continents in Freedom's song.

Epilogue

Will Shakespeare has written of man's seven ages,
The ECS lifetime so far totals ten,
We look to the future and more published pages,
And worlds still unborn, striving women and men
Determined to elevate each of our nations
To unfettered dignity, true self-reliance,
Through peaceful exchanges and joint innovations,
Propelled by research and the pilgrims of Science.

© Mollee Kruger, May 2002



Mollee Kruger (left), ECS's unofficial "poet laureate," with her husband, Jerry Kruger.

After dinner, guests were asked to set aside their serious thoughts, their worries and cares. The feature of the Party was a light-hearted but comic "roast" of The Electrochemical Society. The "roastmaster" was a long time member of the Society, whose "real" job is with the National Research Council of Canada. For ECS, he has been a past chairman of the Corrosion Division and a winner of the Society's prestigious Carl Wagner Award. He currently serves as chairman of the Honors and Awards Committee. But perhaps MacDougall's true calling became evident to more than a circle of Corrosion Division cohorts as he gave his presentation, that was colorful, highly entertaining, and with only a modicum of accuracy and completeness.

In a script by MacDougall and Mary Yess, ECS Director of Publications, Barry regaled the guests with a light-hearted and comic look at the Society's history. He warned that the evening would be "something of an experiment itself, for it would attempt to prove what has been, for many, a long-held hypothesis: That scientists in general, and electrochemists in particular, are not the stuffy, dull, boring, people they are frequently thought to be. But, are instead, extremely interesting, exciting individuals, with lives that even the Hollywood elite would be most envious of. (And that includes the solid-state side, even though that is a more difficult case to prove... solidly... so to speak.)" The "journey through time" featured slides that looked suspiciously like the opening title sequences from the Star Wars movies: "A long time ago, in a society far, far away...". Other slides featured a frog drinking



Roque Calvo, ECS Executive Director (left) and his wife, Marianne Calvo (right), enjoyed a "Centennial Moment" with Ernesto Rafael Gonzalez from the Sociedad Iberoamericana de Electroquímica (SIBAE). ECS is planning a joint international meeting with SIBAE, the Mexican Electrochemical Society, and the International Society of Electrochemistry, in the fall of 2006.



At the Party, Richard Alkire, ECS past president, gave a wonderful recitation of a poem written specially for the ECS Centennial, "The Body Electric," by Mollee Kruger.

champagne; well-known Society figures in a makeshift mock jail in Texas; Elvis Presley and Richard Nixon; and the storming of the Bastille... (Guess you had to be there, as they say.) MacDougall proved his hypothesis and received a well-deserved standing ovation.

Finally, rumor has it that "Section Q" struck again, according to a report that a post-Centennial Party gathering was raided by the police. Guests at that get-together were somewhat alarmed until "Lt. Det. Angelo Peccadillo" issued a citation for the Society's disorderly conduct to a certain "Mr. Rocko Calvi." The detective had a good time mangling Society names and activities. Section Q — for those who have not yet read the Society's wonderful new history book — was established in the first decades of the Society's existence by Canadians Lash Miller and Wilder Bancroft. Section Q was responsible for a number of clever pranks at early Society meetings, with the intention of introducing a little more fun and a little less decorum into Society meetings.

"We Look into the Future..."

The ceremonial aspects of the meeting were over, but the Board of Directors met their more serious obligations of carrying on with the Society's business on Thursday morning. President Jan Talbot thanked the members of the Centennial Committee and presented each with a handsome pewter medal of the "100" Centennial logo. She noted that the committee has worked hard of the course of eight years to make the Centennial celebration a resounding success. She gave special thanks to Forrest Trumbore and Dennis Turner, who completed the monumental task of writing and editing the Society's 100th anniversary history book. Thanks also went to an "honorary" member of the Centennial Committee, Barry MacDougall, for his outstanding portrayal of ECS through the ages.

Long after the reports are written, the pictures are labeled, and all is filed away, we hope that attendees of the Centennial Celebration in Philadelphia will fondly remember the Society's birthday. In the words of our poet, Mollee Kruger, "We look to the future... Determined to elevate each of our nations... Through peaceful exchanges and joint innovations, Propelled by research and the pilgrims of Science." ■



After the Party dinner, guests were treated to a light-hearted but comic "roast" of The Electrochemical Society from well-known Society member, Barry MacDougall. MacDougall gave a delightful presentation—colorful, highly entertaining, and with only a modicum of accuracy and completeness.

Meeting Highlights was written by Krishnan Rajeshwar and Mary Yess, Interface's Editor and Managing Editor, respectively. Thanks also to Dennis Evans for contributing text about the talks given by Rudy Marcus.