



LOCAL SECTION NEWS

Successful Local Sections

by R. G. Kelly and P. M. Natishan

Analogous to the cliché about real estate and location, the three most important ingredients for a successful local section are (1) interested people, (2) interested people, and (3) interested people. Without a critical mass of interested and active members, no local section can thrive. On the foundation formed by such members, a local section can develop into one that not only is valuable professionally and personally to its members, but also makes a contribution to the Society. Below are some of the principles that have guided the National Capital Section (NCS).

Find and foster committed leadership. No local section can operate well without a committed leadership. The National Capital Section has had the fortune to have had conscientious officers over the course of many years. In the mid-80s, Patricia Paulette, using the Section By-Laws, defined in writing the duties of each member of the Executive Committee (EC) and discussed those duties at the EC planning meeting held in the summer. These duties have been passed down, being modified as necessary. Also, in the early 90s, a "standardized" end-of-the-year summary was developed using the reporting criteria of the Council of Local Sections. The summary was used to report the yearly

activities to the Society and Council of Local Sections. Once developed, this report had the added benefit of guiding the incoming chairman as to what reporting was necessary and which officer was responsible for that task. With the duties and expectations of the officers defined, the next ingredient is a chairman who uses pleasant insistence when necessary to encourage all members of the EC to meet their obligations in a timely manner. The presence of the office of councilor has been a way for the local section to build the equivalent of corporate knowledge and ensure continuity in leadership and traditions. The NCS has also been fortunate to have a high concentration of interested people who are geographically close enough to interact.

Use consistent scheduling and timely advertisement. For sections that are of reasonable size geographically, monthly meetings that are held on the same day (e.g., the first Tuesday) seem to be very effective. Members put the meetings on their calendars — a key requirement for reasonable attendance. To encourage attendance, the NCS has tried to consistently set the schedule for the entire year by September 1. This approach also increases the chances of getting commitments from good speakers (they find it hard to say "no" to a commitment several months in the future!). By taking advantage of e-mail and the ECS Web site space offered to the local section, advertisement costs can be substantially reduced and the effectiveness increased.

Establish traditions that involve cooperation with other societies and the celebration of excellence. To encourage cross-pollination among disciplines, the NCS has annual joint meetings with a local section of NACE International as well as the local chapter of IEEE Solid State Devices. The duties of selecting the speaker and making the arrangements alternate between the local sections involved. This approach has the added benefit of reducing the number of meetings one must schedule. These meetings have been among the best attended in recent years. The best attendance each year is always our awards meeting in May. The NCS sponsors two achievement awards for members which include presentations, the Robert Foley Award and the William Blum Award. In addition, the NCS is very active in judging local science fairs. Excellent projects in areas of interest to ECS are reviewed and winners invited to the awards dinner along with their parents. Throughout the year the dinner costs for students is subsidized by the local section.

In the end it comes back to finding interested and dedicated people. Some of that is luck. The rest is the development of young scientists by identifying them, getting them to attend meetings, and then encouraging them to give back the local section. ■

(Ed. Note: The National Capital Local Section has won the Gwendolyn B. Wood Local Section Excellence Award every year since 94-95 (sharing with the Canadian Local Section for 97-98), the only Local Section to win the Award four years. Congratulations and keep up the good work!)

Canadian Section

The Canadian Section will hold its Spring Symposium on May 21, 1999 in Ottawa, Ontario. The Symposium, entitled "Electrochemical Surface Science" is being organized by Dr. Mario Morin of the University of Ottawa. Featured at the Symposium will be Dr. Jacek Lipkowski who will present his Award Lecture on Electrochemistry and Dr. Allan Bard who will present "The Lemieux Lectures."

The Symposium will include a Poster Section, with monetary awards given for the best student presentations. If you are interested please contact Dr. Morin at 613.562.5800 ext.

6037 or by e-mail at mgmorin@science.uottawa.ca.

Chicago

The November 19 after-dinner talk entitled "The Role of Electrochemistry in the Studies of Biological Electron Transfer" was presented by Professor Katsumi Niki, Department of Chemistry, Iowa State University, the president of the Japanese Society of Electrochemistry and a recently inducted fellow of the Society. The presentation centered on a discussion of electrochemical properties of a tetra-heme protein cytochrome C3. The meeting took place at the Engi-

neering Research Facility, University of Illinois at Chicago.

An updated version of the 1999 meetings of the section is as follows: January 24 or 25 - ECS national speaker; February - Milan Mrksich, University of Chicago; March - "Interference Free Biosensor" by Timothy Henning, Abbott Laboratories; April - Graduate Student Symposium, jointly with the Southern Wisconsin Section (probably at Marquette University); May - Chad Mirkin, Northwestern University (tentative); June - Planning meeting, officer election. An up-to-date list can be always found on the Web at <http://www.electrochem.org/localsec/chicago.html>.

Cleveland

The section held a meeting on November 18 at Case Western Reserve University in Cleveland. Featured was a presentation titled "High Capacity Chemically and Physically Modified Manganese Dioxide" presented by Dr. Scott W. Donne. The presentation focused on the use of manganese dioxide as one of the most common primary battery materials used throughout the world. Due to the use of a large number of primary batteries, it represents a serious energy and material waste. The necessity and development of a rechargeable battery system based on the manganese dioxide electrode were then discussed.

An abbreviated, but not final, list of the 1999 meetings of the section follows: January 20 - Microsymposium on Electrocatalysis, joint meeting with the Yeager Center for Electrochemical Sciences; February 17 - Microsymposium on Bioelectrochemistry, joint meeting with the Yeager Center for Electrochemical Sciences; March 17 - Student Paper Night; April 21 - Lithium Polymer/Ion Batteries; May 19 - Social Evening

(Spouse/significant other welcome). An up-to-date list can be found on the Web at <http://129.22.200.173/index.htm>.

European

The Section co-sponsored the "Luigi Galvani Anniversary Meeting" with the Electrochemical Division of the Italian Chemical Society held in Bologna, Italy on September 23-26. Among the various activities, the meeting included presentations by major society presidents, such as: G. M. Blom (The Electrochemical Society); M. Aizawa (The Electrochemical Society of Japan); K. Niki (The International Society of Electrochemistry); J. F. Fauvarque (The Electrochemistry Group of the French Chemical Society); A. Hamnett (The Electrochemistry Group of the Royal Society of Chemistry, UK); and M. Mastragostino (The Electrochemical Division of the Italian Chemical Society).

On September 1-3, 1999 the Section has scheduled a conference titled "Solid-State Electrochemistry Session of the Electrochem 99" to be held in

Portsmouth, UK. This conference is the annual event jointly run by the Royal Society of Chemistry-Electrochemical Group, the Society of Chemical Industry of the UK, and ECS.

On September 3-5, 1999, the Section is planning a joint meeting with the International Society of Electrochemistry to be held in Pavia. The meeting is to commemorate the 200th anniversary of the Volta pile experiment.

Metropolitan New York

The Section held a meeting on December 17 at the IBM T. J. Watson Research Center in Yorktown Heights, New York. Professor Alan West of Columbia University spoke on "Copper Electrodeposition for ULSI." The talk centered on a brief overview of recent experimental work. Topics covered were: employing electrochemical impedance spectroscopy; quartz-crystal microbalance; scanning tunneling microscopy; the influence of the additive chemistry on microstructure and on leveling performance, as determined by TEM and

SEM; and preliminary numerical simulations of shape change in Damascene structures.

New England

Professor M. Bawendi of the Chemistry Department of the Massachusetts Institute of Technology (MIT) addressed the Section on November 2 during the 194th Society Meeting in Boston. His topic was "Semiconductor Nanocrystallites, Artificial Atoms, Designer Chromophores, and Building Blocks from Heterostructures." Dr. Bawendi's research group has investigated the chemistry of semiconductor nanocrystallites capped by organic ligand using various spectral methods to probe the electronic structure of these nanocrystallites. Various optical and spectral properties were probed and charted. Structural manipulation of the nanocrystallites allowed the formation of organic and semiconductor thin films which showed energy and charge transfer properties.

The Section held its monthly dinner meeting on December 8 at the Sheraton Inn, Lexington, MA. The featured speaker was Dr. Donald Sadoway, Department of Materials Science and Engineering, MIT. The topic concerned the work of an interdisciplinary group

of materials scientists at MIT developing a lithium solid polymer electrolyte rechargeable battery. A novel rubbery block copolymer electrolyte (BCE) has been synthesized possessing sufficient conductivity for low temperature operation and also sufficient dimensional stability to act as a separator between the electrodes in a secondary battery. Lithiated metal oxides incorporating aluminum have been developed, tested and cycled over a wide range of temperatures as low as -20°C.

National Capitol

Dr. Robin Susko, Secretary of the Society, began the November 19 meeting with a discussion on the present and future plans of the ECS. She gave a breakdown of where the membership is distributed, and, how it is divided into Divisions and Groups. She then followed with a technical presentation titled "Development of Flip-Chip Carriers: Material Aspects." The presentation gave a brief overview of the construction and associated process aspects for formation of organic chip carriers. The interaction of the chip carrier construction and the silicon device were discussed as they apply to the total package reliability. The meeting was held at the Holiday Inn Eisenhower Metro Center in Alexandria, VA.

The Section met again on December 10 to hear Dr. William O'Grady of the Naval Research Laboratory present his work titled "Atomic EXAFS and Shape Resonances as Probes of the Electrochemical Interface." Dr. O'Grady commented on the interactions of atomic and molecular hydrogen on a platinumized (carbon substrate) electrode and the oxidation of this electrode, in HClO₄ and H₂SO₄ electrolytes, with Pt L_{2,3} x-ray absorption near edge structure (XANES). The meeting was held at the Holiday Inn Eisenhower Metro Center in Alexandria, VA.

Philadelphia

The Section held a meeting on November 11 at the Holiday Inn at Kulpville, PA. The featured speaker was Dr. Scott E. Beck of Air Products and Chemicals Inc., who spoke on "Vapor Phase Cleaning of Silicon Wafers." The presentation addressed the challenging problems of removing and preventing metal contamination on wafer surfaces. One specific contamination removal problem, wafer cleaning to remove metal contaminants, was discussed and results were presented.

San Francisco ES&T

The Section held their October meeting in Hayward, CA. Following dinner, the presentation "Li-Ion Batteries for Electric Vehicles" was given by Dr. Robert Spotnitz, Director of Advanced Technology at PolyStor (Dublin, CA). Dr. Spotnitz presented an overview of electric vehicles currently available or planned for the market (both automotive and non-automotive), driving forces for development, and types of suitable battery systems. Dr. Spotnitz finished his talk by summarizing the challenges that battery developers face to bring a hybrid-EV product into the market.

The Section held a dinner meeting on November 12 in Berkeley, CA. Craig Jacobson of Lawrence Berkeley National Laboratory presented "Developments in Intermediate Temperature Solid Oxide Fuel Cell Technology." The talk concentrated on fuel cell technologies and the processing and electrochemical characterization of intermediate temperature SOFCs. The key technological challenges that will need to be resolved if these fuel cell technologies are to become widely available was also discussed.

Twin Cities

The Section held a meeting on January 26 where Professor Carlton M. Osburn (North Carolina State University) spoke on the importance of electrochemical and solid-state science and technology in ULSI technology. Particular emphasis was placed on showing the key challenges that must be met if the industry is to continue making progress in the next decades. The meeting was held at The University of Minnesota, Minneapolis. ■

Local Section Events

Interface is always looking for news of your upcoming Section events to publish.

Send your announcements to Interface, 10 South Main Street, Pennington, NJ 08534 or e-mail us at: membership@electrochem.org.