

San Francisco Section Wins the 2006 Gwendolyn B. Wood Section Excellence Award



ECS President **MARK ALLENDORF** (right) presented the 2006 Gwendolyn B. Wood Section Excellence Award to the San Francisco Section. Receiving the award was **OANA LEONTE**, the Section Treasurer. The award honors those Sections whose level of activity serves to strengthen the Society and rewards a Section's good management and operations.

Canadian

In honor of Canada's most prominent electrochemist—the late Brian E. Conway—the ECS Canadian Section hosted a one-day symposium on “Electrochemistry – Ionics and Electrodeposition” at the NRC Institute for Chemical Processes and Environmental Technology (NRC-ICPET) in Ottawa on June 23, 2006. The symposium was organized by Barry MacDougall and Christina Bock, with speakers and presenters including former Conway students such as Shimshon Gottesfeld, Eliezer Gileadi, Viola Birss, Dave Tessier, B. Tilak, and other invited speakers from academia, and the private and public sectors.

The symposium attendees paid tribute to Dr. Conway's many accomplishments and his influence on



A group picture of participants in the ECS CANADIAN SECTION 2006 FALL SYMPOSIUM.

electrochemical research both in Canada and abroad. The symposium combined technical discussions (in research areas such as electrolytic conductivity, electrocatalysis of fuel cell and electrolysis reactions, formation and role of thin films on electrode surfaces, and electrodeionization) and personal retrospectives of past collaborations. It was recognized that Dr. Conway conducted original research in both main areas of electrochemistry, *i.e.*, ionics and electrodeposition, during his 60+ year scientific career. Indeed, his strong knowledge of the solution side of the electrochemical system was doubtless responsible for his definitive and original contributions on the electrode side. His research encompassed electrode kinetics, oxide film formation and electrocatalysis, properties of solvated ions and their adsorption, applied electrochemistry, batteries, fuel cells and supercapacitors, etc. He was in many ways a “complete” electrochemist and covered pretty much the entire subject, something that was and is quite rare.

The symposium also paid tribute to Conway's exemplary role as a teacher and mentor. During his career, he supervised and influenced scores of PhD students and post-doctoral fellows from around the world, many of whom are now leading scientists. After finishing his PhD at Imperial College



BRIAN E. CONWAY
(1927-2005)

in 1949, Dr. Conway spent several years at the Chester Beatty Cancer Research Institute in London, followed by a brief stay at the University of Pennsylvania. He joined the University of Ottawa as an associate professor in late 1956, and in 1993 he earned the University's Professor Emeritus title after spending 37 years there. He continued full-time research, and was active in ECS, until the end of his life on July 9, 2005. The event in Ottawa was a celebration of Brian's life and world-wide influence on electrochemistry, and brought back many fond memories to the attendees. He is survived by his widow, Nina Conway, who attended the symposium and renewed many “old-acquaintances” with Brian's former colleagues, students and friends.

The 2006 fall symposium of the Section was organized by Aicheng Chen and was held at Lakehead University in

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The 2006 ECS CANADIAN SECTION AWARD WINNERS with members of the ECS Canadian Section Executive Committee. In the first row, from left to right are: Mathieu Toupin, Sharon G. Roscoe, Jeff Dahn, and Aicheng Chen. In the second row, from left to right, are: James Noël, Sylvie Morin, Gregory Jerkiewicz, and Sasha Omanovic.

Section News

Thunder Bay, Ontario on September the 29. Ten speakers presented lectures on the topic of "Electrochemical Science and Technology" to 50 participants. C.-J. Zhong from the State University of New York at Binghamton (USA) gave a lecture entitled, "Nano-Engineered Fuel Cell Catalysts." Jeff Dahn of Dalhousie University received the 2006 Canadian Section Electrochemical Award and presented a lecture entitled, "Combinatorial and High Throughput Studies of Materials for Lithium Ion Batteries and for PEM Fuel Cells." Sharon G. Roscoe from Acadia University gave the 2006 Canada Section R. C. Jacobsen Award Lecture entitled, "The Effect of Potential Field and pH on Protein Immobilization on Gold using EQCN and AFM Imaging." Mathieu Toupin, a PhD student from the Université du Québec à Montréal, received the 2006 Student award of the Canadian Section and presented a seminar entitled, "Electrochemical and Surface Characterization of Modified Carbons by Diazonium Salts for Fuel Cell Applications." A poster session followed the oral presentations. During the wine and cheese reception, three student poster awards were presented to: Rozalina Dimitrova (First Place, \$150, Lakehead University), Christa Brosseau (Second Place, \$100, University of Guelph), and Jinpeng Wang (Third Place, \$50, University of Guelph). Two student travel grants of \$250 were awarded to Baodong Zhao (Queen's University) and Thamara Laredo (University of Guelph); they both presented a poster at the meeting.

Chicago

The ECS Chicago Section meeting was held April 27, 2006 in Westmont, Illinois. The event was well-attended with approximately 35 attendees. There was a significant student presence from Northern Illinois University, Illinois Institute of Technology, and the University of Notre Dame, as well as a number of personnel from Argonne National Laboratory. In addition, several retired members were in attendance at the meeting.

A welcoming address and a brief update on the state of ECS was presented by Amir Zaman, ECS Associate Director of Corporate and Government Relations. The featured speaker of the evening was Dr. Barry MacDougall of the National Research Council, Canada, and ECS Senior Vice-President. Dr. MacDougall's presentation was entitled "Size-Selected Synthesis of Pt/Ru Nano-Catalysts: Reaction and Size Control Mechanism." Various questions were posed to Dr. MacDougall after the presentation. The audience greatly appreciated Dr. MacDougall for making the journey to Chicago to give this talk.



ECS Vice-President **BARRY MACDOUGALL** (at screen), presented a talk on nano-catalysts to the Chicago Section.



HO-SUK RYU (right) received first Student Award of the Korea Section from **JUHYOUN KWAK**, Chair of the Korea Section.

Korea

The Section held a symposium on October 12 at the Korea Institute of Science & Technology in Seoul. Five talks were presented, on fuel cells, sensors, electrochromics, and batteries. Juhyoun Kwak, the Section Chair, led the symposium. Ho-Suk Ryu received the first Student Award of the Section, with a check for \$500. Ryu is a PhD candidate at Gyeongsang National University. He received his MS in 2002 and his BS in metallurgical and materials engineering from the University in 2000. His major areas of interest include discharge mechanism, self-discharge, low temperature properties of lithium/sulfur and Na batteries, and metal sulfide electrodes (NiS, TiS, FeS₂) for lithium batteries. He has refereed articles for a number of journals, including the *Journal of The Electrochemical Society*, the *Journal of Power Sources*, *Electrochemical and Solid-State Letters*, *Metal and Materials International*, and the *Materials Science Forum*. The next award will be presented at the fall symposium in 2007; and the next symposium is scheduled for April 2007.

Pittsburgh

On August 12, the Section held a summer picnic and general business meeting at in Robinson Township, Pennsylvania. The results of officer elections were



The **PITTSBURGH SECTION** held their general business meeting in the convivial setting of a summer picnic. It looks like the Pittsburgh Section starts their members out young!

Photo courtesy of Richard Cornelius, past Secretary-Treasurer.

announced, with Wenfeng Peng elected to serve as Section Chair, Raphael Morales as Secretary-Treasurer, and Natalia Pimenova as Membership Officer.

On October 6, two officers, together with several Section members, attended a planning luncheon. Future Section meetings were discussed, as well as upcoming Section participation in National Chemistry Week activities at the Carnegie Science Center, in Pittsburgh on October 27-28, 2006. The theme of this year's event is "Chemistry Around the Home." The Section will have a table, at which members will demonstrate galvanic corrosion between dissimilar metals using an agar gel with a pH indicator added. Posters will describe some possible effects of galvanic corrosion around the house, such as plumbing leaks. The importance of electrochemical corrosion reactions in the operation of dry cell batteries will also be presented.

San Francisco

The San Francisco Section had a meeting on October 5, 2006. In a departure from the standard meeting format, members ventured out on a field trip to view the headquarters of Tesla Motors in San Carlos. There, Doug Bourn, Senior Electrical Engineer at Tesla, led eleven ECS members on a tour of the engineering facility and garage, where several prototypes of the Tesla Roadster were displayed. These stylish sports cars feature an all-electric



Members of the **SAN FRANCISCO SECTION** recently made a visit to the headquarters of Tesla Motors in San Carlo, CA.

drive capable of up to 185 kW of deliverable power and with a rated Li-ion battery energy storage of 50 kWh. The tour included a look at the full-scale clay model used for wind-tunnel testing; a short presentation of CFD methods for optimizing airflow; and, perhaps of greatest interest to the audience, a discussion of the battery and vehicle capabilities. The liquid-cooled battery consists of approximately 6800 18650 cells, with a total weight of 900 lbs (the total weight of the car is between 2000 and 2500 lbs). The range of the car is approximately 250 miles, and it can accelerate to 60 mph in 4 seconds. The equivalent fuel consumption (based on the average carbon output of the electrical grid) is 135 mpg. The batteries, which can be charged in 3 to 4 hours using the home charger provided with the vehicle, carry a warranty for 100,000 miles. Although production has not yet begun, the first 100 cars sold out within two months of the initial offering, and another 100 are now being offered for the selling price of \$100,000. None of the attendees put down the required \$75,000 deposit that evening, although many were tempted. ■