Canadian

The fall symposium of the Canadian Section was organized by Gessie Brisard on September 30, 2005 at the Université de Sherbrooke. Approximately 70 attendees participated to this biannual event, entitled "Fundamentals and Applications of Electrocatalysts and Electrode Materials." The eight scientific lectures were preceded by an update on ECS activities in a talk given by Barry MacDougall, ECS 2nd Vice-President.

This event was also the occasion to present two well-recognized awards of the Canadian Section. In the morning, the Lash Miller Award was presented to Christina Bock, from the National Research Council of Canada in Ottawa. The award is presented every two years to recognize outstanding technical contributions to the field of electrochemistry by a person less than 40 years of age and residing in Canada. The W. Lash Miller Award was created to honor the memory of this eminent Canadian chemist. The opening talk of the afternoon was given by Jeff Shepherd, who received the 2005 Student Award of the Canadian Section for his PhD work at Mc Gill University in Montréal. The award is offered every year to graduate students at Canadian universities in recognition of outstanding research accomplishments in electrochemical science and technology and/or solid-state science and technology.

More than 20 posters were presented by graduate students. Three cash prizes were given for best posters. First prize went to Tania Staf, Department of Chemical Engineering, Montréal; second prize went to Frederick Fouda-Onama, École Polytechnique; and third prize went to Alexandre Ponrouch, Université du Québec at INRS. The participation of the graduate students in electrochemistry and the quality of their presentations made this symposium a success. The generosity of numerous sponsors (Gamble Technology, London Scientific, and the Government of Québec) was gratefully acknowledged.

In July 2006, at Sherbrooke University, Gessie Brisard is organizing another activity that will be sponsored by the Canadian Section; the event is aimed mainly at students in the field of electrocatalysis and fuel cells. For the first time, a three-day short course will be given on "Fundamentals and Practical Aspects of Polymer Electrolyte Fuel Cells." The 12-hour course will be given by Hubert Gasteiger. For more information on attendance and registration, you may contact Gessie Brisard directly at gessie.brisard@usherbrooke.ca.

Brazilian

The Brazilian Section sponsored the XV Simpósio Brasileiro de Eletroquímica e Eletroanalítica (SIBEE) that was held December 4-7, 2005 in the city of Londrina in the State of Paraná; and granted six award certificates for the best student presentations. The Section participation in this well-attended national symposium, devoted to electrochemistry and electroanalytical chemistry, aims to encourage student participation in national meetings as well as to invite all members of the Brazilian electrochemistry community to join ECS.

The XV SIBEE had almost 500 participants, more than 400 papers were presented, and students presented approximately 150 posters in different areas of solid-state, electrochemical science and technology, and electroanalytical chemistry. Two distinguished ECS members — Krishnan Rajeshwar from the University of Texas at Arlington (and Editor of *Interface*) and Richard G. Compton from the University of Oxford — participated as plenary lecturers.

The Student Poster Session winners were: Martina C. Reis from DQUI-UFPR, Curitiba (PR) for her work in fundamental electrochemistry (co-authors: A. P. Franco, A. L. R. Mercê and A. Carubelli); André L. Martins from IQSC-USP, São Carlos (SP), for his work in electrocatalysis (co-author: H. Varela); Sérgio L. Castanheiro from IQ-UNESP, Araraquara (SP) for his work in corrosion (co-authors: P. Suegama and A. V. Benedetti); Antonio Albuquerque de Souza from DQ-UFAL, Maceió (AL) for his work in organic electrochemistry (co-authors: F. S. de Paula, M. O. F. Goulart, C. A. M. Fraga, E. F. da Silva, S. D. Carvalho); Eduardo Winter from IQ-UNICAMP, Campinas (SP) for his work in electroanalytical chemistry (co-authors: L. Codognoto and S. Rath); and Thiago R. L. C. Paixão from IQ-USP, São Paulo (SP) for his work in electrochemical sensors (co-authors: M. H. G. Medeiros, M. Bertotti).

Chicago

The Chicago Section meeting was held this past November in Lisle, Illinois; and included a presentation given by Giselle Sandi. Dr. Sandi is affiliated with Chemistry Division of Argonne National Laboratory. The subject of her talk was "Carbon Nanofibers as Potential Candidates for Hydrogen Storage."

Detroit

This past October, Michael Quah, Vice-President and CTO of NextEnergy, addressed the Section at the NextEnergy Center in Detroit, Michigan. Dr. Quah gave a talk entitled, "Fuel Cells and Industrial Electrochemistry: Lessons from an Established 'Reverse' Industry." Dr. Quah's talk included a brief description of NextEnergy's activities and programs, as well as a discussion of industrial electrochemistry from the perspectives of two industries that involve membrane technology: the "emerging" fuel cell marketplace and the well-established "reverse" industry of membrane electrolysis for chloralkali. Mr. James Saber, Director of Business Development, gave a tour of the NextEnergy facilities, which includes a microgrid power pavilion comprised of fuel cell generators, internal and external combustion engine generators, and renewable power generation.

In November, Phil Gow, Vice-President of Research, Development, and Manufacturing at Sion Power in Tucson, Arizona, addressed an audience of about 45 people at Lawrence Technological University in Southfield, Michigan. Charles Chambers, President of Lawrence Technology University, welcomed ECS and provided opening remarks that encouraged and inspired the audience. There was a strong student presence, both from Lawrence as well as from Lansing Community College. Mr. Gow spoke about the fundamentals and recent developments of lithium

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temperature cells with molten and/or solid oxide electrolytes. The development of modern PEMFCs began in Russia only after 1985.

Interface: ***You were awarded a degree of professor in theoretical and applied electrochemistry in 1965 from the Institute of Electrochemistry, Russian Academy of Sciences. In 1985, you became head of the department for energy conversion and electrochemical devices at the Frumkin Institute of Electrochemistry, Russian Academy of Sciences (Moscow). You held that position, along with that of principal scientist, until 1998. What were some of the department's activities?***

Bagotsky: During the period 1965-1985, my main field of interest was the investigation of different problems in electrocatalysis, for example, problems connected with the reactions of oxygen reduction and methanol oxidation. My department was also engaged in extensive studies in the field of organic electrochemistry, such as reactions of electrochemical hydrodimerization.

Interface: ***What advice do you have for students (in Russia, or anywhere) wanting to study electrochemistry?***

Bagotsky: In order to correctly interpret complex electrochemical phenomena, it is very important to have a clear understanding of the physical meanings of all basic electrochemical laws.

Interface: ***Currently, you are living in the United States and have family here. Is anyone else in your family involved in scientific endeavors? Do you get back to Russia (and/or Switzerland) at all?***

Bagotsky: My wife, Irina Yablokova, was also involved in the research of processes in silver-zinc batteries for space applications. My children and grandchildren have chosen another field — they are software engineers. Of course I would be very glad to visit Russia once more, where I have many family members; but due to my age and health reasons, such a possibility is very doubtful.

Interface: ***You have had a long career in electrochemistry; what do you think is the biggest challenge in the field today?***

Bagotsky: The biggest challenge in electrochemistry was, and remains, the development of fuel cells. Today the biggest challenge is a drastic increase of the efficiency of the electrochemical reactions of oxygen reduction and of oxidation of organic fuels. ■

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sulfur battery technology. Lithium sulfur batteries hold great promise to be among the next generation of secondary batteries.

San Francisco

The San Francisco Section had a meeting this past October in Santa Clara, California. The speaker was D. Noel Buckley, chair of Physics at the Univ. of Limerick, Ireland, and a vice-president of ECS. Prof. Buckley first talked about the state of ECS. He gave some statistics about the 18 Sections and the 14 Divisions. He also talked about the growth of ECS overseas, the centennial campaign, and the long range planning activities.

Prof. Buckley gave a presentation, "Anodic Behavior of InP an GaN: Film Growth, Etching, Nanoporosity, and Current Oscillations." Because compound semiconductors such as GaN or InP lack a good thermal oxide surface layer, they have to be passivated, usually by anodization. The anodization of InP in aqueous $(NH_4)_2S$ and KOH was studied with electrochemical method, as well as TEM, AFM, and SEM imaging.

Spontaneous current oscillations were observed during anodization of InP in aqueous $(NH_4)_2S$. Remarkably, the charge per cycle was constant. More complex oscillatory behavior was observed in KOH electrolytes. Porous InP of columnar shape was observed in sulfide solution. A porous inverted pyramidal shaped structure was observed in a KOH solution. Most of these phenomena are now understood. The photoelectrochemical (PEC) etching characteristics of n-GaN were also discussed and a model was proposed to explain the concentration dependence of the etch rate.

There were many questions from the audience after the talk. The audience greatly appreciated Prof. Buckley making the trip to the San Francisco bay area to give this talk. ■