

QUÉBEC CITY, CANADA
MAY 15-20, 2005



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207TH MEETING OF THE ELECTROCHEMICAL SOCIETY
AND SOLID OXIDE FUEL CELLS (SOFC-IX)

Meeting Program



*the society for solid-state
and electrochemical science
and technology*

Welcome

Welcome to Québec City – a resort city proud of its distinctive European cachet and blessed by exceptional natural surroundings and a setting beyond compare. We are pleased to venture to this city for the first time for the 207th Meeting of The Electrochemical Society. This major international conference will be held at the Québec City Convention Center (QCCC) and adjoining Hilton Québec City (HQC), located in downtown Québec City, and will include 47 topical symposia consisting of 1,801 technical presentations.

You are invited to participate not only in the technical program, but also in the other social events planned for the meeting. Prior to the Sunday Evening Get-Together, plan to attend the latest in our series of Sunday general topics, "Atomic Force and Scanning Tunneling Microscopy for the Rest of Us," this one presented by Professor Andrew Gewirth of the University of Illinois. Don't miss the opening plenary session on Monday morning, featuring Dr. Arthur Carty, National Science Advisor to the Prime Minister of Canada. Join us on Wednesday to honor Dr. Dennis Hess, the 2005 Solid State Science and Technology Award winner at the Honors and Awards Session. Later on Wednesday evening, all meeting registrants are cordially invited to attend the Solid State Science and Technology Award reception held in Dr. Hess' honor. As always, you will also have the opportunity to visit the Technical Exhibit, which opens in conjunction with the Monday Evening Mixer and General Student Poster Session, continues with the General Society Poster Session on Tuesday evening, and runs through Wednesday afternoon. We hope that you will join us in Québec City, and take part in the 207th Meeting of The Electrochemical Society.

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Hotel Reservation Information

In order to offer a range of hotels to suit individual travel budgets, special rates have been reserved at several hotels for participants attending this meeting. The Québec City and Area Tourism and Convention Bureau has been appointed as the housing agency for this meeting to assist you with your hotel reservations. **We recommend that you use the online reservation system at the Central Housing Bureau (www.quebecregion.com/ecvb/) to reserve your guest room accommodations. No phone reservations will be accepted.**

All hotel rates are quoted in **Canadian Dollars** (CDN) and are as follows:

Connected to the Convention Center

Hilton Québec
\$169 CDN Single or Double

Delta Québec
\$169 CDN Single or Double

Located nearby the Convention Center

Le Chateau Frontenac
\$209 CDN Single or Double

Hotel Lowes Le Concorde
\$164 CDN Single or Double

To view the proximity of these hotels to the Québec City Convention Center, please reference the map on page PS-16.

The deadline for reservations is **April 15, 2005**. Reservations received after the deadline will be accepted only on a space available basis. A deposit equal to your first night's stay is required to guarantee your reservation. A written cancellation must be received 48 hours prior to your arrival date for a full refund of your deposit. For more information, contact the Central Housing Bureau directly by phone at 418.641.6419, Fax: 418.641.6578, or e-mail: central.housing@quebecregion.com.

Ground Transportation

Taxi service is available and will cost \$27 CDN (fixed price) each way from the hotel to the airport.

Airline Reservation Information

We have arranged a special discount with **Air Canada** for attendees of the 207th Meeting. Air Canada is offering discounts of 10-15% off published fares. An additional 5% discount is offered to those who make a reservation at least 30 days prior to departure. To take advantage of these special discounts, please contact Air Canada *North America* at 1.800.361.7585 and mention **Event #CV053969** to secure the best possible rate for the conference. International attendees flying on Air Canada should contact their local agents and indicate Event #CV053969 to receive the special meeting discount fares. Discounts are not valid on web fares.

The coffee breaks for the Québec City meeting are sponsored by Fideris.

fideris

General Functions

Sunday, May 15, 2005

Electronics Division Reception and Business Meeting

The Electronics Division will be holding a reception and business meeting for all members of the Division at 1900h in Room 206B, Level 2 of the Convention Center. This event will replace the Division's former Monday Luncheon and Business Meeting.

Atomic Force and Scanning Tunneling Microscopy... "For the Rest of Us"

This series of Sunday evening talks provides an opportunity to learn more about other areas of electrochemical and solid-state research within The Electrochemical Society, as well as to meet colleagues and other members. This evening's talk, entitled "AFM, STM, and Related Techniques: Advances in Methods to Study Atoms and Molecules at Interfaces," will be delivered by Professor Andrew Gewirth of the University of Illinois, from 1830-1930h in Room 2000D, Level 2 of the Convention Center.

Sunday Evening Get-Together

An informal Get-Together will be held in Room 2000A/2000B on Level 2 of the Convention Center from 1930-2130h.

Monday, May 16, 2005

Plenary Lecture

Dr. Arthur Carty, National Science Advisor to the Prime Minister of Canada, will present the ECS Plenary Lecture entitled "Successes and Future Challenges for Canadian Research and Development" on Monday, May 16, at 0830h, in Rooms 2000A/2000B on Level 2 of the Convention Center.

Coffee Break

Monday, 0930-1000h,
Foyer 2000/Hall 2000, Level 2, QCCC

Monday Evening Mixer and Technical Exhibit

Along with the grand opening of the Technical Exhibit, an informal gathering will be held in Room 200C, Level 2 of the Convention Center from 1800-2000h. Beer, soft drinks, and snacks will be served on a complimentary basis. The

General Society Student Poster Session will be held as a part of the Monday Evening Mixer. Formal presentations and judging of the posters will begin at 1800h. (Students may start setting up their presentations in the exhibit hall at 1400h.) All General Society Student Poster Session participants are encouraged to attend the Wednesday morning Honors and Awards Session where the winners will be announced and given an award plaque (award check to be mailed after the meeting). The Technical Exhibit will feature instruments, materials, systems, publications, and software of interest to meeting attendees. All meeting registrants are invited to attend.

Tuesday, May 17, 2005

Coffee Break

Tuesday, 0930-1000h,
Exhibit Hall 200C, Level 2, QCCC

Annual Society Luncheon and Business Meeting

At 1215h, the Annual Society Luncheon and Business Meeting will be held in Port St. Louis on the First Floor of the Hilton Québec City. At this annual business luncheon, the President, Secretary, and the Treasurer will give brief reports on the current state of the Society. All members and meeting attendees are invited to participate in this Annual Meeting. Tickets are \$24.00 USD in advance and \$28.00 USD onsite.

Technical Exhibit and Evening Poster Session

The Technical Exhibit will be held in Room 200C, Level 2 of the Convention Center, 0900-1400h. The Technical Exhibit will again be open (1900-2100h) in conjunction with a general poster session covering several technical symposia and 344 posters. Posters will be located in the Exhibit Hall (Room 200C) and Room 200A on Level 2 of the Convention Center. The evening poster session will be expanded to include additional posters in Room 200B. The Technical Session coffee break is scheduled for 0930h in the Exhibit Hall on Tuesday and Wednesday to allow meeting attendees additional time to browse through the exhibits. This exhibit will feature instruments, materials, systems, publications, and software of interest to attendees.

Wednesday, May 18, 2005

Honors and Award Session

The Honors and Awards Session will begin at 0830h in Room 2000A, Level 2 of the Convention Center. At this session, Dr. Dennis Hess will be presented with the 2005 Solid State Science and Technology Award and deliver his award address, "Thin Films in Microelectronics: Formation and Removal at Low and High Pressures." There will be recognition of other Divisional and Student Poster Session award winners as well.

Coffee Break

Wednesday, 0930-1000h,
Exhibit Hall 200C, Level 2, QCCC

Meeting Registration

The meeting registration area will be located in the Main Hall, Level 4 of the Québec City Convention Center. Registration will be open on Sunday and the technical sessions will be conducted Sunday through Friday.

Advance Registration

Advance registration is encouraged. Register online at www.electrochem.org, or send your Advance Registration form to: The Electrochemical Society, 65 South Main Street, Pennington, NJ 08534, USA. Attendees prepaying by credit card are encouraged to use our online system, or send the form by fax. If you send a registration by fax, please do not send another copy by mail, as this may result in duplicate charges. **The deadline for advance registration is April 15, 2005.** Refunds are subject to a 10% processing fee and will only be honored if written requests are received by **May 6, 2005.** All participants of the 207th Meeting of The Electrochemical Society are required to pay the appropriate registration fees. Advance and onsite payments must be made in U.S. dollars via Visa, MasterCard, American Express, check or money order payable to ECS.

Registration Hours

Sunday, May 15.....	0800-1830h
Monday, May 16.....	0730-1730h
Tuesday, May 17.....	0730-1500h
Wednesday, May 18.....	0730-1400h
Thursday, May 19.....	0800-1200h
Friday, May 20.....	0800-1200h

Registration Fees

ALL PARTICIPANTS AND ATTENDEES ARE REQUIRED TO PAY THE APPROPRIATE REGISTRATION FEE LISTED BELOW. Payment can be made by cash, check or travelers' checks in U.S. funds drawn on a U.S. bank. Visa, MasterCard or American Express are also accepted. All prices are in U.S. dollars.

	Advance	On-Site
Member	\$385	\$485
Nonmember.....	\$595	\$695
Student Member.....	\$145	\$245
Student Nonmember.....	\$185	\$285
One Day Member.....	\$270	\$370
One Day Nonmember (Day)	\$355	\$455
SOFC Technical Registrant, ECS Member	\$580	\$680
SOFC Student Registrant, ECS Member.....	\$340	\$440
SOFC Technical Registrant, Nonmember.....	\$675	\$775
SOFC Student Registrant, Nonmember.....	\$355	\$455
Nontechnical.....	\$80	\$99
Emeritus and Honorary Member	\$0	\$0

All students must send verification of student eligibility along with their registration. All technical registrations include a copy of Meeting Abstracts (on CD-ROM only). Attendees who wish to have paper copies of abstracts in advance of the meeting should download copies from the ECS website (free of charge until November 1, 2005).

Financial Assistance

Financial assistance is limited and generally governed by the symposium organizers. Individuals may inquire directly to the symposium organizers of the symposium in which they are presenting their paper to see if funding is available. Individuals requiring an official letter of invitation should write to the ECS headquarters office; such letters will not imply any financial responsibility of ECS.

Contact Information

ECS • The Electrochemical Society
65 South Main Street
Pennington, NJ 08534-2839, USA
Phone: 609.737.2743
E-mail: ecs@electrochem.org
Web: www.electrochem.org

Meeting Information

QCCC=Québec City Convention Center

Event	Location
Meeting Registration.....	Main Hall, Level 4, QCCC
Information/Message Center	Registration Area, Main Hall, Level 4, QCCC
ECS Headquarters Office.....	208B, Level 2, QCCC
Speaker-Ready Room	208A, Level 2, QCCC
Employment Interview Room.....	2004A, Level 2, QCCC

Technical Exhibit

A Technical Exhibit is planned for the 207th Meeting of The Electrochemical Society and will open on Monday evening, May 16, in Room 200C, Level 2 of the Convention Center. This exhibit will feature instruments, materials, systems, publications, and software of interest to meeting attendees. This event will be an excellent opportunity to interact with representatives from many major companies to evaluate and see first-hand many of the products and services that will be displayed.

Exhibit Hours

Monday, May 16 1800-2000h
Tuesday, May 17 0900-1400h and 1900-2100h
Wednesday, May 18 0900-1400h

The opening of the exhibit will be held in conjunction with the Monday Evening Mixer and Student Poster Session. Technical session coffee breaks will be held in the exhibit area each day of the exhibit.

The following companies will be exhibiting (as of press time).

Arbin Instruments
Brinkmann Instruments
Electrolytica, Inc.
Gamry Instruments
IVIUM Technologies
Merck KGaA
Nextech Materials, Ltd.
PEC North America
Princeton Applied Research
Solartron Analytical

Battery Power Technology Magazine
Chemionic Technologies
ESL Electro-Science
HEKA Electronics, Inc.
MALT Group
Molecular Imaging
Palm Instruments
Praxair Electronics
Scribner Associates, Inc.
Springer

Technical Exhibit

The Technical Exhibit will be held from 0900-1400h in Room 200C, Level 2 of the Convention Center.

2005 Solid State Science and Technology Award Reception

The 2005 Solid State Science and Technology Award Medal will be presented to Dr. Dennis Hess, who will deliver his award address during the Honors and Awards Session on Wednesday morning, in Room 2000A, Level 2 of the Convention Center. All meeting registrants are invited to attend the award reception that will be held later Wednesday evening in honor of Dr. Hess, 1800-1845h, in Panorama Plaines/Citadelle, 23rd Floor, HQC.

Physical Electrochemistry Division David C. Grahame Award Reception

From 1830h to 1930h, a reception will be held in the Solarium on Level 3 of the Convention Center to honor Professor Henry S. White, recipient of the David C. Grahame Award of the Physical Electrochemistry Division. Professor White will present his award address, "Random Walks and Electron-Transfer Rates at Nanometer-Scale Electrodes," as part of the Electrocatalysis Symposium on Monday, May 16 in Room 202 on Level 2 of the Convention Center.

Solid Oxide Fuel Cells Symposium Banquet

A banquet with entertainment will be held in Room 200A, Level 2 of the Convention Center at 1900h for all SOFC IX registrants. (Tickets must be purchased in advance of the event.)

Thursday, May 19, 2005

Coffee Break

Thursday, 0930-1000h,
Foyer 2000, Level 2, QCCC

Friday, May 20, 2005

Coffee Break

Friday, 0930-1000h,
Foyer 2000, Level 2, QCCC

Technical Session Co-Chair Orientation

All technical session co-chairs will be contacted via e-mail with important instructions on conducting their technical session prior to the meeting. Please check in with the ECS headquarters staff in Room 208B, Level 2 of the Convention Center on the day of your session to receive information on the cancelled papers for the day and to pick up attendance sheets. We ask that you complete and return the attendance sheets to ECS headquarters to help us with future symposium planning. Instructions for running your session and attendance sheets will be sent via e-mail in advance of the meeting, and will also be available in the ECS headquarters office in Room 208B, Level 2 of the Convention Center throughout the week.

Information for Speakers and Audio-Visual

All presentations (oral and poster) must be in English. LCD and overhead projectors will be available for oral presenta-

tions. **Authors will be required to bring their own laptop computers for presentation, and we strongly suggest that presenting authors verify laptop/projector compatibility in the speaker ready room at the meeting.** Poster presentations will be displayed in English, on a board approximately 4 ft by 8 ft (1.22 m by 2.45 m), corresponding to their abstract number and day of presentation in the final program. Speakers requiring special equipment must make written request to ECS headquarters prior to the meeting and appropriate arrangements will be made at the expense of the author.

Poster Sessions

For those authors presenting posters, please arrive approximately **two hours in advance** of the start of your session to begin setting up your poster displays. **Please do not begin setting up your poster until all the poster boards have been numbered.** Plan your display to fit on one upright panel approximately 8 feet wide by 4 feet tall. Present displayed information from left to right, starting at the top left of the panel. The paper title, number, names, and affiliations of all authors **MUST** be at the top of the display. The recommended print size for the title is approximately 1 to 2" (2.5 cm to 5 cm) high. Authors should minimize written text but use it when necessary to emphasize essential data and/or to stimulate discussion. Posters must be written in English. All illustrations, drawings, charts, pictures, graphs, figures, and written text should be large enough to allow easy reading from a distance of 5' (1.5 m). Matted and finished photographs are recommended to enhance visibility. Pins, tape, and/or thumbtacks will be supplied at the meeting. Commercial advertisements or publicity will **NOT** be permitted in poster presentations. Authors violating this regulation will be asked to remove their presentations immediately. Authors are responsible for setting up their displays, for being present during the entire scheduled poster session, and for removing their displays at the conclusion of the poster session. No posters will be displayed without author participation. **NO EXCEPTIONS WILL BE GRANTED.** Authors are responsible for the security of their displays and all items of value. ECS will not assume any responsibility for lost, stolen, or broken articles. Additional information or special requirements should be addressed to the individual symposium organizers prior to the meeting.

Speaker-Ready Room

A Speaker-Ready Room will be available Sunday through Friday, located in Room 208A, Level 2 of the Convention Center. This room is available to allow speakers the opportunity to preview and prepare for their presentations. **We highly recommend that speakers verify their laptop's compatibility with the sample LCD projector that will be located in this room, prior to their presenta-**

tion. Additionally, there will be audiovisual technicians available on each level of the Conference Center for your assistance.

Speaker Indemnification

The ideas and opinions expressed in the technical sessions, conferences, and any handout materials provided are those of the presenter. They are not those of The Electrochemical Society, nor can any endorsement by ECS be claimed.

Discussion

No recording will be made of the oral discussions. Those contributing to the discussion of a paper and desiring their remarks to be published should send the discussion to the Director of Publications, *Journal of the Electrochemical Society*, 65 South Main Street, Pennington, New Jersey 08534-2839, USA. The discussion will then be referred to the author for a reply. Publication of the discussion and the comments of the author(s) depend on the publication of the paper in the *Journal*. Written discussion of a published paper should be submitted within two months following publication of the article.

No Recording Allowed

Photographing of presentations will NOT be permitted unless specifically allowed by the speaker. PHOTO FLASH AND PHOTO FLOODS ARE PROHIBITED. TAPE RECORDINGS, EXCEPT ON BEHALF OF ECS, ARE PROHIBITED. Anyone taking unauthorized photographs will be asked to leave the session.

Employment Services

There will be a special bulletin board in the registration area for employment posters. Companies desiring to recruit employees are requested to place their announcements on this special board. Please note that these announcements should be no larger than 8 1/2" by 11".

In addition, Room 2004A, Level 2 of the Convention Center will be available as an Employment Interview Room from 0900-1700h Monday through Friday during the meeting week. This room will be open all day for representatives from those companies or institutions that would like to interview prospective applicants during the meeting.

ADA Accessibility

Special accommodations for disabled attendees will be handled on an individual basis provided that adequate notice is given to the ECS headquarters office.

Professional Development Workshops

ECS will sponsor the following three professional development workshops. These workshops are free to all meeting registrants. All workshops are taught by John R. Susko, Director of Technical Sales and Service, Technical Consumer Products, Inc.

Writing an Effective Cover Letter and Resume

Sunday, May 15, 2005, 1500-1545h

Room 2001A, Level 2, QCCC

Monday, May 16, 2005, 1200-1245h

Room 2001A, Level 2, QCCC

This informal workshop will discuss the need for the cover letter, how to write it, as well as the many "do's" and "don'ts" in preparing such a letter.

Job Interviewing Tips

Sunday, May 15, 2005, 1600-1645h

Room 2001A, Level 2, QCCC

Monday, May 16, 2005, 1300-1345h

Room 2001A, Level 2, QCCC

This informal workshop will discuss the art of interviewing: how to improve your chances of properly impressing the interviewer, key questions to ask, and other pertinent issues about being selected for the job.

Resume Round Table

Monday, May 16, 2005, 1400-1700h

Room 2001A, Level 2, QCCC

This informal round table workshop is designed to provide feedback on resumes by publicly critiquing participants' resumes and offering suggestions on ways to make them more effective. Two 20-minute presentations are planned, one at 1400h and one at 1500h, which will be followed by individual critiques. To take full advantage of the workshop, please bring a copy of your current professional resume.

Short Courses

The Society will sponsor four short courses in conjunction with the 207th Meeting. These courses will be held on Sunday, May 15, 2005, from 0900h to 1700h. The registration fee is \$425 USD for ECS Members and \$520 USD for nonmembers. The registration fee for the course covers the course, luncheon, coffee breaks, and text materials; it is not applicable to any other activities of the Society meeting. Students are offered a 50% discount. The deadline for registration for a course is **April 15, 2005**. Interested parties may register using the Advance Registration form in this brochure. Written requests for refunds will be honored only if received at Society headquarters before May 6, 2005. All courses are subject to cancellation pending an appropriate number of advance registrants.

See page PS-7 for a complete description.

Short Course #1

Electrochemical Nanotechnology, S. Lipka (University of Kentucky)

Short Course #2

Impedance Spectroscopy, M. E. Orazem (University of Florida)

Short Course #3

Molecular Electronics, W. Weber (Infineon Technologies) and Marcel Mayor (University of Basel)

Short Course #4

Solid Oxide Fuel Cells, A. Virkar (University of Utah) and S. Adler (University of Washington)

Committee Meetings

All Committee meetings will be held on Level 2 of the Québec City Convention Center (QCCC).

Sunday, May 15

- 1400h Electronics Division Subcommittee on Silicon Dioxide/Silicon Interface, Room 2004C
- 1500h Physical Electrochemistry Division Symposium Planning Committee, Room 2004E
- 1500h Electronics Division Subcommittee on Compound Semiconductors, Room 2004D
- 1500h Electronics Division Subcommittee on ULSI Science & Technology, Room 2004F
- 1600h Interface Advisory Board, Room 201A
- 1700h Fellow Nominating Subcommittee, Room 2004C
- 1700h European Section Executive Committee Meeting, Room 205B
- 1700h Fuel Cell Coordinating Committee, Room 2004D
- 1700h Dielectric Science and Technology Division Governing Body & Symposium Planning Committee, Room 205C
- 1730h Electronics Division Technical Program Planning Subcommittee, Room 2001B
- 1800h European Section Meeting, Room 205B
- 1830h Council of Sections, Room 201A
- 1900h Electronics Division Reception & Executive Committee Meeting, Room 206B
- 1900h Fullerenes Division Executive Committee, Room 2004E
- 2000h Luminescence and Display Materials Division Executive Committee, Room 2004D
- 2030h Sensor Division Executive Committee, Room 205B

Monday, May 16

- 0700h Industrial Electrolysis & Electrochemical Engineering Division Executive Committee, Room 2004C
- 0700h High Temperature Materials Division Executive Committee, Room 2004D
- 0700h Physical Electrochemistry Division Executive Committee, Room 2004E

- 0930h Ad Hoc Gift Acceptance Committee, Room 2004D
- 1000h Wagner Award Subcommittee, Room 2001B
- 1030h Education Committee, Room 2004D
- 1330h Society Meeting Committee, Room 2004C
- 1400h Nanotechnology Subcommittee, Room 2004F
- 1500h New Technology Subcommittee, Room 2004F
- 1500h Corporate Membership Committee, Room 2001B/C
- 1600h Honors & Awards Committee, Room 2004C
- 1700h Organic and Biological Electrochemistry Division Executive Committee, Room 2004F
- 1900h Energy Technology Division Executive Committee, Room 2004E

Tuesday, May 17

- 0730h Symposium Subcommittee, Room 2004D/E
- 0730h Council of Past Presidents Breakfast, Room 2001B/C
- 0730h JES/ESL Editorial Board Meeting, Room 2004F
- 0730h Development Committee, Room 2004C
- 0900h Publication Committee, Room 2001A
- 1000h Individual Membership Committee/Division/Section Representatives, Room 2004C
- 1330h Technical Affairs Committee, Room 2004F
- 1530h Finance Committee, Room 2004C
- 1800h Development Solicitation Subcommittee, Room 2001A

Wednesday, May 18

- 1000h Ways & Means Committee, Room 2004E
- 1200h Financial Policy Advisory Committee, Room 2004F

Thursday, May 19

- 0900h Board of Directors Meeting, Room 205A

Luncheons, Business Meetings, and Special Events

All luncheons and business meetings will be held in the Hilton Québec City (HQC), unless otherwise noted. Luncheon tickets are \$24 in advance and \$28 onsite. All luncheon and special event tickets are nonrefundable and should be purchased in advance.

Sunday, May 15

- 1900h Electronics Division Reception and Business Meeting, Room 206B, Level 2. *(Note: This event will be held in the Québec City Convention Center.)*

Monday, May 16

- 1215h Physical Electrochemistry Division Luncheon & Business Meeting, Portneuf-St. Foy, 1st Floor, HQC
- 1215h Industrial Electrolysis & Electrochemical Engineering Division Luncheon & Business Meeting, Courville, 1st Floor, HQC

Tuesday, May 17

- 1215h Annual Society Luncheon & Business Meeting, Port St. Louis, 1st Floor, HQC

Wednesday, May 18

- 1215h Dielectric Science & Technology Division Luncheon & Business Meeting, Montmorency, 1st Floor, HQC
- 1215h Energy Technology Division Luncheon & Business Meeting, Portneuf St. Foy, 1st Floor, HQC
- 1215h Fullerenes, Nanotubes, and Carbon Nanostructures Division Luncheon & Business Meeting, Panorama Plaines, 23rd Floor, HQC
- 1215h Organic and Biological Electrochemistry Division Luncheon and Business Meeting, Courville, 1st Floor, HQC

Short Courses

Four short courses will be offered at the 207th Meeting. These courses will be held on Sunday, May 15, 2005, from 0900h to 1700h. The registration fee is \$425 USD for ECS Members and \$520 USD for nonmembers. The registration fee covers the course, luncheon, coffee breaks, and text materials; it is not applicable to any other activities of the Society meeting. Students are offered a 50% discount. The deadline for registration for a course is **April 15, 2005**. Interested parties may register using the Advance Registration form. Written requests for refunds will be honored only if received at Society headquarters before **May 6, 2005**. Short Courses require advance registration and may be cancelled if enrollments are too low. Please check our website for any last-minute details www.electrochem.org/sc/sc.htm.

Short Course #1

Electrochemical Nanotechnology, S. Lipka (University of Kentucky)

Nanostructured materials are distinguished from conventional polycrystalline materials by the size of the structural units that comprise them, microstructures comprising nanoscale domains in at least one dimension. The ability to control a material's structure and composition at the nanolevel has demonstrated that materials and devices having properties intrinsically different from their polycrystalline counterparts can be fabricated. As tailoring of fundamental properties becomes possible at the atomic level, the prospect of developing novel materials and devices with new applications becomes viable. An overview of recent advances in the synthesis, characterization, and properties of nanomaterials will be presented with particular emphasis on the experimental studies and nanofabrication of materials and devices as applied to the field of electrochemistry. The fundamental and applied aspects of nanotechnology as it relates to material synthesis, architectures, and devices in electrochemical systems will be discussed.

Short Course #2

Impedance Spectroscopy: Theory and Applications, M. Orazem (University of Florida)

This course is intended for chemists, physicists, materials scientists, and engineers with an interest in applying electrochemical impedance techniques to study a broad variety of electrochemical processes. The attendee will develop a basic understanding of the technique, the sources of errors in impedance measurements, the manner in which experiments can be optimized to reduce these errors, and the use of regression to interpret measurements in terms of meaningful physical properties. The topics to be covered include: 1. The motivation for using impedance spectroscopy advantages as compared to other transient techniques and the conditions under

which its use is ideally suited; 2. The type of information that can be extracted from impedance measurements, including the limitations of the technique; 3. Proper selection of experimental parameters; 4. The types of errors expected in impedance measurements, and methods to assess the importance of these errors and to reduce their magnitude; 5. Use of the Kramers-Kronig relations as a tool for evaluating impedance data; 6. Use of regression techniques and appropriate selection of weighting strategies; 7. Application of electrical circuit analogues; 8. Development of mathematical models appropriate for interpretation of impedance spectra in terms of physical properties; 9. Applications to different systems including corrosion, characterization of electronic materials, transport through membranes such as skin; and 10. Generalization of impedance concepts to other spectroscopy measurements such as acoustophoretic spectroscopy and complex viscometry.

Short Course #3

Molecular Electronics: Industrial Research on a Visionary Concept, W. Weber (Infineon Technologies)

This short course discusses the potential of molecular electronics and molecular memories taking the perspective of industrial research. After introductory remarks on the properties of MOS devices, we will highlight the functionality of molecular memory cells considering diode and hysteresis functions. Then the architecture of molecular memory arrays will be discussed. We elaborate on important challenges such as the task of making atomically flat surfaces for molecule deposition, performing in ordered deposition of the molecules and formation of the top electrode. The microelectronic framework (high-temperature processing, extremely low failure rates, reproducibility, negligible degradation over time, high number of storage cycles, retention and many more) is discussed relating to the presence of (organic) molecules. We present realized concepts such as the use of GaAs as a learning surface, manufac-

tured flat gold surfaces and a printing process for the top electrode. Finally the short course gives an outlook for the application chances of this innovative technology.

Short Course #4

Solid Oxide Fuels Cells, A. Virkar (University of Utah) and S. Adler (University of Washington)

This short course is an introduction to Solid Oxide Fuel Cells (SOFC) science and technology, and a foundational framework for further education in the following areas: 1. Current status of SOFC science and technology; 2. Process design and integration, stack design concepts; 3. Cell materials and fabrication, electrochemical performance; and 4. Diagnostics. To benefit most effectively from this course, registrants shall have completed at least their first two years of a bachelor's program in physics, chemistry, engineering, or equivalent and should be able to manage spreadsheet calculations.

Nontechnical Registration / Tours

All family members and guests are encouraged to register for the 207th Meeting as a "Nontechnical Registrant." The modest registration fee of \$80 USD (in advance) or \$99 USD (on site) includes admission to all social events and an exclusive continental breakfast Monday through Thursday, in Panorama Citadelle on the 23rd Floor of the Hilton Quebec City (HQC). Optional motorcoach tours are also available through Forum Québec, the destination management company designated for the meeting.

The best way to tour the area is through one of the exclusive motorcoach tours specially designed for the participants of the 207th Meeting. It is recommended that you register for tours in advance using the form below or at Forum Québec DMC's booth located in our registration area, since tours are subject to cancellation pending enough registrants. Tickets are otherwise nonrefundable. Confirmation of tour registration will be sent, **upon request**, via e-mail or fax. Tour tickets purchased in advance can be picked up at the tour desk, which will be located in the meeting registration area at the main entrance of the Québec City Convention Center, located directly across the parking lot from the Hilton Lobby. A representative from Forum Québec DMC will be available at the following times: Sunday, from 1100h to 1400h; Monday, from 1200h to 1400h; Tuesday, from 1100h to 1315h; and Wednesday, from 1130h to 1330h.

Monday, May 16

Continental Breakfast.....0800-1000h

Complimentary for Nontechnical Registrants.

Lecture0830-0900h
Welcome to Québec City Orientation by Linda Frankenthal

Complimentary for Nontechnical Registrants.

Tour1400-1615h *Historic and Modern Québec*

Discover the beauty and romance of the only walled city in North America, famous for its winding streets and unique architecture. The tour will also include a visit to some sections of the modern city and provide an overview of Québec City as a whole, with suggestions for further places to see and things to do.

Price: \$26 US; \$30 CDN

Tuesday, May 17

Continental Breakfast.....0800-1000h

Complimentary for Nontechnical Registrants.

Lecture0830-0915h
Canadian Cultural Landscapes

Québec's charm is matched only by its fascinating history. First the capital of New France, and then of British North America, Québec was besieged six times in all. The town ultimately fell to the English in the famous Battle of the Plains of Abraham in 1759. Today, Québec is a vibrant French-speaking city in the heart of North America. This 45 minute presentation provides a colorful and entertaining introduction to Québec City and Canada's dramatic history and is richly illustrated with historic maps, illustrations and photographs.

Complimentary for Nontechnical Registrants.

Tour1315-1730h *The Beauré Coast and Montmorency Falls*

Enjoy the beauty of Québec's countryside as you travel through small, historic villages overlooking the St. Lawrence River on the Beauré coast. The tour will also include a visit to the world-famous shrine at Sainte-Anne-de-Beauré, whose unique history and incredible architecture draw almost 2 million pilgrims a year. Other stops could include the

Alphonse Paré wood sculpture gallery, or Albert Gilles' Copper Shop with its collection of 50 hand-wrought silver panels depicting the story of the life of Christ. You will also be treated to a delicious slice of fresh bread and maple butter, and will, of course, stop to admire Montmorency Falls (which is almost 50 % higher than Niagara Falls!).

Price: \$39 US; \$45 CDN

Wednesday, May 18

Continental Breakfast.....0800-1000h

Complimentary for Nontechnical Registrants.

Tour1330-1630h *Island of Orléans*

A visit to this small island is like a step back in time and will allow you to appreciate the ancestral homes, churches, and mills that are found in this, the province's largest historical district. You will be treated to a visit to a local winery and enjoy a glass of wine made on the premises. Several other stops will allow participants to admire arts and crafts made by the islanders, to savor home-made jam, mustard, and vinegar at Domaine Steinbach, and even to visit a blacksmith's shop!

Price: \$39 US; \$45 CDN

Thursday, May 19

Continental Breakfast.....0800-1000h

Complimentary for Nontechnical Registrants.

Morning Book Review0830-0930h

This morning, the group will be reviewing the novel, *Grand Avenue* by Joy Fielding. The novel is about four women whose friendship spans their lives over a twenty-year period. Going deep inside the minds and hearts of her utterly believable characters, Joy Fielding unlocks the secrets hidden within even the closest relationships. This powerful and mesmerizing novel explores the bonds women forge, the nature of friendship, and the meaning of unconditional love.

It is highly recommended that participants read the novel prior to the review. Copies are available at your local bookstore, library, or on online at amazon.com. This book is available in a paperback version. Please plan to purchase your copy in advance of the meeting, as the books will not be available onsite.

Complimentary for Nontechnical Registrants.

Tour Registration Form

Forum Québec DMC, Inc. has been mandated by the ECS and is responsible for operating all optional programs. Please complete this registration form and mail it with your check to Forum Québec DMC at the address below or if payment is by credit card, fax the form to 418.529.1172. The tours will be departing from the Lobby of the Convention Center. Please be on location 15 minutes prior to departure time. In order to guarantee reservations, refunds are not possible. Forum Québec DMC reserves the right to cancel any tours if minimum participation is not met. In this case, registrants will be fully refunded.

☐ Mr. ☐ Ms. First Name: _____ Last Name: _____
Mailing Address: _____ City: _____
State/Province _____ Country: _____ Postal/Zip Code: _____
Phone: _____ Fax: _____ Email: _____

Tour	Price \$US	Price \$CDN	Date and Time	# People	TOTAL
Historic and Modern Québec	\$26	\$30	Monday, 5/16/05, 1400-1615h	_____	_____
Beauré Coast & Montmorency Fall	\$39	\$45	Tuesday, 5/17/05, 1315-1730h	_____	_____
Island of Orleans	\$39	\$45	Wednesday, 5/18/05, 1330-1630h	_____	_____
TOTAL ENCLOSED					_____

Federal sales tax (7%) and Provincial sales tax (7.5%) are included in the prices

Option 1: Please write your check to "Forum Québec in Trust" and return it with your registration form to: Forum Québec DMC - 1134 Chemin St. Louis, #200 - Québec, Québec - Canada G1S 1E5

Option 2: Method of Payment: ☐ Check ☐ Visa ☐ MasterCard ☐ American Express

Credit Card Number: _____ Exp. Date: _____

Signature _____

Symposium and Session Organizers

A1	General Student Poster Session <i>G. Botte, H. Nishihara, V. Subramanian</i>	M1	Processes at the Compound-Semiconductor/Solution Interface <i>A. Etcheberry, B. Marsan, D. N. Buckley</i>	R1	Industrial Electrolysis and Electrochemical Engineering General Session <i>G. Pillay, W. An</i>
A2	Nanotechnology <i>P. V. Kamat, W. A. van Schalkwijk, W. Schindler</i>	N1	Generation of Hydrogen from Renewable Sources <i>G. Pillay, J. M. Fenton, K. Rajeshwar, R. McConnell</i>	S1	Electrochemical Surface Treatments <i>A. C. West, P. C. Foller</i>
B1	Battery and Energy Technology Joint General Session <i>D. Scherson, J. Prakash, Z. Ogumi</i>	01	Fuel Cells from Materials to Systems <i>G. Blomgren, H. R. Kunz, H. Gasteiger</i>	T1	Modeling of Electrochemical Systems <i>G. Botte, J. Weidner, M. Mathias, M. Orazem</i>
C1	Corrosion General Session <i>P. Schmuki</i>	P2	Fullerenes, Nanotubes, and Carbon Nanostructures: Electron Transfer and Its Applications <i>D. M. Guldi, F. D'Souza, S. Fukuzumi</i>	U1	Persistent Phosphors <i>F. Vetrone, H. Yamamoto, J. Capobianco, W. M. Yen</i>
D1	Nanoscale Aspects in Electrochemical Surface Modification and Corrosion <i>L. Peter, P. Allongue, P. Schmuki, W. Jaegermann, W. Schindler</i>	P3	Fullerenes, Nanotubes, and Carbon Nanostructures: Photoinduced Processes <i>D. M. Guldi, O. Ito</i>	V1	Nanostructured Materials for Energy Storage and Conversion <i>C. Julien, J. P. Dodelet, K. Zaghib, P. McGinn, W. West</i>
E1	Chemical, Electrochemical, and Mechanical Effects on CMP, Tribocorrosion, and Biotribocorrosion <i>A. Philipossian, D. J. Duquette, J. P. Celis</i>	P4	Fullerenes, Nanotubes, and Carbon Nanostructures: Molecular and Supramolecular Chemistry of Fullerenes <i>D. M. Guldi, F. D'Souza, J. F. Nierengarten, N. Martin</i>	W1	Organic & Biological Electrochemistry General Session <i>D. G. Peters, I. Taniguchi</i>
F1	Electrochemical Processing in ULSI Fabrication and Electrodeposition of and on Semiconductors VI <i>A. Kolics, J. L. Stickney, P. C. Andricacos</i>	P5	Carbon Nanotubes and Nanostructures: Fundamental Properties and Processes <i>D. M. Guldi, F. D'Souza, R. B. Weisman, S. V. Rotkin, Y. Gogotsi</i>	W2	Electron Transfer Through Organic and Biological Bridges II <i>D. H. Evans, F. Maran</i>
G1	Science and Technology of Dielectrics in Emerging Fields II <i>D. Misra, K. Sundaram, K. Worhoff, P. Mascher</i>	P6	Carbon Nanotubes and Nanostructures: Applications and Devices <i>D. M. Guldi, F. D'Souza, J. Li, J. Stetter, S. Subramoney</i>	W3	Prospective Trends in Synthetic and Mechanistic Organic Electrochemistry <i>A. K. Yudin, S. Kashimura</i>
H1	Silicon Nitride and Silicon Dioxide Thin Insulating Films and Other Emerging Dielectrics VIII <i>D. Misra, G. Lucovsky, J. F. Zhang, J. Yota, J. Yugami, K. Sundaram, M. J. Deen, R. E. Sah, W. D. Brown, Y. Kamakura</i>	P7	Fullerenes, Nanotubes, and Carbon Nanostructures: Endofullerenes and Carbon Nanocapsules <i>A. L. Balch, D. M. Guldi, F. D'Souza, H. Shinohara, T. Akasaka</i>	X1	Biomolecular Sensors and Arrays <i>C. Bruckner-Lea, J. F. Rusling</i>
I1	Surfactant and Additive Effects on Thin Film Deposition and Particle Growth <i>J. A. Switzer, T. P. Moffat</i>	P8	Fullerenes, Nanotubes, and Carbon Nanostructures: Energetics, Structure, and Solid-State Physics <i>D. M. Guldi, F. D'Souza, P. Rudolf, Y. Iwasa, Z. Slanina</i>	Y1	Physical Electrochemistry General Session <i>G. M. Brisard</i>
J1	Semiconductor Wafer Bonding: Science, Technology, and Applications VIII <i>C. E. Hunt, H. Baumgart, K. D. Hobart, S. Bengtsson, T. Suga</i>	P9	Fullerene and Carbon Nanotube Based Materials in Medicine and Biology <i>D. M. Guldi, F. D'Souza, L. Wilson, T. Da Ros</i>	Y2	Diagnostic Methods for Monitoring Fuel Cells Processes <i>G. M. Brisard, J. Weidner, M. Murthy, P. Zelenay, T. Zawodzinski</i>
J2	Silicon-on-Insulator Technology and Devices XII <i>G. K. Celler, S. Cristoloveanu, J. G. Fossum, F. Gamiz, K. Izumi</i>	P10	Fullerenes, Nanotubes, and Carbon Nanostructures: Porphyrins and Supramolecular Assemblies <i>D. M. Guldi, K. M. Kadish, N. Sölladie</i>	Y3	Electrocatalysis <i>A. Wieckowski, G. M. Brisard, R. Adzic, V. I. Birss</i>
J3	State-of-the-Art Program on Compound Semiconductors XLII <i>K. Shiojima, P. C. Chang, R. E. Kopf, X. Chen</i>	P11	Fullerenes, Nanotubes, and Carbon Nanostructures: Quantum Dots, Rods, and Wires <i>D. M. Guldi, F. V. Mikulec, F. D'Souza, M. K. Kuno, P. V. Kamat, P. Kambhampati</i>	Z1	Symposium on Biophysical Electrochemistry in Honor of Katsumi Niki <i>D. Bizzotto, I. Taniguchi, J. Lipkowski, R. Guidelli</i>
K1	Advanced Gate Stack, Source/Drain, and Channel Engineering for Si-Based CMOS: New Materials, Processes, and Equipment <i>D. L. Kwong, E. P. Gusev, F. Roozeboom, H. Iwai, L. J. Chen, M. C. Ozturk, P. J. Timans</i>	P12	Fullerenes, Nanotubes, and Carbon Nanostructures: Poster Session <i>F. D'Souza</i>	AA1	Nanostructured and Functionalized Conducting Polymer Films and Related Materials <i>J. A. Cox, J. Li, M. A. Vorotyntsev, P. J. Kulesza, P. Schmuki</i>
L1	ULSI Process Integration IV <i>C. Claeys, D. A. Buchanan, F. Gonzalez, J. O. Borland, S. Zaima</i>	Q1	Solid Oxide Fuel Cells (SOFC IX) <i>J. Mizusaki, S. C. Singhal</i>	AC1	Sensors, Actuators, and Microsystems General Session <i>G. Hunter, J. Stetter, S. Bhansali</i>
				AD1	Environmental, Fuel Cell, and Advanced Automotive Sensors <i>F. DiMeo, M. A. Ryan, R. Mukundan, S. A. Akbar</i>
				AE1	Impedance Based Sensors <i>D. Hansen, P. Vanysek, V. Lvovich</i>

Technical Exhibitors

The Electrochemical Society's Technical Exhibit will be a feature of the 207th Meeting in Québec City. Held in Room 200C, Level 2 of the Convention Center. The exhibit will feature instruments, materials, systems, publications, and software of interest to meeting attendees.

Exhibitors as of Press-Time

Arbin Instruments

762 Peach Creek Cut Off Rd.
College Station, TX 77845, USA
979.690.2751
Contact: Antony Parulian
(info@arbin.com)
www.arbin.com
Booth #10

**Battery Power Technology Magazine
Webcom Communications Corp.**
7355 East Orchard Road, Ste. 100
Greenwood Village, CO 80111, USA
www.batterypoweronline.com
Booth #7

Brinkmann Instruments

One Cantiague Road
Westbury, NY 11590, USA
800.645.3050
Contact: Tara McGowan
(info@brinkmann.com)
www.brinkmann.com
Booth #s 11 & 12

**CHEMIONIC Labs & Consulting/
CHEMIONIC Technologies**
100 Jersey Avenue, Bld. D Box D-2
New Brunswick, NJ 08901, USA
732.236.4699
Contact Dr. Ravi Chandran (ravi.
chandran@chemionic.com)
www.chemionic.com
Booth #15

Electrolytica, Inc.

87 Westwind Lane
Amherst, NY 14228, USA
716.564.1414
Contact: Duane J. Mazur
(sales@electrolytica.com)
www.electrolytica.com
Booth #1

ESL Electro-Science

416 E. Church Road
King of Prussia, PA 19406, USA
610.272.8000
Contact: Richard S. Webb
(sales@electroscience.com)
www.electroscience.com
Booth #22

Gamry Instruments

734 Louis Drive
Warminster, PA 18974, USA
215.682.9330
Contact: Pete Peterson
(ppeterson@gamry.com)
www.gamry.com
Booth #31

HEKA Electronics, Inc.

47 Keddy Bridge Road
Mahone Bay, NS B0J-2E0, Canada
902.624.0606
Contact: Stephen Jones
(nasales@heka.com)
www.heka.com
Booth #17

Ivium Technologies

De Regent 178
Eindhoven 5611 HW, The Netherlands
31.40.255.5636
Contact: Antonie Baars (info@ivium.
nl)
www.ivium.nl
Booth #35

MALT Group

Kagaku Gijutsu-Sha
1-5-31 Yushima Bunkyo-ku
Tokyo 113-0034, Japan
81.3.3815.8163
Contact: Takafumi Matsumoto
(malt@kagaku.com)
www.kagaku.com/malt
Booth #32

Merck KGaA

Frankfurter Str. 250
Darmstadt 64293, Germany
49.6151.722860
Contact: Winfried Geissler
(geissler@merck.de)
Booth #14

Molecular Imaging

4666 S. Ash Avenue
Tempe, AZ 85282, USA
480.753.4311
Contact: Shijie Wu (info@molec.com)
www.molec.com
Booth #26

NexTech Materials, Ltd.

404 Enterprise Drive
Lewis Center, OH 43035, USA
614.842.6606
Contact: Jon Foreman
(foreman@nextechmaterials.com)
www.nextechmaterials.com
Booth #25

Palm Instruments

Ruitercamp 119
Houten 3992 BZ, The Netherlands
31.30.245.9211
Contact: Kees Van Velzen
(info@palmisens.com)
www.palmisens.com
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PEC North America

2385 NW Executive Center Dr.
Boca Raton, FL 33431, USA
561.962.2824
Contact: Peter Ullrich (peter.ullrich@pec.
be)
www.pec.be/batteries
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Praxair Electronics

560 Route 303
Orangeburg, NY 10962, USA
845.398.8322
Contact: Kathy McGeever
(kathy_mcgeeever@praxair.com)
www.praxair.com/electronics
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Princeton Applied Research

801 S. Illinois Ave.
Oak Ridge, TN 37931, USA
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Contact: info@pari-online.com
www.princetonappliedresearch.com
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Scribner Associates, Inc.

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Southern Pines, NC 28387, USA
910.695.8884
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(louie@scribner.com)
www.scribner.com
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Solartron Analytical

19408 Park Row, Suite 320
Houston, TX 77084, USA
281.994.5554
Contact: A. Stagnari
(astagnari@solartronanalytical.com)
www.solartronanalytical.com
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Springer

333 Meadowlands Parkway
Secaucus, NJ 07094, USA
212.460.1600
Contact: Acasia Dalmau
(aciasia.dalmau@springer-sbm.com)
www.springeronline.com
Booth #30

Plenary Lecturer and Award Winners



Plenary Lecture

Arthur Carty will deliver the plenary lecture on Monday, May 16, 0830h, entitled, "Successes and Future Challenges for Canadian Research and Development," in Rooms 2000A/2000B on Level 2 of the Québec City Convention Center

ARTHUR CARTY is the National Science Advisor (NSA) to the Prime Minister of Canada. Before his appointment as NSA in April 2004, he was President of the National Research Council of Canada (NRC), the federal government's leading knowledge and innovation organization for 10 years. Dr. Carty has a PhD in chemistry from Nottingham University. Prior to joining NRC in July 1994, he spent two years at Memorial University and then 27 years at the University of Waterloo where he was successively, Professor of Chemistry, Chair of the Chemistry Department, and Dean of Research.

Dr. Carty still maintains an active research group at NRC and continues to publish in his field of synthetic chemistry and metallic clusters. He has over 285 publications in refereed journals, and five patents in addition to book chapters and review articles. He is a former President of the Canadian Society for Chemistry, Honorary Fellow of the Chemical Institute of Canada and of the Fields Institute for Research in the Mathematical Sciences, and a Fellow of the Royal Society of Canada. Among his many awards are the Alcan Award of the Chemical Institute of Canada, the E.W.R. Steacie Award of the Canadian Society for Chemistry, the Montreal Medal of the Chemical Institute of Canada, and the Purvis Award of the Society of Chemical Industry. He has received ten honorary degrees from Canadian and foreign universities, is an Officer of the Order of Canada, and Officier de l'Ordre National du Mérite of France.

He serves on more than a dozen boards, including two of the Networks of Centres of Excellence, Genome Canada, and five science and technology advisory boards for other departments and agencies.

2005 Solid State Science and Technology Award Winner

Dennis Hess will deliver his award address, "Thin Films in Microelectronics: Formation and Removal at Low and High Pressures," as part of the Honors and Awards Session on Wednesday, May 18, 0830h in Room 2000A on Level 2 of the Québec City Convention Center. A wine and cheese reception will be held in honor of Dr. Hess that evening at 1800h in Panorama Plaines/Citadelle, 23rd floor, Hilton Québec City.



DENNIS W. HESS received a BS degree in chemistry in 1968 from Albright College, and MS and PhD degrees in physical chemistry from Lehigh University in 1970 and 1973, respectively, the latter degree with Professor Frederick M. Fowkes. From 1973-1977, Hess was a member of the research staff and supervisor, process development at Fairchild Camera and Instrument Corporation. In 1977, he joined the faculty of the Chemical Engineering (ChE) Department at the University of California, Berkeley as assistant professor. At Berkeley, he served as assistant dean, College of Chemistry, from 1982-1987, and vice chair, ChE Department, from 1988-1991. From July 1991-August 1996, he served as chair of the ChE Department at Lehigh University. From 1995-1996, he was T. L. Diamond Professor of ChE at Lehigh. In September 1996, he joined the School of Chemical and Biomolecular Engineering at Georgia Institute

of Technology, where he is currently William W. LaRoche, Jr., Professor.

Professor Hess' research interests are in the areas of thin film science and technology and integrated circuit process technology. His group has been involved in plasma-assisted etching of metals, polymers, and silicon-containing dielectric layers, in plasma polymerization of fluorocarbon films, in plasma-assisted deposition of inorganic dielectrics, and in liquid, vapor phase, and elevated pressure fluid cleaning and modification of surfaces. Professor Hess has over 160 peer-reviewed publications in archival journals, three patents, and over 200 invited talks. He has supervised 32 PhD students, 27 MS students, 20 undergraduate research students, and six post-doctoral researchers.

Professor Hess is actively involved in professional societies. He was a consulting editor for AIChE Journal from 1984-1987, Programming Chair for Area 8e (MESD) of AIChE in 1994 and 1995, and Director, Materials Engineering and Science Division of AIChE from 1995-1999. He served as Divisional Editor for the Journal of The Electrochemical Society from 1978-1990, Associate Editor for Chemistry of Materials from 1988-1996, served as a member of the editorial board of Chemistry of Materials from 1996-2003. Since January 2004, he has been Editor of Electrochemical and Solid-State Letters. He was chairman of the 1988 Gordon Conference on Chemistry of Electronic Materials. He is a Fellow of The Electrochemical Society (1993), the American Institute of Chemical Engineers (1998), and the American Association for the Advancement of Science (2002). He received the Thinker Award from Tegal Corporation (1992), the Callinan Award from the DS&T Division of The Electrochemical Society (1993), and the C.M.A. Stine Award from the MESD Division of AIChE (1999). He served as President of The Electrochemical Society for the 1996-1997 term.



Electronics Division Award

Steve Pearton will receive the Electronics Division Award prior to his award address, "ZnO Spintronics and Nanowire Devices," as part of the SOTAPOCS XLII Symposium on Thursday, May 19 at 0830h in Room 302A, on level 3 of the Québec City Convention Center

STEVE PEARTON is Alumni Chair and Distinguished Professor of Materials Science and Engineering at the University of Florida (UF). Prior to joining UF in 1994, he was a member

of technical staff at AT&T Bell Labs in Murray Hill, NJ for 10 years and was responsible for advanced process development in the compound semiconductor area. After receiving a PhD in physics from the University of Tasmania in Australia, he was postdoctoral fellow at Lawrence Berkeley Lab and University of California (UC) at Berkeley. He is a Fellow of IEEE, AVS, and ECS. He is one of the world's top-100 most cited scientists in engineering, according to the ISI report of 2001. He has published over 1000 papers in international journals and has given over 150 invited talks at conferences. He is author or coauthor of 11 books and holds 10 U.S. patents. His research interests are in the fields of semiconductor materials and devices.

(continued on next page)

Award Winners

Research Award of the Energy Technology Division



Kiyoshi Kanamura will receive the Research Award of the Energy Technology Division during the Energy Technology Division Luncheon and Business Meeting on Wednesday, May 18, 1215h in the Portneuf-St. Foy room, on the first floor of the Hilton Québec. He will present his award address, "Advanced Material Chemistry for Solid-State Rechargeable Lithium-Ion Battery and New Polymer Electrolyte Fuel," as part of the Battery and Energy Technology Joint General Session Symposium on Tuesday, May 16, at 1440h in Room 2000C, on level 2 of the Québec City Convention Center.

KIYOSHI KANAMURA was born in Osaka, Japan in 1957. He received both his bachelor's degree and master's degree in industrial chemistry from Kyoto University (Professor S. Yoshizawa and Z. Takehara) in 1980 and 1982, respectively. Then he entered a doctoral course in the department of industrial chemistry of the Graduate School of Engineering, Kyoto University. Before receiving his doctoral degree, he joined the department of industrial chemistry at Kyoto University as a research instructor. In 1987, he received a doctoral degree in industrial chemistry from Kyoto University, on electrode reactions in lead-acid batteries. After that, he started new research on lithium batteries and solid oxide fuel cells with Professor Z. Takehara. From 1989 to 1990, he joined a Case Western University group (Professor Ernest B. Yeager) for postdoctoral work for one year. There he researched phosphoric acid fuel cells, especially the electrochemistry of single crystal Pt catalysts in phosphoric acid. After returning to Kyoto University, he started a surface analysis study on both anode and cathode of rechargeable lithium batteries. This research contributed to surface chemistry in the battery field. He received the "Sano" Prize for Young Researchers from The Electrochemical Society of Japan in 1992. In 1995, he became an associate professor at Kyoto University, and then moved to Tokyo Metropolitan University in 1998. In 2002, he became a full professor of the department of chemistry at Tokyo Metropolitan University.

In 2002, he started advanced research on fabrication of thin film electrodes and porous electrodes using a sol-gel process and a preparation of new proton conductive membranes for fuel cells. He is funded from the Japan Science and Technology Agency for research on lithium-ion batteries, capacitors, and fuel cells. In this project, he collaborates with some interesting groups (Professor M. Watanabe of Yokohama National University, Professor H. Masuda of Tokyo Metropolitan University, and Associate Professor T. Momma of Waseda University). Nanotechnology on electrochemical energy conversion fields is a main subject of his research. (Representative for this project: Professor Fujishima, Advisers: Professor Inoue of Tokyo Metropolitan University and Professor Ogumi of Kyoto University.)

Dr. Kanamura has already authored or coauthored more than 200 publications including original papers, review articles, and books. These articles are related mostly to batteries or fuel cells. He has served as a part-time lecturer in Osaka University, Hokkaido University, Tokyo University of Agriculture and Technology, and Yamanashi University. He is currently visiting professor at Kyoto University. He also served as associate editor of the Surface Science Society of Japan and The Electrochemical Society of Japan. Now, he is an associate editor of Chemistry Letters of the Chemical Society of Japan.

Professor Kanamura is married to Mani, and has two school-age children, Masashi (son) and Momomi (daughter).

N.E.T. Award of the IE&EE Division

Fulvio Federico will accept the New Electrochemical Technology (NET) Award of the Industrial Electrolysis and Electrochemical Engineering Division on behalf of Bayer Material Science AG, De Nora Technologie Elettrochimiche, and E-TEK, as part of the IEEE Division Luncheon and Business Meeting on Monday, May 16 at 1215h in the Courville Room, on the first floor of the Hilton Québec City. He will present his award address, "HCl Electrolysis Using ODC (Oxygen Depolarized Cathode) Technology," as part of the Industrial Electrolysis and Electrochemical Engineering General Session Symposium on Tuesday, May 17 at 1000h in Room 206B on Level 2 of the Québec City Convention Center.



EMORY DE CASTRO joined the E-TEK division of De Nora North America as Technical Director in 1996. He received his BS in Chemistry at Duke University and his PhD in electroanalytical chemistry at the University of Cincinnati in 1983 under the tutelage of Professor William R. Heineman. During De Castro's tenure as technical director, he contributed to E-TEK's development of new ELAT gas diffusion electrodes and media, the automated production of the ELAT, and specialty catalysts. De

Castro assumed duties as E-TEK's General Manager in October 1998. As such, he is responsible for day-to-day operations, pursuing new technology and business ventures. In March 2004, De Castro became the Executive Vice President of the E-TEK division. He has been a member of The Electrochemical Society since 1981.



HANS DIETER PINTER is a research scientist in the business unit Inorganic Basic Chemicals (IBC), Process Innovation at Bayer MaterialScience AG. His main purpose is the improvement of the technologies for chlor alkali and hydrochloric acid electrolysis. He is a member of the chlor alkali and hydrochloric acid ozone depleting chemicals (ODC) electrolysis project teams and responsible as a lab manager for all ODC performance tests. He has wide experience with other electrochemical developments

for non chlorine applications.

Pinter was born in 1947 in Leverkusen, Germany. After technical training at Bayer, he studied chemistry at the School for Chemical Engineering in Bonn and began his career at Bayer in 1973, working in the Research and Development Division of the former Inorganic Chemicals Business Group. He is significantly involved in the development of other electrochemical processes. Dr. Pinter is married and has one child.



FRITZ GESTERMANN was responsible for process innovation in electrochemical processes in the Business Unit Inorganic Basic Chemicals of Bayer Material Science AG. Mainly, he managed improvement of the technologies for chlor alkali and hydrochloric acid electrolysis. He initiated and carried out ODC technology development for both chlorine technologies, including the industrial scale realization of HCl ODC in cooperation with

Award Winners

the De Nora Group, Milan, and later with Uhdenora, a joint venture between Uhde and De Nora. Other focal points were electrochemical development for non chlorine applications.

Before he gained wide field experience with electrochemical processes with special focus on ODC technology development from lab scale to industrial dimensions, Dr. Gestermann worked in the nuclear industry dealing with the development of fast breeder reactor fuel and absorber elements as well as in the development of the very high temperature pebble bed reactor for industrial cogeneration applications.

Dr. Gestermann spent 11 years in nuclear development and marketing at Interatom, a Siemens/KWU subsidiary. After he joined Bayer in 1987, he spent two years at the power plant division and four years at the corporate staff division for investment and maintenance budget coordination. Since 1991, he has served in process innovation.

Dr. Gestermann received his master's and PhD degrees in physics from the University of Bonn and the Max-Planck-Institute at Göttingen.



FULVIO FEDERICO was born in Milan, Italy in 1966. He received his degree in chemical engineering at the Politecnico di Milan in 1991. He began his career at De Nora in 1993, where he developed substantial experience in electrolyzer design for new processes, especially those using gas diffusion electrodes. He is now Electrolyzers Development Manager of De Nora Tecnologia Elettrochimiche S.r.l., Gruppo De Nora's Research and Development Company. Since 1997 he has been

responsible for technology development in HCl electrolysis with oxygen consuming cathode, as project manager of the programs of Bayer-Uhdenora Technologies cooperative and Bayer-De Nora Elettrodi cooperative.



GIUSEPPE FAITA graduated with a thesis on certain characteristics of the DSA anodes suitable for chlorine evolution at the department of physical chemistry and electrochemistry of the Università degli Studi di Milano where he is presently associate professor of industrial chemistry and lecturer for industrial chemistry and construction materials for chemical plants courses. In 1974 he began as acting technical advisor to chemical and engineering companies.

In particular, until 1984 he was the supervisor of the Corrosion and Electrochemistry Department of the G. Donegani Institute, where he launched an R&D program in the field of corrosion protection and set up a task force for the in-maintenance inspection of the plants of the Montedison-Enichem Group. Until 2000 he was in charge of R&D in the De Nora Group, with special emphasis on identifying strategic development lines. In 1990 he established the R&D team for membrane fuel cell development, which later became the technical core of a dedicated company, Nuvera Fuel Cells Europe. Since 2000 he has been technical advisor for R&D programs of the group, with special consideration for intellectual property strategies. Since 1995 he has been cooperating with certain chemical companies for the development of perfluorinated ion-exchange membranes suitable for fuel cells. Dr. Faita is author or coauthor of 50 papers in the

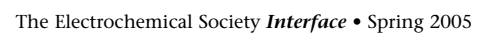
field of electrochemistry and corrosion protection published in international journals, has given 18 invited lectures, and is the inventor or coinventor in 17 patents and patent applications.

David C. Grahame Award of the Physical Electrochemistry Division

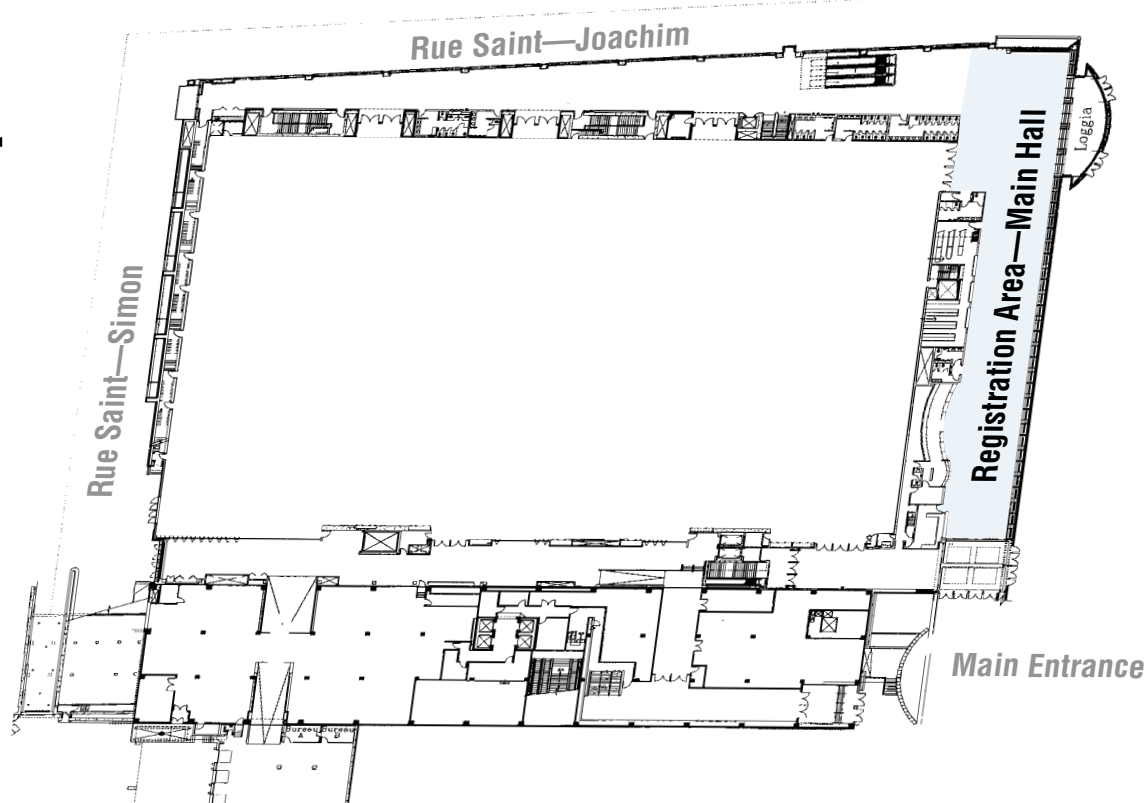


Henry S. White will receive the David C. Grahame Award of the Physical Electrochemistry Division during the Physical Electrochemistry Division Luncheon and Business Meeting on Monday, May 16 at 1215h in Portneuf-St. Foy, on the first floor of the Hilton Québec City. He will present his award address, "Random Walks and Electron-Transfer Rates at Nanometer-Scale Electrodes," as part of the Electrocatalysis Symposium on Monday, May 16 in Room 202 on Level 2 of the Québec City Convention Center. The David C. Grahame Award Reception will be held on Wednesday, May 18 at 1830h in the Solarium, Level 3, of the Québec City Convention Center.

HENRY S. WHITE received his BS degree in chemistry from the University of North Carolina (1978) and a PhD degree in chemistry from the University of Texas (1983), during which time he learned electrochemistry, respectively, in the Murray and Bard camps. Following a postdoctoral appointment at the Massachusetts Institute of Technology, he joined the faculty of the Department of Chemical Engineering and Materials Science at the University of Minnesota. During a nine-year period at Minnesota, he was a McKnight and a Shell Professor of Chemical Engineering. In 1993, he moved to the University of Utah, where he is currently a Professor in the Department of Chemistry. Professor White's research spans experimental and fundamental electrochemistry, with interests in biological, physical, and materials chemistry. His group has contributed to electrochemistry in nanoscale domains, interfacial electric field effects on the behavior of surface-confined redox molecules, electro-osmotic transport of drugs through human skin, application of magnetic fields in electrochemistry, scanning electrochemical microscope methodology for visualizing and quantifying porous membrane transport, and theory describing the interplay of molecular transport and the electrical double layer. Current research interests include electrochemistry in ultrathin-layer cells, the nanopore electrode sensor, electrochemical particle counting methods, collision theory at nanoscale electrodes, and magneto-electrochemistry using magnetic electrodes. He is currently the President of the Society of Electroanalytical Chemistry and an Associate Editor of the Journal of the American Chemical Society. He is the recipient of the C. N. Reilly Award of the Society of Electroanalytical Chemistry (2000), the Faraday Medal of the Royal Society of Chemistry, Electrochemistry Group (2002), the ACS Analytical Division Award in Electrochemistry (2004), the Students Choice Teaching Award (2003), and the Distinguished Creative Research Award (2004) at the University of Utah. With Professor Richard M. Crooks, he co-founded the Potter's Lodge Meeting on Electrochemistry (1996). Professor White is a past vice-chair and chair of the Twin Cities Section of The Electrochemical Society (1988-1990), and has organized a number of ECS symposia over the past 20 years.



LEVEL 4



Forthcoming Titles

The following proceedings volumes are planned to be published from the Québec City meeting and will be available on or before July 1, 2005. If you would like to receive information on any of these titles, please send an e-mail to forthcomingtitles@electrochem.org.

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- | | |
|----|---|
| T1 | Modeling of Electrochemical Systems , <i>J. Weidner, et al.</i> |
| V1 | Nanostructured Materials for Energy Storage and Conversion , <i>K. Zaghib, et al.</i> |
| Y2 | Diagnostic Methods for Monitoring Fuel Cell Processes, <i>T. Zawodzinski, et al.</i> |
| Y3 | Electrocatalysis, <i>R. Adzic, et al.</i> |

Québec City Convention Centre



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K1-Advanced Gate Stack, Source/Drain, and Channel Engineering for Si-Based CMOS: New Materials, Processes, and Equipment

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Q1-Ninth International Symposium on Solid Oxide Fuel Cells (SOFC IX)

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Delphi Corporation
University of Sherbrooke

1st International Industrial Workshop on SOFC

"How to Bridge the Gap from R&D to Market?"

Sponsored by Natural Resources Canada, Government of Québec, and the University of Sherbrooke, the Workshop will take place in the Québec City Convention Center, Québec, Canada, on Sunday May 15, prior to the Ninth International Symposium on Solid Oxide Fuel Cells (SOFC-IX) at The Electrochemical Society's 207th Meeting.

The main goal of the Workshop is to provide a forum for sharing experiences in the barriers to SOFC commercialization and for discussing strategies that can accelerate both the mass production of SOFCs and their eventual entry into the market place. The Workshop will consist of invited speakers (Mogens Mogensen, Risø, Denmark; John Stannard, Fuel Cell Technologies, Canada; Helge Holm-Larsen, Haldor Topsøe A/S, Denmark; Gunter Schiller, DLR, Germany; Steven Shaffer, Delphi Corporation, USA), with each talk to be followed by discussion in the following areas:

- Technology Barriers to SOFC Commercialization
- Stationary Applications (small residential systems, large commercial systems and SOFC / gas turbine hybrid systems)
- Transport Applications (Automotive APUs and Aircraft APUs)

The workshop (no registration fee) is directed at world-wide industrial, university, and government researchers active in SOFC developments and related fields. If you intend to attend the Workshop on Sunday May 15, please send your name, title, organization, and e-mail address before April 1, 2005 to:

Marc Leclair, Marc.Leclair@USherbrooke.ca or by fax at: (819) 821-7955

Note: Space is limited, the first 100 registrants will receive their confirmation by e-mail.

QUÉBEC CITY MEETING – TECHNICAL SESSIONS

MAY 15-20, 2005

All technical sessions are held in the Québec City Convention Center. All room numbers that begin with “2” are on Level 2; all room numbers that begin with “3” are on Level 3.

Code	Technical Symposia	Sunday, May 15		Monday, May 16	
		AM	PM	AM	PM
	Plenary Lecture			0830 Plenary Lecture	
A1	All Divisions General Student Poster Session				Post 1-66 Rm 200C
A2	All Divisions Nanotechnology			Abs 67-72 Rm 203	Abs 73-82 Rm 203
B1	Battery / Energy Technology Battery and Energy Technology Joint General Session			Abs 111-116 Rm 2000C	Abs 117-129 Rm 2000C
C1	Corrosion Corrosion General Session			Abs 220-225 Rm 205C	Abs 226-232 Rm 205C
D1	Corrosion / Electrodeposition / Physical Electrochemistry Nanoscale Aspects in Electrochemical Surface Modification and Corrosion			Abs 256-260 Rm 201B/C	Abs 261-269 Rm 201B/C
E1	Corrosion / Electronics Chemical, Electrochemical, and Mechanical Effects on CMP, Tribocorrosion, and Biotribocorrosion				
F1	Electrodeposition / Dielectric Science & Technology / Electronics / High Temperature Materials Electrochemical Processing in ULSI Fabrication and Electrodeposition of and on Semiconductors VI				
G1	Dielectric Science & Technology / Electronics Science and Technology of Dielectrics in Emerging Fields (2nd)			Abs 376-379 Rm 206B	Abs 380-387 Rm 206B
H1	Dielectric Science & Technology / Electronics / High Temperature Materials Silicon Nitride and Silicon Dioxide Thin Insulating Films and Other Emerging Dielectrics (8th)			Abs 395-397 Rm 204B	Abs 398-402 Rm 204B
I1	Electrodeposition / Physical Electrochemistry Surfactant and Additive Effects on Thin Film Deposition and Particle Growth			Abs 439-441 Rm 2000D	Abs 442-450 Rm 2000D
J1	Electronics Semiconductor Wafer Bonding: Science, Technology, and Applications (8th)			Abs 476-478 Rm 301B	Abs 479-485 Rm 301B
J2	Electronics Silicon-on-Insulator Technology and Devices (12th)				
J3	Electronics State-of-the-Art Program on Compound Semiconductors (SOTAPOCS XLII)				
K1	Electronics / Dielectric Science & Technology / High Temperature Materials Advanced Gate Stack, Source/Drain, and Channel Engineering for Si-Based CMOS: New Materials, Processes, and Equipment <small>(Sponsored by: Sigma Aldrich, Applied Materials, AnnealSys, ASM International, Aviza Technologies, Axcellis, Freescale, Intel, Jusun Engineering, Mattson Technology, Philips Lighting, Philips Semiconductors)</small>			Abs 612-616 Rm 2000B	Abs 617-626 Rm 2000B

207TH ECS MEETING

Tuesday, May 17		Wednesday, May 18		Thursday, May 19		Friday, May 20	
AM	PM	AM	PM	AM	PM	AM	PM
Abs 83-91 Rm 203	Abs 92-97 Rm 203 Post 98-110 Rm 200A-C						
Abs 130-141 Rm 2000C	Abs 142-153 Rm 2000C Post 154-192 Rm 200A-C	Abs 193-198 Rm 2000C	Abs 199-210 Rm 2000C	Abs 211-219 Rm 2000C			
Abs 233-242 Rm 205C	Post 243-255 Rm 200A-C						
Abs 270-278 Rm 201B/C	Abs 279-289 Rm 201B/C Post 290-292 Rm 200A-C	Abs 293-296 Rm 201B/C	Abs 297-305 Rm 201B/C				
Abs 306-313, 1798-1799 Rm 204A	Abs 314-324 Rm 204A						
	Abs 325-332 Rm 302B Post 333-346 Rm 200A-C	Abs 347-353 Rm 302B	Abs 354-362 Rm 302B	Abs 363-375 Rm 302B			
	Abs 388-391 Rm 206B Post 392-394 Rm 200A-C						
Abs 403-407 Rm 204B	Abs 408-415, 418 Rm 204B	Abs 409, 416-417 Rm 204B	Abs 419-423 Rm 204B	Abs 424-428 Rm 204B	Abs 429-434 Rm 204B	Abs 435-438 Rm 204B	
Abs 451-459 Rm 2000D	Abs 460-466 Rm 2000D Post 467-470 Rm 200A-C	Abs 471-475 Rm 2000D					
Abs 486-492 Rm 301B	Abs 493-500 Rm 301B Post 501-513 Rm 200A-C	Abs 514-517 Rm 301B	Abs 518-526 Rm 301B				
Abs 527-534 Rm 301A	Abs 535-542 Rm 301A Post 543-548 Rm 200A-C	Abs 549-552 Rm 301A	Abs 553-561 Rm 301A	Abs 562-570 Rm 301A	Abs 571-577 Rm 301A		
	Abs 578-587 Rm 302A	Abs 588-592 Rm 302A	Abs 593-603 Rm 302A	Abs 604-611 Rm 302A			
Abs 627-636 Rm 2000B	Abs 637-644 Rm 2000B Post 645-673 Rm 200A-C	Abs 674-678 Rm 2000B	Abs 679-687 Rm 2000B				

QUÉBEC CITY MEETING – TECHNICAL SESSIONS

MAY 15-20, 2005

Code	Technical Symposia	Sunday, May 15		Monday, May 16	
		AM	PM	AM	PM
L1	Electronics / IEEE Electron Devices Society ULSI Process Integration IV			Abs 688-690 Rm 301A	Abs 691-697 Rm 301A
M1	Electronics / Physical Electrochemistry Processes at the Compound-Semiconductor/Solution Interface			Abs 725-729 Rm 302B	Abs 730-736 Rm 302B
N1	Energy Technology / Battery / Industrial Electrolysis & Electrochemical Engineering Generation of Hydrogen from Renewable Sources				
O1	Energy Technology / Battery / Physical Electrochemistry Fuel Cells from Materials to Systems			Abs 757-762 Rm 2000A	Abs 763-774 Rm 2000A
Fullerenes, Nanotubes, and Carbon Nanostructures Fullerenes, Carbon Nanotubes, and Carbon Nanostructures Symposia					
P2	Electron Transfer and Its Applications			Abs 825-829 Rm 303A	Abs 830-838 Rm 303A
P3	Photoinduced Processes				
P4	Molecular and Supramolecular Chemistry of Fullerenes				
P5	Carbon Nanotubes and Nanostructures: Fundamental Properties and Processes			Abs 880-884 Rm 303B	Abs 885-893 Rm 303B
P6	Carbon Nanotubes and Nanostructures: Applications and Devices				
P7	Endofullerenes and Carbon Nanocapsules				
P8	Energetics, Structure, and Solid-State Physics				
P9	Fullerene and Carbon Nanotube-Based Materials in Medicine and Biology				
P10	Porphyrins and Supramolecular Assemblies				
P11	Quantum Dots, Rods, and Wires			Abs 968-972 Rm 304A/B	Abs 973-981 Rm 304A/B
P12	Poster Session				
Q1	High Temperature Materials / Battery / Energy Technology / SOFC of Japan Solid Oxide Fuel Cells (SOFC IX) <small>(Sponsored by: Delphi Corporation, InDEC B. V./H C Starck GmbH, Materials and Systems Research, Inc., National Research Council of Canada, NexTech Materials, SOFC Society of Japan, University of Sherbrooke)</small>			Abs 1023-1027 Rm 200B	Abs 1028-1039 Rm 200B
R1	Industrial Electrolysis & Electrochemical Engineering Industrial Electrolysis and Electrochemical Engineering General Session				
S1	Industrial Electrolysis & Electrochemical Engineering / Electrodeposition Electrochemical Surface Treatments			Abs 1272-1277 Rm 204A	Abs 1278-1282 Rm 204A
T1	Industrial Electrolysis & Electrochemical Engineering / Physical Electrochemistry Modeling of Electrochemical Systems				
U1	Luminescence & Display Materials Persistent Phosphors			Abs 1323-1326 Rm 206A	Abs 1327-1334 Rm 206A

207TH ECS MEETING

Tuesday, May 17		Wednesday, May 18		Thursday, May 19		Friday, May 20	
AM	PM	AM	PM	AM	PM	AM	PM
		Abs 698-701 Rm 206B	Abs 702-707 Rm 206B	Abs 708-715 Rm 206B	Abs 716-724 Rm 206B		
Abs 737-743 Rm 302B	Post 744 Rm 200A-C						
	Post 745 Rm 200A-C	Abs 746-749 Rm 205A	Abs 750-756 Rm 205A				
Abs 775-785 Rm 2000A	Abs 786-795 Rm 2000A Post 796-813 Rm 200A-C		Abs 814-824 Rm 2000A				
Abs 839-846 Rm 303A	Abs 847-852 Rm 303A						
	Abs 853-855 Rm 303A	Abs 856-860 Rm 303A	Abs 861-869 Rm 303A	Abs 870-877 Rm 303A	Abs 878-879 Rm 303A		
Abs 894-899 Rm 303B	Abs 900 Rm 303B						
Abs 901-902 Rm 303B	Abs 903-906 Rm 303B						
	Abs 907-910 Rm 303B	Abs 911-915 Rm 303B	Abs 916-917 Rm 303B				
			Abs 918-924 Rm 303B	Abs 925-931 Rm 303B			
				Abs 932-937 Rm 304A/B	Abs 938-941 Rm 304A/B		
Abs 942 Rm 304A/B	Abs 943-952 Rm 304A/B	Abs 953-957 Rm 304A/B	Abs 958-967 Rm 304A/B				
Abs 982-987 Rm 304A/B							
	Post 988-1022 Rm 200A-C						
Abs 1040-1050 Rm 200B	Abs 1051-1062 Rm 200B Post 1063-1135 Rm 200B	Abs 1136-1141 Rm 200B	Abs 1142-1153 Rm 200B	Abs 1154-1164 Rm 200B	Abs 1165-1175 Rm 200B Post 1176-1238 Rm 200B	Abs 1239-1249 Rm 200B	Abs 1250-1258 Rm 200B
Abs 1259-1266 Rm 206B	Post 1267-1271 Rm 200A-C						
	Post 1283-1286 Rm 200A-C						
	Post 1287-1289 Rm 200A-C	Abs 1290-1295 Rm 205C	Abs 1296-1307 Rm 205C	Abs 1308-1318 Rm 205C	Abs 1319-1322 Rm 205C		
	Post 1335-1340 Rm 200A-C						

QUÉBEC CITY MEETING – TECHNICAL SESSIONS

MAY 15-20, 2005

Code	Technical Symposia	Sunday, May 15		Monday, May 16	
		AM	PM	AM	PM
V1	New Technology Subcommittee / Fullerenes, Nanotubes, and Carbon Nanostructures / Dielectric Science & Technology / Electrodeposition / Energy Technology / Battery / Physical Electrochemistry Nanostructured Materials for Energy Storage and Conversion			Abs 1341-1345 Rm 205A	Abs 1346-1356 Rm 205A
W1	Organic & Biological Electrochemistry Organic and Biological Electrochemistry General Session				
W2	Organic & Biological Electrochemistry Electron Transfer Through Organic and Biological Bridges II				
W3	Organic & Biological Electrochemistry Prospective Trends in Synthetic and Mechanistic Organic Electrochemistry			Abs 1430-1435 Rm 205B	Abs 1436-1446, 1800 Rm 205B
X1	Organic & Biological Electrochemistry / Sensor Biomolecular Sensors and Arrays				
Y1	Physical Electrochemistry Physical Electrochemistry General Session				
Y2	Physical Electrochemistry Diagnostic Methods for Monitoring Fuel Cell Processes				Abs 1506-1514 Rm 302A
Y3	Physical Electrochemistry Electrocatalysis			Abs 1524-1528 Rm 202	Rm 1529-1540 Rm 202
Z1	Physical Electrochemistry / Organic & Biological Electrochemistry Biophysical Electrochemistry, in Honor of Katsumi Niki	Abs 1628-1632 Rm 207	Abs 1633-1640 Rm 207	Abs 1641-1646 Rm 207	Abs 1647-1655 Rm 207
AA1	Physical Electrochemistry / Sensor / Corrosion Nanostructured and Functionalized Conducting Polymer Films and Related Materials				
AC1	Sensor Sensors, Actuators, and Microsystems General Session				
AD1	Sensor / Energy Technology Environmental, Fuel Cell, and Advanced Automotive Sensors				
AE1	Sensor / Physical Electrochemistry / Corrosion Impedance-Based Sensors				

207TH ECS MEETING

Tuesday, May 17		Wednesday, May 18		Thursday, May 19		Friday, May 20	
AM	PM	AM	PM	AM	PM	AM	PM
Abs 1357-1366 Rm 205A	Abs 1367-1378 Rm 205A Post 1379-1399 Rm 200A-C						
				Abs 1400-1408 Rm 205B			
Abs 1409-1417 Rm 207	Abs 1418-1426 Rm 207 Post 1427-1429 Rm 200A-C						
Abs 1447-1452 Rm 205B	Abs 1453-1458 Rm 205B						
	Post 1459-1462 Rm 200A-C		Abs 1463-1471 Rm 2000D				
	Post 1472-1481 Rm 200A-C	Abs 1482-1487 Rm 203	Abs 1488-1496, 1801 Rm 203		Abs 1497-1505 Rm 203		
Abs 1515-1522 Rm 302A	Post 1523 Rm 200A-C						
Abs 1541-1551 Rm 202	Abs 1552-1563 Rm 202 Post 1564-1568 Rm 200A-C	Abs 1569-1574 Rm 202	Abs 1575-1584 Rm 202	Abs 1585-1595 Rm 202	Abs 1596-1606 Rm 202	Abs 1607-1616 Rm 202	Abs 1617-1627 Rm 202
	Post 1656-1659 Rm 200A-C						
Abs 1660-1670 Rm 206A	Post 1671-1680 Rm 200A-C	Abs 1681-1686 Rm 207	Abs 1687-1697 Rm 207	Abs 1698-1708 Rm 207	Abs 1709-1719 Rm 207	Abs 1720-1729 Rm 207	
		Abs 1730-1735 Rm 204A	Abs 1736-1746 Rm 204A	Abs 1747-1757 Rm 204A	Abs 1758-1768 Rm 204A		
	Abs 1769-1774 Rm 206A Post 1775-1778 Rm 200A-C	Abs 1779-1781 Rm 206A	Abs 1782-1788 Rm 206A				
			Abs 1789-1797 Rm 205B				



New ECS Publications

from the ECS Québec City, Canada meeting • May 15-20, 2005

The following will be published from symposia held during the Québec City meeting and will be available for pick up at the meeting. Prices (in USD) shown are for ECS Members (M) and Nonmembers (NM).

	Quantity	Total
PV 2005-01 —Silicon Nitride and Silicon Dioxide Thin Insulating Films and Other Emerging Dielectrics VIII— <i>Editors: R. E. Sah, M. J. Deen, J. Zhang, Y. Yota, and Y. Kamakura</i> , ISBN 1-56677-459-4, M \$78.00, NM \$101.00	_____	\$ _____
PV 2005-02 —Semiconductor Wafer Bonding VIII: Science, Technology, and Applications— <i>Editors: K. D. Hobart, C. E. Hunt, H. Baumgart, T. Suga, and S. Bengtsson</i> , ISBN 1-56677-460-8, M \$74.00, NM \$96.00	_____	\$ _____
PV 2005-03 —Silicon-on-Insulator Technology and Devices XII— <i>Editors: G. K. Celler, S. Cristoloveanu, J. G. Fossum, F. Gamiz, K. Izumi, and T.-W. Kim</i> , ISBN 1-56677-461-6, M \$77.00, NM \$100.00	_____	\$ _____
PV 2005-04 —State-of-the-Art-Program on Compound Semiconductors XLII -and- Processes at the Compound-Semiconductor/Solution Interface— <i>Editors: P. C. Chang, K. Shiojima, R. E. Kopf, X. Chen, D. Noel Buckley, A. Etcheberry, and B. Marsan</i> , ISBN 1-56677-462-4, M \$78.00, NM \$101.00	_____	\$ _____
PV 2005-05 —Advanced Gate Stack, Source/Drain, and Channel Engineering for Si-Based CMOS: New Materials, Processes, and Equipment— <i>Editors: E. P. Gusev, L. J. Chen, D.-L. Kwong, P. J. Timans, F. Roozeboom, M. C. Öztürk, and H. Iwai</i> , ISBN 1-56677-463-2, M \$80.00, NM \$104.00	_____	\$ _____
PV 2005-06 —ULSI Process Integration IV— <i>Editors: C. Claeys, F. Gonzalez, J. O. Borland, S. Zaima, and D. A. Buchanan</i> , ISBN 1-56677-464-0, M \$76.00, NM \$99.00	_____	\$ _____
PV 2005-07 —Solid Oxide Fuel Cells (SOFC IX), 2 Volume Set— <i>Editors: S. C. Singhal and J. Mizusaki</i> , ISBN 1-56677-465-9 (Set), M \$105.00, NM \$137.00	_____	\$ _____
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