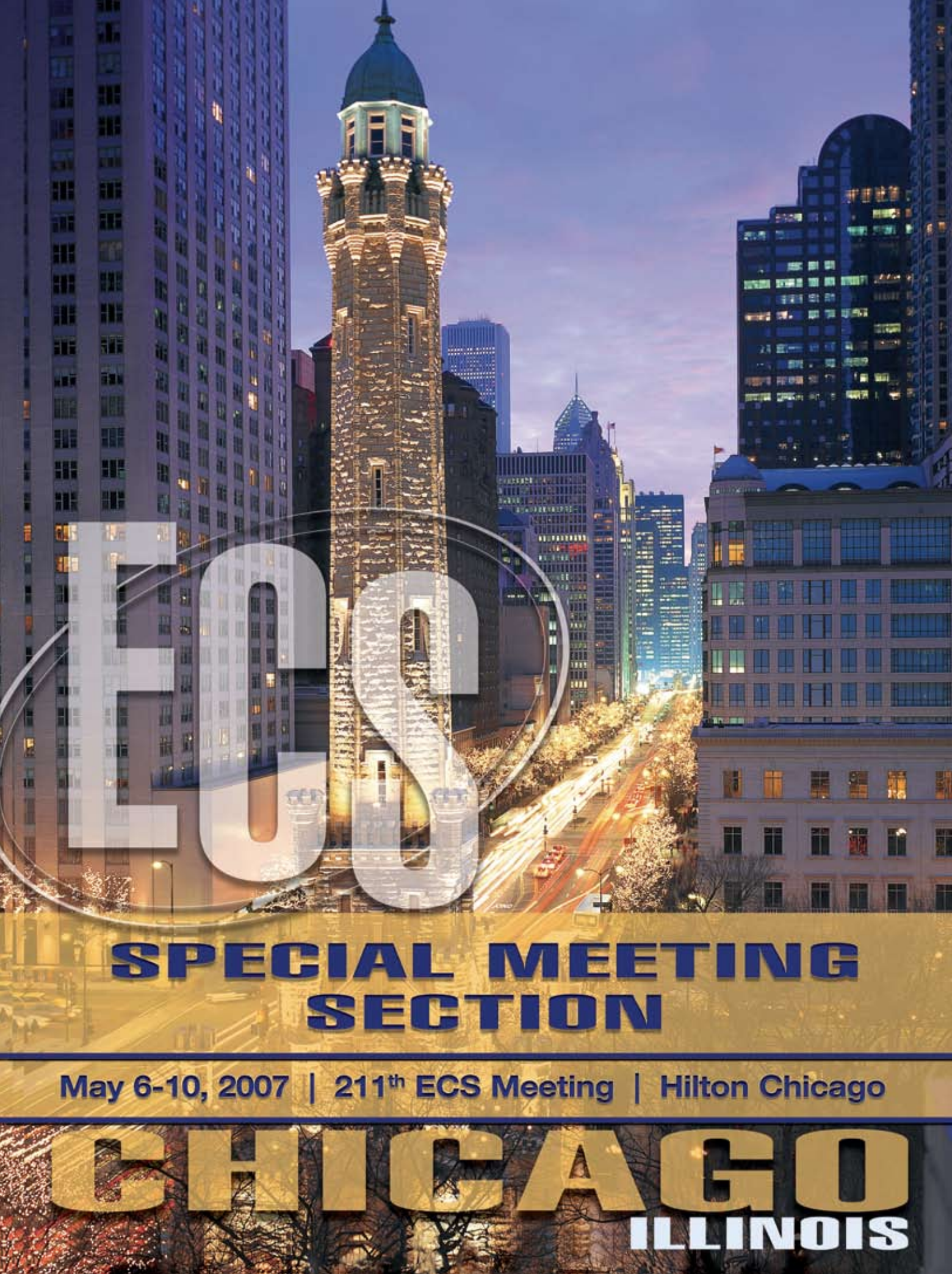


SPECIAL MEETING SECTION

May 6-10, 2007 | 211th ECS Meeting | Hilton Chicago

CHICAGO ILLINOIS

Welcome to Chicago*—a bustling, energetic city known for its world-class cultural attractions, diverse neighborhoods, architectural wonders, first-class shopping and critically acclaimed restaurants. We are pleased to venture into this city again for the 211th ECS Meeting. This major international conference will be held at the Hilton Chicago Hotel and will include 38 topical symposia consisting of 1,351 technical presentations. You are invited to participate not only in the technical program, but also in the other social events planned for the meeting.*

Event Highlights

Sunday, May 6
For the Rest of Us…
1830h, Continental A, Lobby Level

Transistor Lasers: Opening New Optoelectronic Frontiers

by Milton Feng

ECS meetings bring together researchers with wide-ranging interests. The Sunday evening "…For the Rest of Us" lecture series is designed to inform meeting attendees about areas outside of their immediate domain and to promote discussion and cross-Society interactions. This spring's talk is based on the work of Milton Feng and Nick Holonyak, Jr. From the form of the transistor invented by Bardeen and Brattain in 1947, they realized that the "magic" of the transistor was intrinsically in its base. It is the base that potentially offers more, particularly when they looked at the direct-gap, high-speed, high-current density heterojunction bipolar transistor (HBT), and realized that the base, although thin (10-100 nm), had room for more layering (in bandgap and doping) and could be modified. Employing quantum-wells (QWs) and cavity reflection, they create a transistor laser—a novel device with an electrical input, an electrical output, and an optical output. The new device is amazing in the sense of opening new frontiers in optoelectronics integration.

Milton Feng is the Nick Holonyak Jr. Chair Professor of Electrical and Computer Engineering at the University of Illinois at Urbana-Champaign. In 2006, his transistor laser research paper was selected as one of the top five papers in the 43 year-history of *Applied Physics Letters*, and also was selected as one of the top 100 most important discoveries in 2005 by *Discover* magazine.

Monday, May 7
Plenary Session
0800h, Grand Ballroom, 2nd Floor

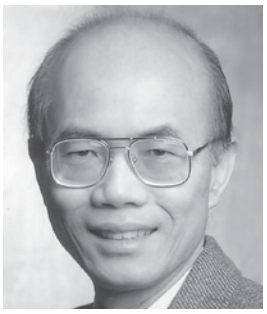
ECS Lecture:

Nanocars and Hybrid Silicon/ Molecule Devices

by James M. Tour

Nanovehicles are a new class of molecular machines consisting of a molecular scale chassis, axles, and wheels that can roll across solid surfaces with structurally defined directions. In this talk, recent progress on the nanovehicle project is presented including the design, synthesis, and testing of a series of nanocars, nanotrucks, and motorized nanocars. Although a number of alternatives to silicon-based materials have been proposed, silicon remains the stalwart of the electronics industry. Generally, the behavior of silicon is controlled by changing the composition of the active region by impurity doping; while changing the surface (interface) states is also possible. As scaling to the sub-20 nm-size region is pursued, routine impurity doping becomes problematic due to its resultant uncertainty of distribution. Provided back-end processing of future devices could be held to temperatures that are molecularly permissive (300-350°C) and taking advantage of the dramatic increase in the surface-area-to-volume-ratios of small features, it is attractive to seek controllable modulation of device performance through surface modifications.

James M. Tour joined the Center for Nanoscale Science and Technology at Rice University in 1999 where he is presently the Chao Professor of Chemistry, Professor of Computer Science, and Professor of Mechanical Engineering and Materials Science. He is also Director of Rice University's Carbon Nanotechnology Laboratory in the Smalley Institute for Nanoscale Science and Technology. Tour's scientific research areas include molecular electronics, nanotubes for health applications, chemical self-assembly, conjugated oligomers, electroactive polymers, combinatorial routes to precise oligomers, polymeric sensors, flame retarding polymer additives, carbon nanotube modification and composite formation, synthesis of molecular motors and nanocars, use of the NanoKids concept for K-12 education in nanoscale science, and methods for retarding chemical terrorist attacks. Tour has about 300 research publications and 20 patents.



Gordon E. Moore Medal Award Lecture:

Thirty Years of Fun and Excitement Working on Silicon Technology at IBM Research

by Tak H. Ning

In his 30-plus years of working at IBM Research, Tak H. Ning participated in and contributed to the rapid evolution of silicon technology. Silicon bipolar technology was revived with the introduction of the polysilicon emitter and the self-aligned polysilicon base contact. However, bipolar as a logic technology was made obsolete when sub-5 V standards were established for CMOS. In the early 1990s, recognition of the limits of CMOS scaling and demonstration of the opportunities offered by SOI propelled the development of SOI CMOS. Embedded DRAM was developed to address the memory–bottleneck issues in computing systems. Dr. Ning will describe the key milestones and reflect on the lessons learned in these events from a personal perspective. The CMOS opportunities going forward will also be discussed.

Tak H. Ning joined IBM at Thomas J. Watson Research Center in 1973. During the early part of his IBM career, he and his colleagues made significant contributions to the understanding of hot-electron effects and electron and hole trapping in MOSFETs, including the discovery and modeling of substrate-hot-electron effects. They demonstrated the shallow-emitter effect and its dependence on emitter-contact material. They invented and developed the polysilicon-emitter self-aligned bipolar transistor, which is the basis of all modern bipolar transistor technology. They also invented the substrate-plate trench-capacitor DRAM cell, which is widely used in stand-alone and embedded DRAM products. He directed and contributed to the development of submicron bipolar and CMOS technologies in IBM Research as well as led his team in exploring SOI and EEPROM devices. He was appointed an IBM Fellow in 1991.

Tuesday, May 8

Annual Society Luncheon and Business Meeting

At 1215h, the Annual Society Luncheon and Business Meeting will be held in Waldorf on the 3rd Floor. The President, Secretary, and the Treasurer will give brief reports on the current state of the Society at this annual business luncheon. All members and meeting attendees are encouraged to participate in this meeting. Tickets are $24.00 in advance and $28.00 onsite.

2007 Gordon E. Moore Award Reception

All meeting registrants are invited to attend the award reception honoring Tak H. Ning, recipient of the 2007 Gordon E. Moore Medal for Outstanding Achievement in Solid State Science and Technology at 1800-1845h, in the Lake Michigan Room on the 8th Floor.

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Web: www.electrochem.org

Short Courses & Workshops

Two Short Courses will be offered on Sunday, from 0900h to 1700h. The registration fee is $425 for ECS Members and $520 for nonmembers. Students are offered a 50% discount. The short course registration fee covers the course, text materials, continental breakfast, coffee break, and luncheon; it is not applicable to any other activities of the meeting. **Pre-registration is required.** All courses are subject to cancellation pending an appropriate number of advance registrants. Visit the ECS website for full course descriptions and instructor biographies.

Short Course #1: Nanostructured Carbon Materials

Dirk M. Guldi, Instructor

This course is targeted at chemists, physicists, materials scientists, and engineers with an interest in nanostructured carbon materials—ranging from fullerenes and carbon nanotubes to carbon onions and carbon nanohorns. The aim of this short course is to introduce the student to the chemistry and physics of these novel carbon allotropes. An overview of recent advances in the synthesis, characterization, and physico-chemical properties of nanostructured carbon materials will be presented. **Dirk M. Guldi** is a professor at Friedrich-Alexander-Universität Erlangen-Nürnberg, Institute for Physical Chemistry, Erlangen, Germany; dirk.guldi@chemie.uni-erlangen.de.

Short Course #2: Advanced Impedance Spectroscopy

Mark E. Orazem, Instructor

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. Ideally, the attendee should have some experience with making impedance measurements. 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. **Mark E. Orazem** is a recognized expert on impedance spectroscopy. He has offered his short course on the topic at ECS meetings eight times since 2000. He is the faculty coordinator for a broad-ranging fuel cell research effort at the University of Florida.

Professional Development Workshops

John R. Susko, Instructor

ECS will sponsor the following three professional development workshops at no extra cost to meeting registrants. All workshops will be held in Astoria, 3rd Floor.

Writing an Effective Cover Letter and Resume—The need for a cover letter, how to write it, the many "do's" and "don'ts" in preparing such a letter, and tips for drafting an effective resume. Sunday, 1500-1545h and Monday, 1200-1245h

Job Interviewing Tips—How to improve your chances of impressing the interviewer; key questions to ask; and other important pointers for the interviewing process. Sunday, 1600-1645h and Monday, 1300-1345h

Resume Round Table—Designed to provide feedback on resumes by publicly critiquing participants' resumes and offering suggestions on ways to make them more effective. To take full advantage of the workshop, please bring a copy of your current professional resume. Monday, 1400-1700h

Award Winners

NOTE: *For complete biographies of the award recipients, and the schedule of their presentations, please see the General Meeting Program on the ECS website: www.electrochem.org/meetings/biannual/211/211.htm.*

Honorary Membership Award

Gordon E. Moore will be named an Honorary Member of ECS. Moore co-founded Intel in 1968. He became President and Chief Executive Officer in 1975 and held that post until elected Chairman and Chief Executive Officer in 1979. He remained CEO until 1987 and was named Chairman Emeritus in 1997. Moore is widely known for "Moore's law." While originally intended as a rule of thumb in 1965, it has become the guiding principle for the industry to deliver ever-more-powerful semiconductor chips at proportionate decreases in cost.

Physical & Analytical Electrochemistry Division David Grahame Award

Joseph Hupp is currently a Morrison Professor of Chemistry at Northwestern University. Hupp's research centers on supramolecular chemistry and molecular materials chemistry, electrochemistry, and photochemistry, with an emphasis on energy conversion. He has published roughly 230 peer-reviewed papers and served as research advisor for 36 PhD graduates. His interests outside of chemistry include competitive long distance running. He has completed 7 marathons, among them the 2003 Boston Marathon.

Electronics and Photonics Division Award

Yue Kuo is Dow Professor of Chemical Engineering, Electrical Engineering, and Materials Science and Engineering at Texas A&M University. He joined Texas A&M University in 1998 after conducting semiconductor and thin film transistor research in the IBM T. J. Watson Research Center. Prior to that, he did VLSIC research in the Semiconductor Division of Data General. He is a Fellow of ECS (1999) and IEEE (1998), and has received 10 IBM technology and invention awards (1987-1998). Dr. Kuo's research has been focused on understanding the complicated relationship among semiconductor devices, materials, and processes (http://yuekuo.tamu.edu).

Energy Technology Division Research Awards

Yang Kook Sun is a professor of Chemical Engineering at Hanyang University, Korea. Dr. Sun's major research interests are in synthesis and structural analysis of various transitional metal oxides, and their applications in electrochemical devices. His research group intensively focuses on the synthesis of new electrode materials for lithium ion batteries, super-capacitors, and solid oxide fuel cell.

Radoslav Adzic is a tenured chemist, and Leader of the Electrochemistry Group at Brookhaven National Laboratory, whose staff he joined in 1992. Dr. Adzic's research encompasses the areas of surface electrochemistry and electrocatalysis; his findings have been published in over 200 papers. Recently, Adzic has focused on expanding a new concept involving the reduction of electrocatalysts to a monolayer of surface atoms by developing platinum mononolayer electrocatalysts for fuel cell reactions. Most recently, he reported on platinum electrocatalysts modified by gold clusters that do not dissolve under potential cycling conditions (a continuing problem in vehicular applications).

IE&EE NET Award

Ballard Power Systems will receive the award for its Mark 1030 fuel cell, as integrated into Ebara Ballard Corporation's residential fuel cell cogeneration system. The key contributors to the technology are as follows. **Mike Abley** was the unit cell team leader for the Mark1030 fuel cell stack. In this role, Abley had overall responsibility for the plate, seal and membrane electrode assembly (MEA). In addition, he was the senior MEA designer involved in developing the MEA design and working with manufacturing on implementation. **Terry Howe** is the Market Manager for the Residential Cogeneration program, responsible for the market introduction of the Mark1030 fuel cell stack. Howe has been with Ballard for more than 12 years and has held roles in Test Engineering, Fuel Processing Development, Application Engineering, and Program Management. **Greg Knowles** has been involved in a variety of fuel cell component and stack design activities for stationary power products for the past eleven years. As technical leader of the Mark1030 stack hardware design team, Knowles was responsible for design, documentation, and verification activities for the AP2 stack hardware components. **Evelyn Lai** is the Platform Manager for the Cogeneration Power Plat form. Her team is responsible for the product development of the Mark 1030 fuel cell stack. Lai plays a key role in the successful integration of the Mark 1030 fuel cell stack into Ebara Ballard Corporation's residential fuel cell cogeneration system. **Craig Padberg** works as the Mark1030 Supply Chain Manufacturing Leader. Padberg's area of responsibility includes the set-up and coordination of complete product supply chain, manufacturing, planning and quality for all

Mike Abley

Terry Howe

Greg Knowles

Evelyn Lai

Craig Padberg

Steve Pratt

Mark1030 product built in Ballard's Burnaby manufacturing facilities. **Steve Pratt** is the Mark1030 Test Engineering Manufacturing Lead, leading the manufacturing engineering and development activities for the Mark1030 product. This work involves developing lean robust manufacturing processes and the development of designs that are transferable to manufacturing a six-sigma capable quality product.

H. H. Dow Student Achievement Awards of IE&EE

Brenda L. García-Diaz received her BS in Chemical Engineering from the University of Puerto Rico at Mayaguez in 2001. She obtained an MS in Environmental Engineering from the University of Puerto Rico in 2003. Her master's thesis was written on the use of a parallel plate electrochemical reactor for the removal of lead from groundwater. Garcia-Diaz's interest in electrochemistry carried her back to the Department of Chemical Engineering at the University of South Carolina where she is currently a PhD candidate under the guidance of Professor John Weidner. Her primary field of research is in Direct Methanol Fuel Cells (DMFCs).

Minhua Shao earned a BS in Chemistry in 1999 and an MS in Electrochemistry in 2002, both from Xiamen University in China, and a PhD in materials science and engineering from State University of New York at Stony Brook in December 2006. Shao performed his doctoral research under the guidance of Radoslav Adzic at Brookhaven National Laboratory (BNL). His doctoral research focused on understanding the reaction mechanisms of fuel cell reactions by surface enhanced infrared absorption spectroscopy (SEIRAS) and developing platinum-free or low-platinum electrocatalysts for oxygen reduction reaction (ORR) that would significantly lower the cost of fuel cells.

European Section Gerischer Award

Allen J. Bard attended The City College of the College of New York (CCNY) (BS, 1955) and Harvard University (MA, 1956, PhD, 1958). Bard joined the faculty at The University of Texas at Austin (UT) in 1958, and has spent his entire career there. He has been the Hackerman-Welch Regents Chair in Chemistry at UT since 1985. He has authored three books, *Chemical Equilibrium* (1966), *Electrochemical Methods—Fundamentals and Applications* (1980, 2nd Ed., 2001, with L. R. Faulkner), and *Integrated Chemical Systems: A Chemical Approach to Nanotechnology* (1994). His research interests involve the application of electrochemical methods to the study of chemical problems and include investigations in scanning electrochemical microscopy, electrogenerated chemiluminescence, and photoelectrochemistry.

Technical Exhibit

The Technical Session coffee break is scheduled for 0930h in the Southwest Exhibit Hall on Tuesday and Wednesday to allow meeting attendees additional time to browse through the exhibits. The exhibit will feature instruments, materials, systems, publications, and software of interest to attendees.

Exhibit Hours

Monday, May 7 . . . . . 1800-2000h
includes the Monday Evening Poster Session

Tuesday, May 8 . . . . . 0900-1400h
and 1900-2100h
includes the Tuesday Evening Poster Session

Wednesday, May 9 . . . . . 0900-1400h

Exhibitors as of Press-Time

ECS
Booth 9
ecs@electrochem.org
www.electrochem.org

All Cell Technologies
Booth 7
John Presutti
jpresutti@allcelltech.com
www.allcelltech.com

Brinkmann Instruments
Booths 1 & 2
Tara McGowan
info@brinkmann.com
www.brinkmann.com

COMSOL, Inc.
Booth 16
Lindsay Paterson
lindsay@comsol.com
www.comsol.com

Fauske & Associates
Booth 11
James C. Raines
raines@fauske.com
www.fauske.com

Gamry Instruments
Booths 17 & 18
Pete Peterson
ppeterson@gamry.com
www.gamry.com

Ivium Technologies
Booth 12
Antoine Baars
info@ivium.nl
www.ivium.nl

Materials Today
Literature Display
Graeme McIntyre
G.McIntyre@elsevier.com
www.materialstoday.com

Matheson Tri-Gas
Booth 15
Gianni Leonarduzzi
gleonarduzzi@matheson-trigas.com
www.matheson-trigas.com

Maxtek, Inc.
Booth 27
Todd Johnson
todd@maxtekinc.com
www.maxtekinc.com

PEC North America
Booth 19
Peter Ulrix
peter.ulrix@peccorp.com
www.peccorp.com/batteries

Pine Research Instrumentation
Booth 8
Jenny Garry
jgarry@pineinst.com
www.pineinst.com/echem

Scribner Associates
Booth 5
Jason Scribner
jason@scribner.com
www.scribner.com

Webcom Communications
Literature Display
Jessica Thebo
jessicat@infowebcom.com
www.infowebcom.com

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Event Highlights

NOTE: *For a list of Committee Meetings, please visit the Chicago meeting page: www.electrochem.org/meetings/biannual/211/211.htm.*

Sunday, May 6

0900h . . . Short Courses begin
1830h . . . For the Rest of Us — "Transistor Lasers: Opening New Optoelectronic Frontiers," Milton Feng, Continental A, Lobby Level
1900h . . . Electronics and Photonics Division Award Reception and General Meeting, Continental C, Lobby Level
1930h . . . Sunday Evening Get-Together, Normandie Lounge, 2nd Floor

Monday, May 7

0730h . . . Continental Breakfast, Normandie Lounge, 2nd Floor
0800h . . . Plenary Lecture: "Nanocars and Hybrid Silicon/Molecule Devices," James M. Tour; **and** Gordon E. Moore Medal Award Lecture: "Thirty Years of Fun and Excitement Working on Silicon Technology at IBM Research," Tak H. Ning; Grand Ballroom, 2nd Floor
0930h . . . Coffee Break, Normandie Lounge, 2nd Floor
1215h. . . . Industrial Electrochemistry and Electrochemical Engineering Division Luncheon & Business Meeting, Lake Ontario Room, 8th Floor; tickets are $24 in advance, $28 onsite, non-refundable
1215h. . . . Physical and Analytical Electrochemistry Division Luncheon & Business Meeting, Lake Michigan Room, 8th Floor; tickets are $24 in advance, $28 onsite, non-refundable
1700h . . . Chicago Section Reception, Grand Tradition, Lobby Level
1800h . . . Monday Evening Mixer, Student Poster Session, and Technical Exhibit Opening, Southwest Exhibit Hall, Lower Level

Tuesday, May 8

0900h . . . Technical Exhibit, Southwest Exhibit Hall, Lower Level
0930h . . . Coffee Break, Southwest Exhibit Hall, Lower Level
1215h. . . . Annual Society Luncheon and Business Meeting, Waldorf on the 3rd Floor; tickets are $24 in advance, $28 onsite, non-refundable
1800h . . . Gordon E. Moore Award Reception, Lake Michigan Room, 8th Floor
1900h . . . Technical Exhibit and General Poster Session, Southwest Exhibit Hall, Lower Level

Wednesday, May 9

0900h . . . Technical Exhibit, Southwest Exhibit Hall, Lower Level
0930h . . . Coffee Break, Southwest Exhibit Hall, Lower Level
1215h. . . . Dielectric Science and Technology Division Luncheon & Business Meeting, Conference 4M, 4th Floor; tickets are $24 in advance, $28 onsite, non-refundable
1215h. . . . Energy Technology Division Luncheon & Business Meeting, Lake Ontario Room, 8th Floor; tickets are $24 in advance, $28 onsite, non-refundable
1215h. . . . Fullerenes, Nanotubes and Carbon Nanostructures Division Luncheon & Business Meeting, Lake Michigan Room, 8th Floor; tickets are $24 in advance, $28 onsite, non-refundable
1215h. . . . Organic and Biological Electrochemistry Division Luncheon & Business Meeting, Astoria, 3rd Floor; tickets are $24 in advance, $28 onsite, non-refundable
1800h . . . European Section Heinz Gerischer Award Reception, in honor of Allen J. Bard, Astoria, 3rd Floor. Participants of the Processes at the Semiconductor Solution Interface 2 Symposium are invited to attend.

Thursday, May 10

0930h . . . Coffee Break, Continental Foyer, Lobby Level

Hotel & Travel Information

Hotel Reservation Information—The Hilton Chicago Hotel, located at 720 South Michigan Avenue in downtown Chicago (Illinois, USA), is the headquarters hotel for the meeting and all meeting functions will take place there. We encourage you to stay at the Hilton Chicago, where your stay will be most enjoyable and convenient. Guest room reservations for the Hilton Chicago can be made online from the ECS website. The discounted meeting rates are as follows.

Single $175.00. . . Double $205.00

A block of rooms have been reserved for May 6-10, 2007. The special room rate will be available until April 6th, or until the group block is sold-out, whichever comes first. Guests wishing to arrive early may do so starting May 3rd and depart as late as May 14th, based on availability.

There is a credit card required for this reservation for guarantee purposes. The following credit cards are accepted: American Express, Carte Blanche, Diners Club, VISA, MasterCard, and JCB.

If you wish to cancel, please do so 72 hours prior to arrival to avoid cancellation penalties.

A limited number of rooms for guests with special needs, in accordance with ADA, are available. Please contact the hotel reservations department at 1.312.922.4400 to confirm your arrangements.

Ground Transportation—Continental Airport Express ground transportation service is available from O'Hare and Midway Airports to the Hilton Chicago Hotel at a discount for Meeting attendees. Simply make your reservation from the ECS website.

Guests (formerly "Nontechnical Registrants")—Guests of Technical Registrants may make their own meal and activity arrangements using the hotel concierge located in the lobby. There will be no official Nontechnical Registrant Program for the meeting.

Technical Program

Technical Session Co-Chair Orientation— We encourage all Symposium Organizers and Technical Session Co-Chairs to attend this important informational session in Williford A on the 3rd Floor from 1500-1700h on Sunday. The Co-Chair Orientation will take place during the first 10 minutes of the meeting.

Oral Presentations and Audio-Visual—Oral presentations must be in English. Only LCD projectors will be available for oral presentations. Authors will be required to bring their own laptop computers for presentation. Presenting authors should verify laptop/projector compatibility in the speaker ready room at the meeting. Speakers requiring special equipment must make written request to ECS headquarters (meetings@electrochem.org) no later than three weeks before the meeting, and appropriate arrangements will be made at the expense of the author. Visit the ECS website for other details about author presentations.

Poster Presentations and Sessions—Poster presentations must be in English, on a board approximately 4 feet high by 8 feet wide (1.22 m by 2.45 m), corresponding to the abstract number and day of presentation in the final program. Visit the ECS website for other details on Poster Session requirements. Please arrive approximately two to four hours before 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. The

General Society Student Poster Session will be held as a part of the Monday Evening Mixer and Technical Exhibit, which features instruments, materials, systems, publications, and software of interest to meeting attendees. All meeting registrants are invited to attend. Formal presentations will begin at 1800h. Students may start setting up their presentations in the exhibit hall at 1400h; judging of the posters will begin at 1700h.

Speaker-Ready Room—A Speaker-Ready Room will be available Sunday through Thursday, in PDR #7, 3rd Floor. 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 presentation. Additionally, there will be audiovisual technicians available on each level of the Hotel 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.

No Recording Allowed—**Photographing and/or recording of presentations IS NOT PERMITTED unless specifically allowed by the speaker.** Anyone making unauthorized photographs or recordings will be asked to leave the session.

Registration

Meeting Registration—The meeting registration area will be located in the Continental Foyer, Lobby Level of the Hilton Chicago. Registration will open on Sunday and the technical sessions will be conducted Sunday through Thursday.

Advance Registration—Advance registration is encouraged. Register online at www.electrochem.org; or print out the Advance Registration form, and send to: The Electrochemical Society, 65 South Main Street, Pennington, NJ 08534, USA, Fax: 1.609.737.2743. 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 13, 2007.** Refunds are subject to a 10% processing fee and will only be honored if written requests are received by April 20, 2007. All participants of the 211th ECS Meeting 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.

Key Locations

Meeting Registration	Continental Foyer Lobby Level
Information/Message Center	Continental Foyer Lobby Level
ECS Headquarters Office	PDR #4, 3rd Floor
Speaker Ready Room	PDR #7, 3rd Floor
Development Office	Continental Office South, Lobby Level
Employment Interview Room	Continental Office North, Lobby Level

Registration Hours

Sunday, May 6	0800-1830h
Monday, May 7	0730-1730h
Tuesday, May 8	0730-1500h
Wednesday, May 9	0730-1500h
Thursday, May 10	0730-1300h

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.

	Advance	Onsite
Member	$395	$495
Nonmember	$599	$699
Student Member	$145	$245
Student Nonmember	$185	$285
One Day Member	$270	$370
One Day Nonmember	$355	$455
ECS Emeritus & 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.

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.

Employment Services—Companies desiring to recruit employees may place their announcements on a designated bulletin board in the registration area. Please note that these announcements should be no larger than 8 ½" by 11". Continental Office North on the Lobby Level will be available as an Employment Interview Room from 0800-1700h Monday through Thursday for representatives from those companies or institutions that would like to interview 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.

Tour of the University Technology Park at IIT

Founded in 1890, Illinois Institute of Technology (IIT) is a PhD-granting technological university awarding degrees in the sciences, mathematics and engineering, as well as architecture, psychology, design, business, and law. The mission of the Center for Electrochemical Science and Engineering of IIT is to forge industry-IIT partnerships for the development and commercialization of electrochemical technologies for stationary and mobile applications. The newest iteration of IIT's mission is the opening of University Technology Park at IIT (UTP), which includes state-of-the-art facilities designed to help propel a broad spectrum of technological and scientific innovations capable of changing the world. Ideally situated in the heart of Chicago, it will connect clients with the outstanding research faculties and resources at Illinois Institute of Technology and across the city. The IIT Chemical and Environmental Engineering Department invites you see the future firsthand at a reception on Tuesday, May 8, 2007, 1700-1900h. ECS guests will be picked up and returned to the hotel by shuttle bus. For more information, please contact Said Al-Hallaj at IIT, alhallaj@iit.edu, 1.312.567.5118.

Symposium Topics and Organizers

Sessions are marked to indicate if they run on Monday (**M**), Tuesday (**Tu**), Wednesday (**W**), and/or Thursday (**Th**).

HC — **Hard-cover** editions of *ECS Transactions* will be available for purchase and pick-up at the meeting. You may pre-order your hard-cover *ECS Transactions* issue by visitng us online. See back cover for details.
e — **Online** editions of *ECS Transactions* issues will be available ONLY via the ECS Digital Library. Online editions of the Chicago "at" meeting issues will be available for purchase beginning April 27. Please visit the ECS website for all issue pricing and ordering information for the online editions.

A—General & Tutorials

A1—General Student Poster Session (M) — *H. Martin, V. Desai, P. Pintauro, and V. Subramanian*
A2—Tutorials in Nanotechnology: Focus on High Temperature Materials (M, Tu) — *E. Traversa and W. Van Schalkwijk*

B—Batteries, Fuel Cells, and Energy Conversion

B1—Electrochemistry of Novel Electrode Materials for Energy Conversion and Storage (M-Th) — *J. Xu, A. Manthiram, P. Smith, K. Zaghib and T. Zawodzinski*
B2—Characterization and Prevention of Failure Modes of Lithium Polymer and Lithium Ion Batteries in Transportation Applications (M, Tu) — *K. Zaghib, K. Abraham, T. Duong, A. Landgrebe, J. Prakash, and I. Weinstock*
B4—Hydrogen Production, Transport, and Storage 2 (M-W) — *E. Wachsman, M. Heben, A. Manivannan, P. Maupin, V. Ramani, and M. Williams*
B5—Medical Batteries (W) — *C. Holmes and E. S. Takeuchi*
B6—Power Sources for EV and HEV Applications (M-W) — *H. Russell Kunz, K. Abraham, and V. Ramani*

C—Biomedical Applications and Organic Electrochemistry

C1—Organic and Biological Electrochemistry General Oral and Poster Session (Tu-Th) — *A. J. Fry*
C2—Building Complexity into Electrodes and Electrode Processes (M, Tu) — *A. J. Fry, T. Fuchigami, J. Leddy, and J. Rusling*
C3—New Bioanalytical and Biomedical Methods (M, Tu) — *J. Rusling, G. Brisard, C. Bruckner-Lea, A. Simonian, and I. Taniguchi*

D—Corrosion, Passivation, and Anodic Films

D1—Corrosion General Session (Tu, W) — *A. Davenport*

E—Dielectric and Semiconductor Materials, Devices, and Processing

E1—Advanced Gate Stack, Source/Drain, and Channel Engineering for Si-Based CMOS 3: New Materials, Processes, and Equipment (M-W) — *M. Ozturk, E. Gusev, H. Iwai, S. J. Koester, D. Kwong, F. Roozeboom, and P. Timans* HC e
E2—Processes at the Semiconductor Solution Interface 2 (Tu-Th) (joint ECST issue with E5) — *D. N. Buckley, A. Etcheberry, and C. O'Dwyer* HC e
E3—Silicon Nitride, Silicon Dioxide Thin Insulating Films and Emerging Dielectrics 9 (M-Th) — *R. Ekwal Sah, M. Deen, Y. Kamakura, J. Yota, and J. Zhang* HC e
E4—SOI Device Technology 13 (M-Th) — *G. Celler, S. Bedell, S. Cristoloveanu, F. Gamiz, B. Nguyen, and Y. Omura* HC e
E5—State-of-the-Art Program on Compound Semiconductors 46 (M-W) (joint ECST issue with E2) — *L. Chou, P. Chang, Y. Luo, M. Overberg, and M. Yoshimoto* HC e
E6—Thin Film Materials, Processes, and Reliability (M, Tu) — *G. Mathad, M. Engelhardt, K. Kondo, and H. Rathore*

F—Electrochemical/Chemical Deposition and Etching

F1—Electrochemical Processing in ULSI and MEMS 3 (Tu, W) — *H. Deligianni, J. Dukovic, T. Moffat, and J. Stickney*

G—Electrochemical Synthesis and Engineering

G1—Industrial Electrolysis and Electrochemical Engineering General Session (Tu) — *G. Pillay, J. Fenton, and V. Ramani*
G2—Design of Electrode Structures (Tu, W) — *D. T. Mah, E. De Castro, and L. Lipp*
G3—Membranes for Electrochemical Applications (Tu, Th) — *J. Fenton, B. Pivovar, and W. Van Schalkwijk*
G4—Multi-Scale Simulations of Electrochemical Systems (Tu) — *V. Ramani, R. Alkire, S. J. Paddison, and V. Subramanian*

H—Fullerenes, Nanotubes, and Carbon Nanostructures

H1—Electron Transfer and Applications of Fullerene and Nanostructured Materials, in Honor of David Schuster (Tu-Th) — *F. D'Souza, S. Fukuzumi, D. Guldi, and O. Ito*
H2—Molecular and Supramolecular Chemistry of Fullerenes and Carbon Nanotubes (M, Tu) — *N. Martin and J. Nierengarten*
H3—Carbon Nanotubes and Nanostructures: Fundamental Properties and Processes (M, Tu) — *R. Weisman and S. Subramoney*
H4—Carbon Nanotubes and Nanostructures: Applications and Devices (M, Tu) — *S. Rotkin and M. Heben*
H5—Endofullerenes and Carbon Nanocapsules (Tu, W) — *H. Shinohara, T. Akasaka, and A. Balch*
H6—Energetics and Structure (Tu, Th) — *Z. Slanina and O. Boltalina*
H7—Solid-State Physics (Tu, Th) — *Y. Iwasa and P. Rudolf*
H8—Carbon Nanotubes and Nanostructures: Medicine and Biology (Tu, W) — *L. Wilson, T. Da Ros, and K. Decker*
H9—Porphyrins and Supramolecular Assemblies (Tu, W) — *N. Solladie and K. Kadish*
H10—Metallic and Semiconductor Nanoparticles (Tu) — *P. V. Kamat*

I—Physical and Analytical Electrochemistry

I1—Physical and Analytical Electrochemistry General Session (M, Tu) — *H. De Long*
I2—Advance In-Situ Techniques for Analysis of Electrochemical Systems (Tu-Th) — *V. Ramani, C. Korzeniewski, and F. Mansfeld*

J—Sensors and Displays: Principles, Materials, and Processing

J1—Sensors, Actuators, and Microsystems General Session (Tu, W) — *G. Hunter, S. Bhansali, and R. Mukundan*
J3—Nanoporous Materials: Chemistry and Applications (M-W) — *M. Allendorf, T. Armstrong, S. Bhansali, and P. V. Kamat*
J4—Persistent Phosphors 3 (Tu) — *W. Yen*
J5—Sensors Based on Nanotechnology 3 (M, Tu) — *J. Li, M. Deen, J. Rusling, J. Ruzyllo, and E. Traversa*