SEAC*communications*

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The Society for Electroanalytical Chemistry - 111 Loren Place, West Lafayette, IN 47906

Available on the WWW at http://seac.tufts.edu or http://electroanalytical.org

Happy Holidays and the best for the New Year

In this issue:
We thank our sponsors.

SEAC …..-**SOCIETY OF ELECTROANALYTICAL CHEMISTRY**- materials science – bioanalytical chemistry - teaching

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Quote to remember: *"Electrochemical phenomena are central to life itself…"*
Royce W Murray

President's Message

Hello Henry! Welcome to our new president Henry White.

President's Message

Since Peter Kissinger began this column 19 years ago, my predecessors have used this space to offer up their thoughts on topics ranging from SEAC recruitment drives, the best methods for teaching electrochemistry, their favorite political candidates (a Kissinger column, of course), the art of reviewing manuscripts, and the weather in Chapel Hill. Thoughtful and timely commentary on more serious topics, e.g., employment opportunities for Russian electrochemists in the mid-1990's and the impact of 9/11 on our community, have also appeared. I'm always educated and oftentimes entertained by these columns. The June1988 presidential "message" is one of my favorites (reproduced here in its one line entirety):

"Because of his heavy involvement in Bell Labs' experiments on cold fusion, Barry Miller will not be able to provide us with his words of wisdom for this issue."

There are several reasons why I especially like this one. First, it gets to the point about as quickly as anything I've encountered in print. Second, from a historical view, it speaks volumes about the excitement and gold rush atmosphere in the year of cold fusion. Third, this message strikes me as the perfect caption for a Gary Larson cartoon about electrochemists. (Just in case you are not aware, former Prez Barry Miller, now at Case Western Reserve University, is an outstanding electrochemist who has made numerous contributions to the field of electrochemistry over the years.)

The point that I'm going to make here is that I'd like to encounter more *actual* electrochemistry in the SEAC *Communication*. Thus, I am going to use this column, and the time you spend reading it each issue, to highlight a piece of really interesting electrochemistry that I've recently come across that is worthy of some commentary. And, unless I'm impeached, I'm going to continue this theme every 3 months until the summer end of 2005. At the very least, I'm doing some SEAC readers a favor by pointing out an article that may have been passed over. For better or worst, and since I can't resist the opportunity, I'll also give you my thoughts on the piece of science that I'm reporting. Below is my first installment (which will be much shorter than future ones, as I've already used up most of this column's space).

"Molecular electronics" is not my field of research, although I'm frequently reminded that electrochemists inspired this field of work decades ago by their studies of electron transfer across organized monolayers. Molecular electronics *is* really amazing stuff and at the forefront of our field, but like many scientists, I'm skeptical about whether anything that resembles an electronic device will materialize from organic molecules in my lifetime. Challenges such as structural characterization of single molecule-based devices, or improving the stability of molecular interfaces to high temperature and high electric fields, still require some radical new ideas and methods. A neat article that highlights the role of electrochemistry in the molecular electronics field, and which removes some of my personal skepticism about the field, recently appeared in *Science* (November 28, 2003, pg. 1543). Professor David Bocian at University of California, Riverside and his colleagues report their work on developing molecule-based memory devices based on rapid cycling between redox states of a Zn porphyrin monolayer attached to Si (100). The chemistry and voltammetric measurements will be familiar to all readers of this column. The twist on this science is that Bocian and coworkers demonstrate that the Si(100)/porphyrin interface can be heated to 400 ^{o}C, a temperature encountered in the manufacturing of electronic devices. Chemical stability is measured over 10^{12} read-write redox cycles, a remarkably large number. I doubt that future SEAC presidents will be typing this column on computers using porphyrin-based dynamic random access memory, but this really is a paper worth reading, as it addresses some of the practical issues in moving lab-bench molecular electrochemistry into real world electronics. The authors also do a terrific job explaining the requirements of redox-based memory storage devices in language that chemists will appreciate.

Along with our Editor, Anna Brajter-Toth, I encourage SEAC members to submit items of scientific substance to the *Communications*. Reports on interesting science, electrochemical mysteries, and intractable problems are welcome. I believe these items would be received with genuine interest by the electrochemists/friends who read this newsletter. With an electronic publication medium, the format is open.

-DUES RENEWAL TIME

Hi SEACers. This is that time of year again! Time to renew our dues or join, as the activities of SEAC are expanding. Pay or join at the SEAC website at http://seac.tufts.edu/ at Membership. Current regular one year membership dues are $15. Student dues are $7.50. A lifetime membership option is $250.

To renew your membership or to become a new member of SEAC you can simply pay on-line using Mastercard, VISA, or American Express.

- Graduate Student Travel Award- *Note the change of address*

for applications. Deadline for submission of applications for PittCon® 2004 is February 1. Four awards are anticipated.

Send applications to: Awards Committee Chair, Dr. Werner G. Kuhr, Vice President, Research ZettaCore, Inc.
2000 S. Colorado Blvd, Suite 10000, Denver, CO 80222
Phone: (303) 300-2900 x-105
FAX: (303) 300-0977
Email: werner.kuhr@zettacore.com

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- PittCon® 2004

2004 Reilley and Young Investigator Awards Symposium Program

Check out the program of the Reilley and Young Investigator Awards Symposium at PittCon® and spread the word …. See you on Wednesday, March 10, starting at 1:30 PM, in room S402a.

Charles N. Reilley and Young Investigator Awards – arranged by Anna Brajter-Toth, University of Florida

Introductory Remarks – Anna Brajter-Toth

Presentation of the 2004 Charles N. Reilley Award to Adam Heller

Alleviating Disease through Electrochemistry–Adam Heller, University of Texas at Austin

Enhancing Biocompatibility and Analytical Performance of in Vivo Chemical Sensors using Nitric Oxide Releasing/Generating Polymers– Mark E. Meyerhoff, University of Michigan

The Application of Scanning Electrochemical Microscopy to Biological Systems–Allen J. Bard, University of Texas at Austin
Recess
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Presentation of the 2003 Young Investigator Award to Jeff W. Long, Naval Research Laboratory

Carpeting 3-D Nanostructures with Ultrathin Conducting Polymers–Jeff W. Long, Naval Research Laboratory

The Electrochemical Deposition of Films with Regular Nanoporous Architectures–P.N. Bartlett, University of Southampton, UK

- Special talk by Larry Faulkner

This announcement came from the PittCon® 2004 organisers. Larry Faulkner is a member of SEAC and is the 1998 Reilley Award winner.

The Pittsburgh Conference is proud to announce that Dr. Larry Faulkner, President of the University of Texas at Austin, will present a Plenary Lecture, "Good Chemical Measurements and Good Public Policies," to open the Program at PITTCON 2004 in Chicago March 7-12, 2004.

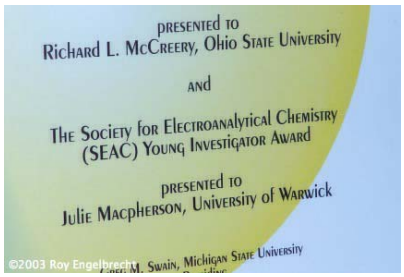
This presentation will have four parts covering (a) illustrations of the impact of analytical chemistry on public debate and public policy, including instances where analytical capabilities actually gave rise to new issues and policies, (b) the manner in which chemical information is handled and understood in public debates, (c) areas of analytical chemistry that will be critical to sound public policy in the future, and (d) implications for the education of leaders and general citizens of modern societies. PITTCON 2004 President John Baltrus stated that, "This shows our continued commitment to bring the most important and recognized speakers in the fields of chemistry and education to PITTCON."

For more information on the 2004 Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, please visit our website http://www.pittcon.org

-Membership Meeting will follow the Reilley and Young Investigator Awards Symposium. All SEAC members are invited!

-SEAC MIXER AND REILLEY AWARDS RECEPTION. A great place to meet SEACErs and their friends.

Greg Swain, SEAC activities chairman, is planning the SEAC activities for PittCon® 2004. Watch for details and plan to attend.



While we are waiting for the official pictures of the 2003 Reilley Awardee, we congratulate Julie MacPherson, 2003 Young Investigator Awardee, here with pres Mark Meyerhoff. Thanks to Adrian Michael and PittCon® for the photos.

- SEAC Members in the News-

-Dick Crooks wins 2003 ECS Carl Wagner Award

At the Fall ECS (Electrochemical Society) Meeting in Orlando **Dick Crooks received the 2003 Carl Wagner Memorial Award of the ECS.** The award was presented to Dick at the Honors and Awards Session. The award address "Analytical Applications of Single-Pore Membranes Based on Carbon Nanotubes" was part of the Electrochemistry Symposium in Honor of Michael Weaver. The Carl Wagner Memorial Award was established in 1980 to "recognize significant achievements in research in areas of interest to the Society (*Electrochemical*), and significant contributions in guidance and development of students or colleagues in education, industry, or government." The award is presented in Fall Meeting of odd-numbered years. The award contents include life membership in the Society. Previous award winners include SEACers C. R. Martin 1999, M. J. Weaver 1997, R. W. Murray 1987 and A. J. Bard 1981, who was the winner of the first Carl Wagner Memorial Award.

- Kevin E. Ashley Honored with 2003 ASTM Award of Merit

Kevin E. Ashley was awarded a 2003 Award Of Merit and the accompanying title of fellow, the highest recognition from ASTM International for individual contributions to standard activities. Dr. Ashley is a research chemist with the center for

Disease Control and Prevention, National Institute for Occupational Safety and Health (CDC/NIOSH) in Cincinnati, Ohio. The award announcement recognizes Dr. Ashleys' exemplary performance, leadership, and personal dedication to the development and promotion of voluntary standards for the identification, reduction, and elimination of hazards associated with lead paint, dust, soil, and airborne particulates found in and around buildings. Dr. Ashley is cited for the development and promotion of ASTM Committee on Performance of Buildings and his activity on the Subcommittee on Lead hazards Associated with Buildings, and is recognized by being the most published member in the field of environmental sampling of lead. Many of his publications have contributed to the technical basis of ASTM standards. In the announcement of the Award Dr. Ashley is recognized for being a member of ASTM Committee on Sampling and the Analysis of Atmospheres, SEAC, the American Conference of Government Industrial Hygienists, and the American Chemical Society.

Many of you may know Dr. Ashley, who is a 1987 graduate of the University of Utah, as is his wife Dr. Diane Perry.

I have asked Dr. Ashley about the electroanalytical connection of his award winning work: "Yes, I've done a great deal of work using field-portable electroanalytical methods to measure lead in environmental samples such as paint, dust wipes, & workplace air, as well as blood samples. "

Congratulations to Dr. Ashley! It is great to hear of great electroanalytical work done and recognized in the REAL WORLD.

You can find more info about ASTM from their web page: www.astm.org .

-"An Electrochemical Evolution and Invitation to the Future"

is the title of Royce Murray's editorial (*Anal Chem 2003.75:325A*) which describes passing of the baton on Bob Osteryoung's retirement as Associate Editor. Royce outlines his vision for the future of *Analytical Chemistry* as a central place for newest electrochemical measurement science, where as yet untested ways and settings, within which to measure electron and ion motion, will help unravel "many important secrets of the chemical universe".

Larry Faulkner was elected an **Honorary Member of the Electrochemical Society** "for major scientific contributions in the fields of electrochemistry and electroanalytical chemistry, and for the long-term service to ECS and the electrochemical community as a whole." **Richard L. McCreery was honored in the 2003 Class of Fellows of the**

Electrochemical Society "for sustained and significant contributions in the areas of carbon electrochemistry, Raman spectroscopy, and corrosion science, and for dedication to the education of students in these areas". The 2003 Fellows were introduced in the Honors and Awards session at the ECS Meeting in Orlando.

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-SEAC welcomes New Members

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SEAC New Members 2003
Prof. Sun Qinshu, Jining Medical College, China
Bingquan Wang, University of CT
Alfred Baca, Cal State at LA
Arun Kumar, Sensochip Lab, NM State Univ
Falak Sher, Cambridge Univ, Wolfson College, UK
Nathan Wittenberg, PSU
Marten Jonsson, Karlstadt Univeristy, Sweden
Thanks to Nancy Harmony for the membership update.

– the dues will go up…… -so catch the last year's rates now.
To renew, or to join: **http://seac.tufts.edu**

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-Meetings…. Meetings….Meetings

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The 2nd circular and call for papers for ESEAC2004, the 10th International Conference on Electroanalysis of the European Society for Electroanalytical Chemistry, to be held at the National University of Ireland, Galway between June 6-10th, 2004.

Scientific Programme
The scientific programme will focus on the following major themes:

Electroanalysis	Sensor Technology	Biotechnology
Miniaturisation	Surface Chemistry	Nanotechnology

Contributed oral and poster papers in the above thematic areas and addressing other important aspects of electroanalytical chemistry are now solicited.

Abstract submission should be made online through the conference website http://www.nuigalway.ie/eseac2004 before 31st January 2004 (follow the link for Abstracts). A Template for the Abstract, which should be used, is available for downloading from the abstracts submission page on the website.

The conference themes will be reflected by presentations by invited speakers including: Allen Bard, Dermot Diamond, Wolfgang Schuhmann, Hubert Girault, Jim Gimzewski, David Williams, Gordon Wallace, Steve Evans, Damien Arrigan, Robert Forster, Donald Fitzmaurice, John Boland, Suzanne Jarvis.

The social programme will include a welcome reception, poster reception, Gala Banquet in a location overlooking Galway Bay, an excursion around scenic western Ireland and genuine Irish hospitality.

Your participation in this event is requested and I look forward to seeing you and/or a representative from your research programme in
Galway next summer.
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e-mail: Donal.Leech@nuigalway.ie http://www.nuigalway.ie/chem/Donal/home.htm
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Tóg go bog é
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BIOSENSORS 2004 - ABSTRACT SUBMISSION DEADLINE REMINDER

Contributions are invited by 2 January 2004 for oral and poster presentations at the Eighth World Congress on Biosensors, 24-26 May 2004 in Granada, Spain. Topics will include:
Nucleic acid sensors & DNA chips
Immunosensors
Enzyme-based biosensors; Organism- and whole cell-based biosensors
Natural & synthetic receptors for biosensors
New signal transduction technology; Systems integration, proteomics and single cell analysis
Bioelectronics, biofuel cells & microanalytical systems
Commercial developments and markets.

In addition to mainstream papers, the program committee will accept contributions of obvious relevance to the community, which describe important new concepts, underpin understanding of the field or provide important insights into the practical design or application of biosensors and bioelectronics.

Contributions from commercial organizations are encouraged including detailed descriptions of development programs and assessments of commercial opportunities.

To receive future updates about the congress please join the Biosensors Congress Email List. Sign up online at: http://www.biosensors-congress.com/reply.htm

Note: You may not receive further information about this or future events in the series by email if you do not join the congress email list.

For further details and to submit an abstract visit: http://www.biosensors-congress.com or contact a.williams@elsevier.com

Electrochemical Society Meeting this Spring.

The Executive committee of the Physical Electrochemistry Division cordially invites you to participate at the spring meeting of the ECS, which will be held May 9-14, 2004 in San Antonio, Texas. There will be six symposia where the Physical Division is either the organizer or the lead co-organizer. These are the symposia labeled T1, T2, T3, U1, U2 and V1) and three symposia, on which the Physical Electrochemistry Division participates as a co-organizer. We hope that you will find one or more these symposia fitting your own research interests and we hope that you will submit your paper to one or more of these symposia. The deadline for submission is January 2, 2004. Detailed Instructions can be found at:
http://www.electrochem.org/meetings/future/205/support/cfp.pdf, including the call for all symposia. For your convenience we are attaching the calls for the Physical Electrochemistry Division related symposia.

If you want to view all the calls for papers in an html format, you can look them up at this link:
http://www.chembio.niu.edu/electrochem/ECS/Calls%20for%20papers%20San%20Antonio.htm
Sincerely,

Petr Vanysek
Physical Electrochemistry Division - Secretary/Treasurer

T1 - **PHYSICAL ELECTROCHEMISTRY GENERAL SESSION** (Physical Electrochemistry) Papers concerning any aspect of physical electrochemistry not covered by topic areas of other specialized symposia at this meeting are welcome. Contributed papers will be programmed in some related order, depending on the titles and contents of the submitted abstracts. Abstracts, suggestions, and inquiries should be sent electronically to the ECS headquarters office and to the session organizer: **G. Brisard**, Department of Chemistry, University of Sherbrooke, 2500 Blv. Universite, Sherbrooke, QC, Canada, Tel: 819.821.7093, Fax: 819.821.8017, E-mail: Gessie.Brisard @USherbrooke.ca.

T2 - **ADVANCES IN SCANNING ELECTROCHEMICAL MICROSCOPY (SECM) AND NANOSCALE ELECTROCHEMICAL SYSTEMS** (Physical Electrochemistry) This symposium is dedicated to the latest developments in scanning electrochemical microscopy (SECM) and closely related nanoscale electrochemical systems. Topics of particular interest include catalysis and combinatorial applications, single cell and molecule experiments, studies of novel interfaces and films, biological applications, novel instrumentation and probe developments, micro-and nanoarrays, and developments in scanning potentiometry and scanning ion conductance microscopy.

Abstracts, suggestions, and inquiries should be sent to the ECS headquarters office and to one of the symposium organizers by January 2, 2004: **C.G. Zoski**, Dept. of Chemistry, Georgia State University, MSC 8L0378, 33 Gilmer St. SE Unit 8, Atlanta, GA 30303, USA, Tel: 404.463.9740, Fax: 404.651.1416, E-mail: checgz@panther.gsu.edu ; **P.R. Unwin**, Dept. of Chemistry, University of Warwick, Coventry, CV4 7AL, UK, Tel: 44.24.7652.3264, Fax: 44.24.7652.4112, E-mail: p.r.unwin@warwick.ac.uk ; or **M.V. Mirkin**, Dept. of Chemistry, Queens College-CUNY, Flushing, NY 11367, USA, Tel: 718.997.4111, Fax: 718.997.5531, E-mail: Michael_Mirkin @qc.edu.

T3 - **TRANSPORT IN COMPLEX MEDIA** (Physical Electrochemistry) When electrochemical processes occur in homogeneous media of sufficient electrolyte concentration, transport is well described by equations such as Fick's laws. When media become more complex, they complicate transport. This can enhance or impede flux. Effects are often tied to the micro- and nano-structure of the media or gradients in properties such as viscosity, density, and exchange site concentration. Papers of interest include but are not restricted to the following: the role of materials/molecular structure in determining transport characteristics, the design and development of methodologies and instrumentation to characterize transport in complex media, transport in media with unusual, or highly controlled geometries, transport in media of graded composition or properties, and theoretical modeling of transport processes in complex media. Abstracts, suggestions, and inquiries should be sent electronically to the ECS headquarters office and the symposium organizers: **M. Majda**, Dept. of Chemistry, University of California, Berkeley, Berkeley, CA 94720-1460, USA, Tel: 510. 642.8961, Fax: 510 642-0269, E-mail: majda@socrates.berkeley.edu ; and **J. Leddy**, Dept. of Chemistry, University of Iowa, Iowa City, IA 52242, USA, Tel: 319.335.1720, Fax: 319.335.1270, E-mail: johna-leddy@uiowa.edu .

U1 - **ELECTROCHEMISTRY AT ELECTRODES MODIFIED WITH ORGANIZED MONOLAYER ASSEMBLIES** (Physical Electrochemistry / Fullerenes, Nanotubes, and Carbon Nanostructures) This symposium will deal with electrochemical processes involving organized, supramolecular molecular assemblies on electrodes. The purposeful, directed modification of electrochemical interfaces using molecular reagents has proved to be a powerful means for both studying and controlling interfacial reactivity. Monolayer assemblies are especially important because they provide for chemical modification on distance scales comparable to the distances over which electrons may be transferred in a single step. Work over the past 15 years on the behavior of electrochemical interfaces modified with molecular monolayers has provided an improved understanding of how interfacial electrochemical reactions, particularly electron transfer reactions, occur, and how they may be controlled. Appropriate topics for the symposium will include, but are not limited to, the following: preparation, characterization, properties, and utility of supramolecular assemblies on electrodes; long-range electron transfer in organized assemblies on electrodes; structural characterization of monolayer-modified electrochemical interfaces; electroanalysis (including bioanalysis) using monolayer-modified electrochemical interfaces; experimental and theoretical studies of charge transfer on nanoscale dimensions; theoretical and experimental studies of molecular electronic phenomena and devices; theoretical and experimental studies

of electrodes consisting of, or modified with, nanoscale objects (e.g. nanoparticles and/or monolayerprotected clusters, fullerenes and/or carbon nanotubes); and monolayer-modified surfaces for energy conversion. Abstracts, suggestions, and inquiries should be sent electronically to the ECS headquarters office and the symposium organizers: **S. Creager**, Department of Chemistry, Clemson University, Clemson, SC, 29634, USA, Tel: 864-656-4995, Fax: 864.656.6613, E-mail: screage@clemson.edu ; **I. Fritsch,** Department of Chemistry and Biochemistry, University of Arkansas, Fayetteville, AR 72701, USA, Tel: 479.575.6499, Fax: 479.575.4049, E-mail: ifritsch@uark.edu ; and **D. Guldi**, Notre Dame Radiation Laboratory, University of Notre Dame, Notre Dame, Indiana 46556, USA, Tel: 574.631.7441, Fax: 574.631.8068, E-mail: guldi.1@nd.edu .

U2 - **MOLECULAR ELECTRONICS** (Physical Electrochemistry / Fullerenes, Nanotubes, and Carbon Nanostructures) Many of the concepts of the rapidly growing fields of molecular electronics have their origin in electrochemistry, particularly in activated electron transfer, tunneling, and field effects in electron transfer reactions. One could argue that electrochemistry has led the way toward understanding molecular electronics, starting with long range electron transfer through self assembled monolayers on modified electrodes. The synergism of electrochemical and molecular electronic concepts is a natural fit to The Electrochemical Society, given its interface between the "dry" and "wet" electrochemical fields. This symposium seeks to highlight electron transfer reactions in both wet and dry devices in which electrons are transferred in response to applied potential. Molecular junctions, electron transfer in nanostructures (nanowires, nanotubes, molecular wires, or three terminal devices), redox events in nanostructured materials, conducting polymers, nanostructured sensor and coulomb staircase phenomena are within the scope of this symposium, as are electron transfer mechanisms in such devices. The general goal of the symposium is the consideration of the molecular and nanostructural issues underlying molecular electronics and an appreciation of the hurdles that remain in order to exploit molecules as electronic concepts. Abstracts, suggestions, and inquiries should be sent to the ECS headquarters office and the symposium organizers: **R. McCreery**, Department of Chemistry, Ohio State University, Columbus, OH 43210, USA, Tel: 614.292.2021, E-mail: mccreery.2@osu.edu ; and **D. Guldi**, University of Notre Dame, Radiation Laboratory, Room 218, Notre Dame, IN 46556, USA, Tel: 574.631.7441, Fax: 574.631.6068, E-mail: guldi.1@nd.edu .

V1 - **INTERNATIONAL SYMPOSIUM ON ELECTROCHEMICAL DETECTION OF BIOMOLECULES** (Physical Electrochemistry / Organic and Biological Electrochemistry / Sensor) This symposium will provide an international and interdisciplinary forum centered on innovative basic and applied research on the detection of biomolecules by electrochemical means. The detection of biomolecules has applications in many areas in basic research for the understanding of the transport and binding of biomolecules within organisms, to applications such as diagnostics, pharmaceutics, and the development of biosensors for national security. This symposium will cover approaches for the electrochemical detection of biomolecules such as lipids, nucleic acids and proteins for all of these applications. Contributed papers are solicited in all areas of biology, chemistry, electrochemistry, electrochemical engineering, and

physics related to the detection of biomolecules by electrochemical means. Topics of interest include: 1. DNA hybridization detection; 2. Coupling of electrochemical detection and separation techniques; 3. Detection of proteins and protein-ligand binding; 4. Modification of electrodes with biomolecules; 5. Biodetection approaches based upon impedance or amperometric detection methods; 6. Electrochemical approaches for signal amplification for enhanced biosensor sensitivity; and 7. Use of electric fields to enhance transport to sensor surfaces for biodetection. Keynote lectures will be presented by invited speakers. Depending upon the number of papers received, a poster session may be planned. Student participation is highly encouraged, and it is anticipated that some funds will be available for student support. Abstracts, suggestions, and inquiries should be sent to the ECS headquarters office and the symposium organizers: **Hugh C. De Long**, AFOSR/NL, 4015 Wilson Blvd, Rm. 713, Arlington, VA, 22203-1954, USA, Tel: 703.696.7722, Fax: 703.696.8449, Email: hugh.delong@afosr.af.mil; **Benjamin Horrocks**, Department of Chemistry, School of Natural Sciences, University of Newcastle upon Tyne, NE1 7RU, United Kingdom, Tel: 44.191.222.5619, Fax: 44.191.222.6929, E-mail: b.r.horrocks@ncl.ac.uk; **H. Holden Thorp**, Department of Chemistry, The University of North Carolina at Chapel Hill, Chapel Hill, NC 27599-3290, USA, Tel: 919. 962.0276, Fax: 919.962.2476, E-mail: holden@unc.edu; and **Cynthia J Bruckner-Lea**, Pacific Northwest National Laboratory, Chemical Sciences Division, P.O. Box 999, K8-93, Richland, WA 99352, USA, Tel: 509.376.2175, Fax: 509.376.1044, E-mail: cindy.bruckner-lea@pnl.gov.

K1 - **POLYMER ELECTROLYTE AND POLYMER NANOCOMPOSITES**
(Energy Technology /Battery / Physical Electrochemistry) Efforts to develop improved electrolytes that satisfy the requirements of lithium rechargeable batteries have intensified in the past years. The electrolyte plays avital role in the performance of a rechargeable Li battery with Li metal anode as well a Li-ion battery. Not only does it affect the performance of the battery but it also influences the physical design of the battery. Papers are solicited on both the fundamental and applied aspects of electrolytes for rechargeable Li batteries with Li metal anode, and Li-ion batteries. Papers on liquid and polymer electrolytes will be included. Topics to be covered include: theoretical and experimental studies of structure-property relationship on electrolytes; development of new salts and solvents; solutions with high anodic stability for the newly emerging 5V Li-ion batteries; electrolytes for very low temperature applications; electrode/ electrolyte interfacial phenomena; special additives to improve electrode/electrolyte interfacial stability, reduce capacity fade, and enhance non-flammability; thermally stable electrolytes; solid polymer and gel polymer electrolytes; cell performance; and new electrolytes for Ca, Mg, and Al batteries. Publication of a proceedings volume is planned to be available after the meeting. Acceptance of a paper to this symposium obligates the authors to submit, to the organizers listed below, a typed camera-ready manuscript and list of key words at the symposium. Instructions for preparing the manuscript can be found on the ECS website. Abstracts should be sent electronically to the ECS headquarters office, and suggestions and inquiries to the symposium organizers: **G. Sandi**, Chemistry Division, Argonne National Laboratory, 9700 South Cass Avenue, Argonne, IL 60439, USA, Tel: 630.252.1903, Fax: 630.252.9288, E-mail: gsandi@anl.gov; and **J. Prakash**, Illinois Inst of Tech. - Chem. & Env. Eng., 10 W 33rd

St., Chicago, IL 60616-3730, USA, Tel: 312.567.3639, Fax: 312.567.8874, Email: prakash@iit.edu.

Q1 - **EDUCATIONAL NEEDS AND APPROACHES FOR ELECTROCHEMISTRY AND ELECTROCHEMICAL ENGINEERING** (Industrial Electrolysis and Electrochemical Engineering / Physical Electrochemistry) The fields of electrochemistry and electrochemical engineering have undergone significant change, driven by emergence of new technologies and by new applications. In addition, advances in characterization techniques and in computational facilities have enabled new insights into electrochemical systems. This symposium provides a forum for a discussion of the extent and manner in which these changes create a need for new content and new approaches for electrochemistry and electrochemical engineering education. Contributions are encouraged from industry as well as academia. The symposium will consist of both invited and contributed papers. Abstracts, suggestions, and inquiries should be sent to the ECS headquarters office and to the session organizers: **J. M. Fenton**, Department of Chemical Engineering, University of Connecticut, Unit-322, 191 Auditorium Road, Storrs, CT 06269-3222, USA, Tel: 860.486.2490, Fax: 860.486.2959, Email: jmfent@engr.uconn.edu **M. E. Orazem**, Department of Chemical Engineering, University of Florida, PO Box 116005, Gainesville, FL, 32611-6005, USA, Tel: 352.392.6207, Fax: 352.392.9513, E-mail: meo@che.ufl.edu **J. Weidner**, Department of Chemical Engineering, University of South Carolina, Swearingen Engineering Center, Columbia, SC 29208-0001, USA, Tel: 803.777.3207, Fax: 803.777.8265, Email: weidner@engr.sc.edu and **J. W. Van Zee**, Department of Chemical Engineering, University of South Carolina, Swearingen Engineering Center, Columbia, SC, 29208-0001 USA, Tel: 803.777.2285, Fax: 803.777.8142, E-mail: vanzee@engr.sc.edu.

X1 - **SENSORS BASED ON NANOTECHNOLOGY** (Sensor / Physical Electrochemistry) The use of sensor materials and devices prepared on the nanometer scale is expanding rapidly. The reduction in particle size to the nanometer level can lead to unique materials properties that can be utilized for chemical and physical sensing, and the control of the structure of sensing surfaces on the nanometer scale can be utilized to enhance sensor properties. Nanoscale sensor components can also lead to physically smaller sensor devices. Phenomena at the nanoscale can improve chemical interactions and transport, as well as physical transduction of sensor signals. Multifunctional nanostructures also offer new opportunities in sensing. This symposium will focus on the research and development of chemical and biological sensors including all aspects of nanotechnology. Areas of special interest include the development and evaluation of new nanostructured materials and or devices for use in sensing or sensor systems. Some examples include: 1. use of nanotubes and nanowires in sensor systems; 2. use of nanoparticles and quantum dots for sensing; 3. organic/inorganic nanocomposites for sensing; 4. nanostructured surfaces and interfaces for sensing; 5. nanometer-scale sensor arrays; and 6. nanosensors for highly localized chemical measurements. Abstracts, suggestions, and inquiries should be sent to the ECS headquarters office and to the symposium organizers: **J. W. Grate**, Pacific Northwest National Lab, P.O. Box 999, Mailstop K8-93, Richland, WA 99352, USA, Tel: 509.376.4242, E-mail:

jwgrate@pnl.gov; **T. Thundat**, Oak Ridge National Laboratory Mailstop-6123, Oak Ridge, TN 37831-6123, USA, Tel: 865.574.6201, Fax: 865.574.6210, E-mail: ugt@ornl.gov; **R. M. Crooks**, Texas A&M University, Department of Chemistry, P. O. Box 30012, College Station, TX 77842-3012, USA, Tel: 979.845.5629, Fax: 979.845.1399, E-mail: crooks@tamu.edu; **J. R. Stetter**, Nanomix, 5980 Horton St., Emeryville, CA94608, USA, E-mail: stetter@iit.edu; and **J. Li**, Floret, 690W Fremont Ave., Sunnyvale, CA 94087, USA, Tel: 650.604.4352, Fax: 650.604.5244, E-mail: jingli@mail.arc.nasa.gov

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Thanks to SEAC board member Petr Vanysek for this information.

2004 Nanotechnology Conference and Trade Show, Nanotech 2004, will take place in Boston, March 7-11, 2004. For details check out the conference web site at **http://www.nanotech2004.com**

- In Other News

- Prof. Christian Amatore elected to *the French Academy of Sciences.* In February 2003 issue of SEAC Communications we congratulated Prof. Christian Amatore on his election to the French Academy as one of only 18 members in the chemistry section of the Academy. Our reporter on the scene, Mark Wightman, filed this report from Ecole Normale Superieure.

Anna,

Recently Al Bard and I traveled across the pond to join Allen Hill and Jean-Michel Saveant in a celebration at Ecole Normale Superieure in Paris. Christian Amatore of that university was elected to the French Academy of Sciences. He joined 18 other chemists in the French Academy, one of whom is another Reilley Award winner, Jean-Michel Saveant. A part of the induction into the Academy, Christian received a sword that he designed himself.

The hand guard is full of loops shaped like cyclic voltammograms! The attached picture shows Christian with his sword explaining to his colleagues the meaning of all of the symbols. More than 300 people joined Christian at this celebration including his mother and family. I enclose pictures of some SEAC members that were there along with one of Christian and his wife, Marie-France.

Christian also received a fancy suit that looks straight out of the 18th century, although he saves it for official Academy meetings. The academy is located across the Seine from the Louvre. In the days when the King lived at the Louvre, he would saunter across the Seine on a wooden bridge that led him to the large front doors of the Academy. Only the King was allowed to enter in that way--even today the members still enter through a side door.

Mark

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The photos: Mark Wightman and Christian; and Al Bard and Jean-Michel Saveant. The induction ceremony took place on November 22. Christian is now an "immortal", the name reserved for the French Academy members, because "their names remain written forever as if they were alive". For the chemistry members of the French Academy of Sciences (*see* http://www.institut-de-france.fr/academiciens/acapres.htm- thanks Christian!). *The process is similar to being knighted in England. The sword and the (Napoleonic-style) suit identify the members of the Academy in formal ceremonies, as Supreme Commanders- equivalent to Marshals.*

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Dick Crooks has recently been named a Senior Editor at Langmuir. Dick will join this ACS journal starting January 1: "Dave Whitten is the Editor-in-Chief at Langmuir, and I will be joining the staff in the same capacity as Ralph (*Nuzzo*)- as a Senior Editor".

Dick with Ozzie- photo thanks to Henry White. For recent headline "It's only logical" science in Dick's lab see C&E News September1.

Dear Ana;
Hope all is well in FL! Perhaps, this news item (below) may be of interest to our SEAC readers.

Have a Wonderful Holiday Season!
Cheers!
Joe
Dear Joe,

Just in case you wish to find out more about the very famous editor of ELECTROANALYSIS, please visit: http://www3.interscience.wiley.com/cgi-bin/jabout/26571/news/index.html (Wiley InterScience homepage)...
Best wishes,
Carina

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Dr. Carina S. Kniep, Manager STM Journals, Wiley-VCH Verlag GmbH & Co. KGaA 69469 Weinheim, Germany Tel: +49 (0) 6201 - 606 – 308 Fax: +49 (0) 6201- 606 – 500 E-mail: STM-journals@wiley-vch.de http://www.wiley-vch.de

For Electroanalysis homepage:
http://www.wiley-vch.de/vch/journals/2049/index.html

Electrochemistry GRC Conference back on track

From: Dan Buttry, 2003 Vice Chair
Subject: Electrochemistry GRC meeting

Yes, we are back in business! It will be a winter conference in 2005. I don't have dates yet, but should soon. So far, I only know it will be between Jan and March, 2005.

Indian Society of Electroanalytical Chemistry Meeting News

Dear Dr Anna,
Many thanks for your response.
The ELAC-2004 meeting being organized under the auspices of ISEAC is scheduled for Jan. 18-23, 2004 at GOA. If you can spare time to attend, it would be nice and we would feel honoured. Many thanks for your response.
With best wishes and friendly greetings
FROM: Dr S.K.Aggarwal, Chairman, Conference Organizing Committee, ELAC-2004 Chairman, Organizing Committee 11th ISMAS-WS2004 Head, Mass Spectrometry Section Scientific Officer SO(H+) President, ISMAS and ISEAC (Indian Society for Mass Spectrometry) and (Indian Society for Electroanalytical Chemistry) Fuel Chemistry Division Bhabha Atomic Research Centre Trombay, Mumbai 400 085, India
EMAIL: skaggr2002@yahoo.co.in skaggr@magnum.barc.ernet.in Tel: +91-22-2559 3740 (work) 2556 5694 (Home) FAX: +91-22-2550 5151/ 2551 9613

Dr Aggarwal had contacted SEAC and Jean-Michel Kauffmann who responded:
Dear Dr. Aggarwal,
I got your inquiry.

The european SEAC Society is not organized as an official Society, indeed. It is an informal group of scientists gathering once in a while at a conference called ESEAC. Next get together party will be back in Ireland as it is the Xth meeting of this type just because the first one was organized in Ireland (incidentally by Dr. Malcolm Smyth). Dr. Donal Leech will be the chairman and organizer of the meeting (***see details in the Meetings section***). The ESEAC has no Newsletter, the only publication is a special issue in Electroanalysis as a result of this get together. You may wish to advertise the creation of your new ISEAC during next ESEAC.

- Books

Two recent books in bio-electrochemistry:

Electroanalytical Methods for Biological Materials- edited by A Brajter-Toth and J Q Chambers. 2002. Marcel Dekker. "This reference book details the most recent strategies for the analysis of biomolecules and electrical phenomena in biological systems. …". For review check out *JACS* 2002. 124:1262. Dekker (www.dekker.com) is offering discounts in a new promotion. For the chemist on your list…..

Encyclopedia of Electrochemistry Vol. 9: **Bioelectrochemistry**- edited by A J Bard and GS Wilson, Wiley -VCH. Check out serious strengths of this book in a complete review by Christian Amatore and Stephane Arbault in *CHEMPHYSCHEM* 2003. 4:215-218.

-ON THE MOVE

Hi All:

I wanted to let you know that I have accepted a permanent position at ZettaCore (see below) and that my UCR contact information is no longer active. While snail mail will be forwarded to my new address, my email and phone numbers at UCR have been deactivated. Please update my contact information on the SEAC web page as well. I look forward to continuing to serve on the SEAC Board, and although my perspective has changed slightly (from biosensing to semiconductor electronics), it is amazing how many of the underlying principles are the same. I should point out that my physical address will change again in roughly 4-6 months, as we are building a new headquarters and research facility just south of Denver, which we should occupy by March 1, 2004. I will provide updated contact information as we move forward.

Sincerely yours,

Werner

Werner G. Kuhr, Ph.D. Vice President, Research ZettaCore, Inc. 2000 S. Colorado Blvd, Suite 10000 Denver, CO 80222 Phone: (303) 300-2900 x-105 FAX: (303) 300-0977
Email: werner.kuhr@zettacore.com

We wish Werner success on his "corporate" move. At PittCon 2003 Werner described the science that led to the company. The science is featured in C&E news December 1 in News of the Week. The corporate price- Werner is included as "others" but we know he was/is there! See President's Message for science brief.

e- mail - you wrote **your comments to previous News…..**

Anna,

This is great.... I automatically add the www in front of the seac.tufts.edu and that is what killed me on the link. www is not needed.

The write ups on Harry and Buzz are super well done. Overall this is a very nice issue and should bode well for keeping the membership up – very nice list of new members...

Thanks,
Pete *(Kissinger at BAS)*

Dear Anna and Sam,

I have just been advised by our University IT staff that the full version of my email address must be used from now on- an IT response to a recent spate of virus attacks!!!!!. Thus, could you please change my email address on the front cover of SEAC Communication.

I am presently on leave until the end of the year at Oxford University, but will send you one of my infrequent reports on "Electrochemistry Down Under " when I return to Australia and discover what is new. I enjoyed reading the September edition of SEAC Communications.

Cheers, Alan (*Bond*)

Anna- I am interested in sending out a postdoc announcement to the SEAC crowd. (***Rick tells me he is set for now***). Thanks, Rick
p.s. the Sept 2003 newsletter looks great!

Richard L. McCreery
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homepage: http://www.chemistry.ohio-state.edu

-JOBS –JOBS -JOBS

From: "Doug Gilman" <gilman@novell.chem.utk.edu>
Organization: Univ. of Tenn. Dept. of Chemistry
Date sent: Tue, 07 Oct 2003 16:39:42 EST
Subject: **Tennessee Analytical Faculty Opening**
Send reply to: sdgilman@utk.edu

Dear Colleague:

The Department of Chemistry at the University of Tennessee is searching for a faculty member in analytical chemistry. A copy of the advertisement for the position is attached, and review of applications will begin Nov. 15. Preference will be given to applications at the rank of Assistant Professor though applications at other ranks will be considered.

Present members of the Analytical Division at UT are: Kelsey Cook, Doug Gilman, Georges Guiochon and Mike Sepaniak. Several faculty members in other divisions have signficant research programs in analytical chemistry. Analytical Chemistry and Electrochemistry have been traditional strengths of the UT Chemistry Department. ***With the recent retirement of Jim Chambers, we would like to encourage potential candidates with research interests in electrochemistry to apply.*** Unique opportunities exist at UT for interaction with Oak Ridge National Laboratory and inter-institutional research initiatives in catalysis and nanoscale material sciences.

Thank you for your consideration of this position announcement and sharing it with potential candidates in your research group and department.

Best regards,

Jim caught me off guard with his retirement. I had enjoyed interacting with Jim for many years and working with him on a book has exceeded my expectations about the benefits of collegial professional interactions. Jim has chaired a search committee recently so this is a surprise. Best wishes to him and to his wife Carey Anne and their family.

For more information about the cover art of new science from Debra Rolison's laboratory at ONRL see October 20 C&E News, News of the Week, at www.cen-online.org.

Send your comments to atoth@chem.ufl.edu. **Have a great New Year!**