SEAC*communications*

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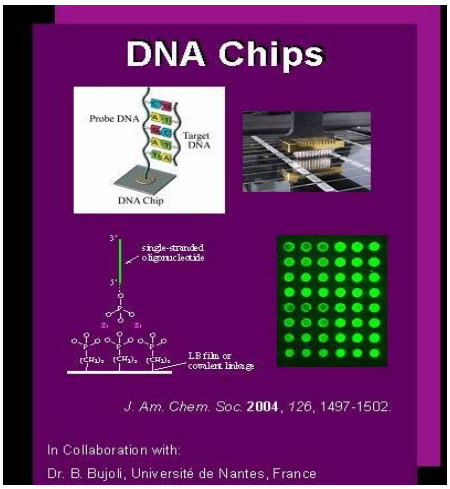
http://electroanalytical.org/

Is Electrochemical DNA chip next?



SEAC - *20 YEARS* -materials science – bioanalytical chemistry

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We thank our sponsors: **BAS**, Cypress - Division of ESA, **CH and Gamry Instruments, Nova Biomedical and PAR.**

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Quote to remember-"… for you to be always fairly, but critically evaluated. Your life will be better for it."

SEAC President's Message

President's Message

As I sit in my office and write this message I am reflecting on plans for SEAC's future. I think I will start here by thanking all of the people (officers and committee members who are all volunteers) that work so hard behind the scenes and all the members for believing in this organization. I am finding out, albeit slowly, just what goes into this organization beyond the areas I have worked in the past on membership and as Secretary. I have asked the officers and the committee chairs to define and review the jobs (volunteers and elected) to create a more efficiently run society and to enhance its effectiveness for future generations. In the meantime, the organization added 24 new life members just before I began which should be an indication that we can be healthy for some time to come. Our membership chair, Ingrid Frisch, is actively compiling a new directory of all the members. Rest assured, we will be courting your ideas, your votes, and your dues in the upcoming year.

It is my opinion that a vision for the future should include increasing the endowment to keep the society on a firm financial level, increasing membership and especially life members, getting more nonacademics involved in society functions, and to better define what can be done for the members of the society. I welcome comments or suggestions from any members that would like to send them to me (email: age(at)psu.edu). We need ideas and you should all feel that you are part of a collective brainstorming of what the society should be and what the society can do.

I would also like to add my congratulations to those from our former Pres and extend them to Mark Meyerhoff on winning the C. N. Reilley Award to be given at Pittcon 2006! Mark has been a major influence in the field of Electroanalytical Chemistry for a long time and this Award could be considered overdue. In addition, I would like to congratulate the SEAC Young Investigator Award winner, Eric Bakker, who has won this honor and moved to Purdue in the same year – almost. Eric, you now need to look to follow in Mark's footsteps for the future!

I have just come from the Welsh Symposium in Houston where George Whitesides won the $300,000 Welsh Award this year! George is a Renaissance man of Chemistry and has contributed a great deal of innovation to chemistry deserving great congratulations. I include here a photo of some of the hooligans hanging around the banquet in George's honor. What an unsavory lot!!

Christian Amatore, Mark Wightman, Henry White, Andy Ewing, Rick Van Duyne get ready to go to the Welsh Symposium Banquet.

The symposium included attendance by four Nobel Laureates. Organized by Allen Bard of the University of Texas, sessions included: New Insights into the Electrode/Solution Interface (Karl Kadish, Dieter Kolb, Richard Van Duyne, Zhong-Qun Tian); Micropores and Channels (Jianpeng Ma, Hagan Bayley, Roderick Mackinnon, Henry White); Electrochemistry of Cells and Enzymes (Andrew Ewing, Christian Amatore, Tomokazu Matsue, R. Mark Wightman); and Electrochemical Properties of Molecules (Alan Heeger, Jacqueline Barton, George Whitesides, Mark Ratner, Mark Reed).

This year we plan to have ballots and membership renewal requests out in early December so please look for these and return them as promptly as possible. I encourage you all to attend Pittcon and the associated electrochemistry symposia including the Reilley Award symposium. I know many despise Orlando and Disney World. Disney is one of my favorite places on earth (if you have not tried Epcot you should open your mind and spend a day there). In any case, Pittcon is a great meeting for gathering electrochemists no matter where it is. I encourage you all to attend the meeting, the Reilley Symposium, the Reilley Reception and all the related electrochemistry talks!! Hope to see you all there.

Andy Ewing

PITTCON® 2006 Charles N. Reilley and Young Investigator Awards

Congratulations to this year's Awards winners:

Mark E. Meyerhoff who iss currently Philip J. Elving Professor of Chemistry in the Department of Chemistry at the University of Michigan, Ann Arbor. He received his Ph.D. from the State University of New York at Buffalo in 1979, working with Professor Garry A. Rechnitz. Following a short post-doctoral stint at the University of Delaware, he joined the faculty at Michigan as an Assistant Professor in the Fall of 1979. He was promoted to associate professor in 1985, and to full professor in 1990.

Meyerhoff's primary research interests are in the field of analytical chemistry, particularly the development of new ion-, gas-, and bio-selective electrochemical sensors suitable for direct measurements of clinically important analytes in physiological samples. Currently, he also has active research programs in the areas of novel non-separation electrochemical immunoassay methods, immobilized metalloporphyrin stationary phases for liquid chromatography, and the development and characterization of novel nitric oxide (NO) releasing polymeric materials for biomedical applications. He and his collaborators have authored more than 250 original research papers on these various topics over the past 26 years.

Professor Meyerhoff received the University of Michigan's Faculty Recognition Award in 1990, was elected as a Fellow by the National Academy of Clinical Biochemistry in 2002, and received the ACS-Division of Analytical Chemistry Award in Electrochemistry in 2003. He currently serves on the editorial/advisory boards of *Analytical Chemistry*, *Clinical Chemistry*, *Biosensors & Bioelectronics*, *Electroanalysis*, *Analytica Chimica Acta*, and *Applied Biochemistry and Biotechnology*. He is also active as a consultant and/or is on the Scientific Advisory Boards of several biomedical companies.

Keith J. Stevenson, Assistant Professor in the Department of Chemistry and Biochemistry at The University of Texas at Austin, will receive the 2006 Young Investigator Award, presented annually by the Society for Electroanalytical Chemistry (SEAC).

Stevenson received his BA in Chemistry from the University of Puget Sound in Tacoma, Washington in 1989. Subsequently, he joined ATI Technologies, Inc. as an Analytical Chemist and focused on method development in the environmental testing of soil and water. In 1992, he left industry to pursue a Ph.D. in

Physical/Analytical Chemistry at the University of Utah. Working under the direction of Prof. Henry. S. White, his graduate work focused on the development of electrochemical scanning tunneling microscopy (E-STM) and associated techniques for studying adsorption phenomena at solid/liquid interfaces. In 1997, he moved to Northwestern University to work with Prof. Joseph T. Hupp where his postdoctoral research activities included the study of mesoporous materials, the development of integrated scanning probe and optical imaging techniques, and the improvement of optical-based chemical sensors.

At the University of Texas at Austin, Stevenson's research concentrates on the creation of advanced functional electrode materials, as well as, on new microscopic tools for their characterization. From a more applied standpoint, this information is useful for the design and optimization of superior chemical technologies associated with the areas of chemical sensing, energy storage/conversion, separations, photonics, and device miniaturization. He is a recipient of a NSF CAREER award (2002), the Conference of Southern Graduate Schools New Scholar Award (2004), and is presently the Jack S. Josey Fellow in Energy Studies. He is also a member of the Center for Nano- and Molecular Science and Technology and the Texas Materials Institute at the University of Texas at Austin.

2006 C. N. Reilley and Young Investigator Awards Program

(arranged by Greg M. Swain, Michigan State University)

Introductory Remarks – Greg M. Swain
Presentation of the 2006 Charles N. Reilley Award of the Society for Electroanalytical Chemistry to Mark E. Meyerhoff, University of Michigan by Andrew G. Ewing, The Pennsylvania State University

Electrochemical Sensors in Medicine: Meeting Needs for the 21st Century - Mark E. Meyerhoff, University of Michigan

Controlling Ion-Selective Electrodes by Instrumental Means -
Eric Bakker, Purdue University

Electrochemical, Fluorescence and Separations-Based Sensors for Studying Cellular Kinetics - Robert T. Kennedy, University of Michigan

Recess

Presentation of the 2006 Young Investigator Award of the Society for Electroanalytical Chemistry to Keith J. Stevenson, University of Texas at Austin by Andrew G. Ewing, The Pennsylvania State University

Tunable Nanocarbon Electrode Materials - Keith J. Stevenson, The University of Texas at Austin

Electrochemical Studies of Neural Control Mechanisms in Hypertension -
Greg M. Swain, Michigan State University

PittCon® 2005 Update

The 2005 **C.N. Reilley** Awards symposium in Orlando was organized and expertly run by **Steve Feldberg** shown (left) with the Award recipient **Alan Bond** and SEAC president **Henry White** (right). The PittCon Symposium was packed, as is the tradition, with many including Alan coming straight from the west coast, from the Electrochemistry Gordon Conference, to attend the Symposium.

The Young Investigator Awardee **Ed Cliffel** (center right) gave a lively presentation of his most recent research at the bioanalysis/biotechnology interface.

Thanks to the organizer, the awardees, and the symposium speakers, shown together (from the left- **Mark Wightman**, **Alan Bond**, **Ed Cliffel**, **Royce Murray**, **Henry White**, and **Steve Feldberg**), the Symposium kept the tradition of showcasing the best in electroanalytical chemistry science.

Thanks to Adrian Michael and PittCon for the photographs.

-SEAC Dues renewal- *IF you forgot you can do it now.* Back dues *will reinstate you as a member NOW.*

The Society's on-line payment site currently accepts payments by the PayPal system. To renew your membership or to join the Society you can use use PayPal on-line at http://electroanalytical.org/membership.html If payment by check is necessary, send the check with the Membership Form, available on that page to Richard P. Baldwin, Department of Chemistry, 2320 South Brook Street, University of Louisville, Louisville, KY 40292-0001. tel: (502) 852-6798; Fax:(502) 852-8149; rick.baldwin(at)louisville.edu.

Note the change in dues:

Regular one year membership dues for 2005 are $20/yr. Student dues are $10/yr. A lifetime membership option is $500, which can be $100/yr for five years. Student/post doc free year 1.

- SEAC Members in the News-

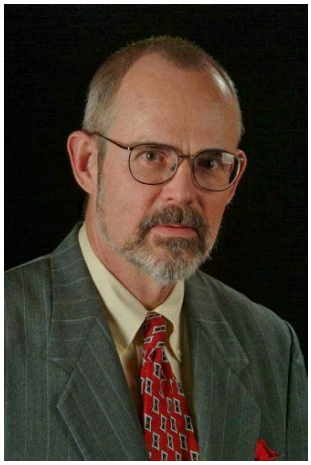
Prof. Erno Pretsch is the 2005 Division of Analytical Award recipient and will receive the Award in Electrochemistry, sponsored by Cole-Parmer Instruments. Prof. Pretsch is highly regarded for his work on novel materials and fundamentals of ion-selective electrodes. Prof. Pretsch has pursued this work at the ETH – Swiss Federal Institute of Technology. In his distinguished career Prof. Pretsch has been involved in work with late Prof. Willie Simon and more recently with Prof. Erick Bakker.

Pete Kissinger celebrated his 60th birthday in style

on October 6-7, 2005 at Purdue.

Kissinger Symposium

A celebration honoring contributions of Prof. Peter T Kissinger And Celebration of his first 60 years.



Program

Thursday, October 6, 2005
Discovery Park
Burton D Morgan Center for Entrepreneurship
MRGN 121
9:00am-5:00pm

9:00 William Heineman, University of Cincinnati
"The Wigwam and Spectroelectrochemistry"
9:30 Richard McCreery, Ohio State University
"Redox Chemistry in the World's Thinnest Electrochemical Cell"
10:00 Richard Van Duyne, University of Northwestern
"From Dinner at the Carolina Inn to Molecular Plasmonics"

10:45Coffee break
10:30 Susan Lunte, University of Kansas
"Miniaturized Analytical Systems based on Microdialysis and Microchip Electrophoresis"
11:00 Mark Meyerhoff, University of Michigan
"Academic Analytical Research with Commercial Implications: The Best of Both Worlds" (or "What I Learned from Pete Kissinger's Extraordinary Career")

11:30 Lunch, Burton Morgan Venture Café Rm 102

12:30 **Round Table Discussion: Burton Morgan Venture Café Rm 102**
"Future of Bioanalytical Chemistry in Industry & Academia"
led by Prof. Fred Regnier, Purdue University
1:30 Mike Linhares, Pfizer
"An Education for a Lifetime: Learning from PTK"
2:30 Ira Krull, University of Northeastern
"**Middle Out-Proteomics: Integration of Multidimensional Chromatographic Protein Separations with a Combined 'Top-Down' and 'Bottom-Up' Proteomic Strategy."**
3:30 Candice Kissinger, BASi
"Combinatorial Pharmacology: Improving the Yield from Preclinical Studies"
4:00 Nick Winograd, Penn State University
"Beau Jardin"
4:30 Arlen Kaufman, University of Evansville
"Bioanalytical Research at the University of Evansville: A Kissinger Student's Perspective on Undergraduate Education"

5:00 Wine and Cheese Reception: Bindley Bioscience Building Foyer
7:00-10:00 Dinner and fun with Pete: Holiday Inn Select

There will be a good mix of industrial and academic scientists to discuss science at their interface. For more information contact: Prof Paul Shepson, Purdue University Department of Chemistry, West Lafayette, In 47907, 765-494-7441, pshepson(at)purdue.edu or his secretary Arwen Revis at 765-494-5259, edwardan(at)purdue.edu.

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Among his many contributions Pete has been the major force behind SEAC . He was one of the founding members, served as the original (and arguably the most entertaining and insightful) SEAC Newsletter editor, and with the BAS has supported the Reilley Award Symposium from its inception. Without Pete it is hard to believe that electrochemical bioanalysis would have the recognition it now enjoys and many of us would not have had the opportunity to participate in the rapid development of electroanalytical science.

Happy Birthday and many more Pete!

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PETER T. KISSINGER, Ph.D., is Chairman and CEO of Bioanalytical Systems, Inc. and Professor of Chemistry at Purdue University, West Lafayette, Indiana. Dr. Kissinger received a B.S. in Chemistry (1966) from Union College, Schenectady, N.Y. and a Ph.D. in Analytical Chemistry (1970) from the University of North Carolina in Chapel Hill.
Prior to joining the faculty at Purdue in 1975, Kissinger was a Research Associate at the University of Kansas (1970-1972) and an Assistant Professor at Michigan State University (1972-1975). He founded BASi in 1974. Headquartered in West Lafayette, Indiana, BASi also has operations in Evansville; Baltimore; McMinnville, OR; and the U.K. The company manufactures instrumentation and develops software for pharmaceutical research, and carries out contract chemical and toxicological research for the pharmaceutical industry. BASi Vetronics manufactures instrumentation for veterinary medicine. Dr. Kissinger's academic research has involved the study of modern liquid chromatography techniques, and in vivo methodology for drug metabolism and the neurosciences. Dr. Kissinger has published more than 230 scientific papers and is a Fellow of the American Association of Pharmaceutical Scientists and the American Association for the Advancement of Science.

Pete Kissinger became engaged with modern liquid chromatography in the early 1970s following Ph.D. work in electroanalytical chemistry with Prof. Charles N. Reilley. He quickly saw the advantages of combining the two methodologies for applications in neuroscience Stimulated by Prof. Ralph N. Adams. commercial possibilities were immediately clear. Biomedical scientists had measurements to make and they did not wish to build instruments; they wanted to buy them. After an attempt to transfer liquid chromatography/electrochemistry (LCEC) to Waters Associates and Princeton Applied Research (PAR), it became clear that these existing companies were busy enough. One understood chromatography but not electrochemistry; the other understood electrochemistry but not chromatography; and neither had the required passion for this outside idea. Pete remained convinced and followed the "do-it-yourself" approach. Bioanalytical Systems, Inc. (BASi) was thus born in 1974, at a time when academic engagement in such activities was discouraged rather than stimulated as it is today. BASi evolved into a life science research company with five laboratory locations and a team

that will soon pass 400 talented people. Purdue is using the excuse of Pete's 60th year to organize this symposium, aimed at celebrating his contributions to the university, and to analytical chemistry and biomedical research and development. The symposium features scientific talks that recount advances in bioanalytical chemistry, unmet needs in bioanalytical chemistry (particularly as they relate to the pharmaceutical industry) and best practices at the academic/commercial interface, as well as a roundtable discussion. There will be a good mix of industrial and academic scientists to discuss science at their interface.

From Pete's unpublished: "History of Analytical Chemistry at Purdue"
"……..LC/MSMS then made painless sampling of laboratory animals feasible for pharmacokinetics…..once that was feasible, we could do pharmacodynamics as well on line, fully automated. This then speeds up drug development substantially and saves millions of rats while demanding further advances in biomarker assays from small volumes of biological fluids which is being made feasible with other Purdue technology and millions will be getting better healthcare as a result…….. Faraday and JJ Thomson and then all of this happened. Once you have an electron in mind, the rest follows… I call it Instrumentation Darwinism and wow does it work great at Purdue. And the next steps will be even better!!!!"

Petr Zuman turns **80** in January

Petr Zuman is the electroanalytical researcher who is directly linked to the roots of electroanalytical chemistry in Heyrovsky polarography school in Prague. Jim Rusling, who was Petr's Ph.D. student, sent this announcement of the tribute that is planned to celebrate Petr's 80th birthday. Check out the issue when it comes out. ***Happy Birthday to a great colleague.***

Dear Colleagues:
Petr Zuman will be 80 years of age in January, 2006. As you all know, Petr has been a major force in the fields of analytical and organic electrochemistry for nearly 60 years, and has contributed mightily to our science. Joe Wang and I are planning an 80th Birthday issue of ELECTROANALYSIS in Petr's honor. We invite you to submit a paper for his issue. It can be a research article or a short review. Please let me know by email if you will accept our invitation.

Please submit your paper by October 1, 2005 at the very latest, as we would like the issue to appear early in 2006. Early submissions are encouraged. Submit your papers in the usual way, with a note stating that it is an invited paper for the Petr Zuman 80th birthday issue. Submission details for ELECTROANALYSIS can be found at
http://www3.interscience.wiley.com/cgi-bin/jabout/26571/2049_guidelines.html

I thank you in advance for your efforts in honoring Petr on his 80th birthday.
Best wishes,
Jim

-- James F. Rusling, Professor, Department of Chemistry, U-60 and Department of Pharmacology (Health Center)
55 N. Eagleville Rd., University of Connecticut, Storrs, CT 06269-3060, U.S.A. Fax: 860-486-2981
Tel: 860-486-4909

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Prof. Zbigniew Stojek from the Department of Chemistry at the University of Warsaw in Poland has sent us the news of the passing of **Prof. Zenon Kublik, Professor of Chemistry at the University of Warsaw.**

Prof. Kublik (1922 – 2005) is widely credited with the advancement of electroanalysis, through his pioneering work with the hanging mercury drop electrode (HMDE), and the development of stripping analysis with HMDE and cyclic voltammetry. Prof. Kublik did the original work in the Department of Chemistry at the University of Warsaw, in the laboratory of Analytical Chemistry headed by Prof. Wiktor Kemula. Prof. Kublik was keenly interested in the science of modern chemistry, in research and teaching. He will be remembered for his advancement of science and his influence as a teacher.

http://www.chem.uw.edu.pl/50lat/kublik.html
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The importance of electrochemistry at the interface with Mass Spectrometry has been recognized by a recent major award to one of the avid and productive practitioners **Dr. Gary Van Berkel** of ***Oak Ridge National Laboratory's Chemical Sciences Division.*** Gary did a stint in Al Bard's lab and has stayed true to electrochemistry**.**

Congratulations Gary!

American Society for Mass Spectrometry (ASMS)
Annual Conferences:

Biemann Medal Lecture
at the 53rd ASMS Conference on Mass Spectrometry
San Antonio, Texas June 8, 2005

The Electrochemistry of Electrospray: Tales of Roads Less Traveled
Gary J. Van Berkel

Provided Oak Ridge National Laboratory's Chemical Sciences Division
Rev: June, 2005

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Special issue of J. Appl. Electrochemistry on the occasion of Prof. Heitbaum´s 65th birthday.

Dear Colleague,
This year in September Prof. Joachim Heitbaum will celebrate his 65th birthday. On that occasion, we agreed with the editor of the Journal of Applied Electrochemistry, Prof. Wragg, to dedicate a special issue to Prof. Heitbaum on that occasion, which will allow us to express our appreciation of his important contributions to electrochemistry.

To the electrochemical community, Prof. Heitbaum is known for his pioneering work on the development of techniques suited for the on-line detection of electrochemical reaction products. One of these, differential electrochemical mass spectrometry (DEMS) was based on an approach originally suggested by Bruckenstein, but improved in such a way that the detection of volatile products became possible within a tenth of a second. (O. Wolter, J. Heitbaum, Ber. Bunsenges. Phys. Chem. 1984, 88, 2 and 6). Adsorbates can also be detected after desorption with a sensitivity of 1% of a monolayer. This technique has been constantly further developed and is presently being used by many groups working on electrocatalysis, batteries and fuel cells. Prof. Heitbaum was also the first to

couple an electrochemical cell to a spray ionisation technique (G. Hambitzer, J. Heitbaum, Analytical Chemistry 1986, 58, 1067). Spraying techniques have since been further developed very much, and the thermospray technique originally used by Heitbaum was replaced by electrospray ionisation. The electrospray community has realized that electrochemistry plays a significant role in the mechanism of electrospray. In this context, Heitbaum´s original paper is often cited, and in 2004 a special volume of the Journal of the American Society for mass spectrometry was devoted to 'electrochemistry and mass spectrometry'.

Joachim Heitbaum received his diploma degree in Physics in 1968 and his PhD degree in 1972 under the supervision of Prof. W. Vielstich from the University of Bonn. His habilitation in 1977 was on electrocatalysis and electrochemical reaction intermediates. In 1986, he accepted a chair for Physical Chemistry at the University of Witten-Herdecke, where he was dean of the science department from 1986 - 1991. Apart from electrocatalysis and the above mentioned mass spectrometric techniques, Heitbaum was active in the fields of sensor systems and

Prof. Dr. Helmut Baltruschat, Institut fuer Physikalische und Theoretische, Chemie der Universitaet Bonn, Roemerstr. 164, D-53117 Bonn, Germany phone: +49-228-73 41 62 fax: +49-228-73 45 40 e-mail: Baltruschat(at)uni-bonn.de
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e-mail: margret.wohlfahrt-mehrens(at)zsw-bw.de

Congratulations to Prof. **Ralph G. Nuzzo** of the University of Illinois at Urbana-Champaign who has been elected a Fellow of the American Academy of Arts and Sciences. (C&EN, March 2005).

Star Attractions at the ACS Washington Meeting included two electrochemist chancellors- of the University of Califronia, San Diego, **Prof. Mary Anne Fox** and of Washington University, St. Louis, **Prof. Mark S. Wrighton**. Mark has not changed much as you can verify from the pictures from the ACS meeting. (C&EN, September 2005).

ZettaCore has been recently named as one of a handful of nanotechmology companies on the short list of those that might soon be able to go public. The president of the company is SEAC member **Werner Kuhr** the SEAC Awards Committee chairman. (C&EN, May 2005).

Title IX challenge of the former SEAC editor Debrah Rolison, (AC 77, 377A, 2005), head of the Advanced Electrochemical Materials section of the U.S. Naval Research Laboratory (NRL), has been recently applauded by the Association of Women scientists who have commended "Debrah Rolison's crusade to transform the face of science of America" (*AWIS Magazine*, 2005, 34[1],31-33). We are watching!

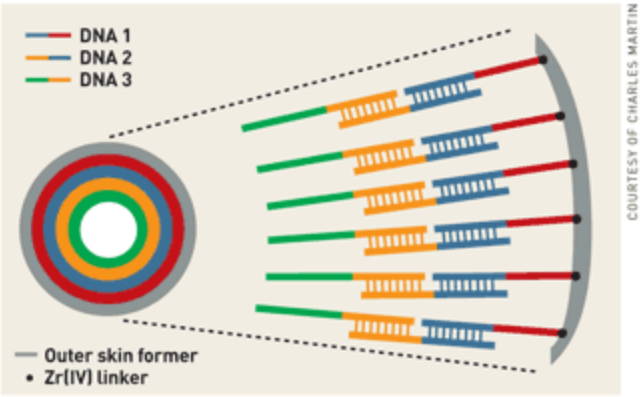
- Science News-

Lots of news making electrochemistry of friends and members of SEAC:

-Fuel and solar cells- Self-heating fuel cell has been described by **Sosina M. Haile** who conducted the work **at Caltech.** (C&EN, June 2005). The future **of solar power technology** that may include nano-cells has been discussed at the DOE workshop chaired by **Nathan S. Lewis of Caltech.** (C&EN, May 2005).

-Check out the polymer brushes- that have been synthesized by **Robin McCarley** and his team at Lousiana State University, of water soluble bristles grafted on electrically conducting polythiophene backbone. (C&EN, August 2005).

-DNA nanotubes- are the next generation of template designed materials that have been created by **Chuck Martin's** group at the **University of Florida**. Applications of the nanotubes for cellular delivery of DNA have been suggested with this, and related technology recently described in ***Nature Methods 2(60), 449-454,2005.***



DNA TUBE Cross sectional view of the DNA nanotube with expanded view of the nanoutube wall. (C&EN, June, 2005).

Books and the TO READ LIST

Translating electrochemistry fundamentals in English and French

Analytical and Physical Electrochemistry

Hubert H. Girault
Marcel Dekker, 2004, 448 pp, $175,
www.dekker.com

Although physical and analytical electrochemistry are often taught separately Hubert H. Girault, a professor at the Swiss Federal Institute of Technology in Lausanne (EPFL), has produced an innovative textbook entitled *Analytical and Physical Electrochemistry*. Translated from the original French version published in 2001, this

new edition gathers the physical bases of electroanalytical techniques, including electrophoretic methods, in a single volume. The strength of the book is its excellent illustrative presentation, which includes 272 figures and schematic diagrams. The author clearly describes models (mostly in pictures) and their equations for problems and techniques in electrochemistry. He then provides rigorous, detailed mathematical derivations. These, in turn, are demonstrated by finely prepared figures and schematic diagrams, which give the reader a clear view. For example, in Chapter 5, Girault describes the spatial distribution of polarization charges at various electrified interfaces, such as metal/electrolyte interface, liquid/liquid interface, pn junction, and semiconductor/ electrolyte interface. He begins with the Poisson–Boltzmann equation, followed by the Gouy–Chapman theory, and develops each topic mathematically from its first principles until the main conclusions. Girault elegantly illustrates each topic with plots of potential drop versus the charge on the electrode in the diffuse layer, potential distribution, and ionic concentration profiles. The author depicts electroanalytical methods in much the same manner as he describes the physical electrochemistry. Differential pulse polarography, for example, is outlined in Chapter 8. The potential profile, the stimulus for this specific electroanalytical method, is well demonstrated in a figure. Concentration profiles of redox species in a solution are first obtained from the Nernst equation. Equations are then solved by using a Laplace transformation with the boundary conditions of diffusion fluxes. Major conclusions, such as the pulse magnitude dependence of the current peak height, are shown graphically. This gives the reader a clear picture of the described electroanalytical methods and their applications.
The absence of questions and problems related to the chapters might come as a surprise, although the author provides ample examples. However, it is anticipated that Girault will compile a supplementary manual for this purpose from his rich teaching experience. This book covers both fundamental and current aspects of analytical and physical electrochemistry. It is suitable for use in a basic undergraduate course and as an advanced reference for graduate students, researchers, and electrochemical engineers. This book should serve as a popular reference for both the English and French communities of electrochemistry.
Reviewed by Zhifeng Ding, University of
Western Ontario (Canada) NOVEMBER 1, 2004 / ANALYTICAL CHEMISTRY **415**A
For review by STEVE WEBER see Book reviews Trends in Analytical Chemistry, Vol. 24, No. 8, 2005 792.

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New Trends in Molecular Electrochemistry –AJL Pombeiro, C. Amatore, EDs., Marcel Dekker in conjunction with Fontis Media, 2004. *A Frontiers of Knoweledge Series of the Academy of Sciences of Lisbon.*

Presents state-of-the art applications including of molecular electroactivation, supramolecular electrochemistry, electron transfer at liquid/liquid interfaces and spectroelectrochemistry.

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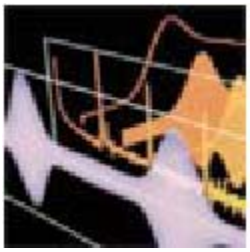
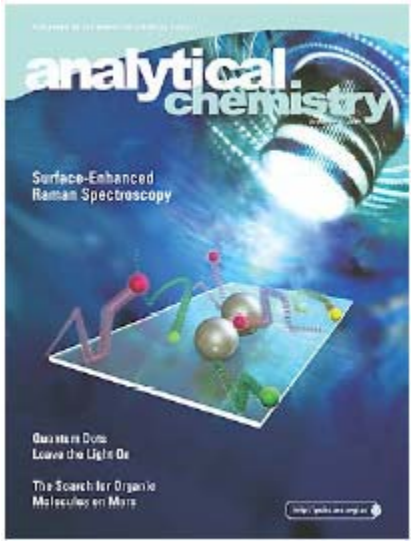
TO READ LIST

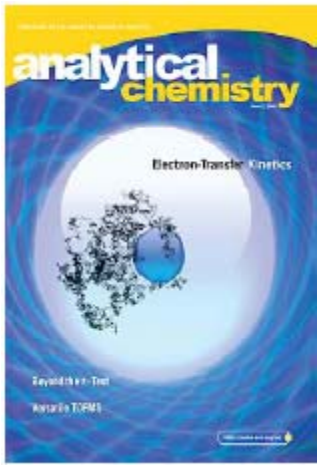


Changing the look of Voltammetry *by Alan M Bond, Noel W Duffy, Si-Xuan Guo, Jie Zhang and Darrell Elton* at Monash and La Trobe Universities in Australia. (AC, May, 2005. 77, 9, 186A-195A).

When Voltammetry reaches Nanoseconds *by Christian Amatore and Emmanuel Maisonhaute* at Ecole Normale Superierue in France (AC, August, 2005. 77, 15, 303A-311A).



Surface Enhanced Raman Spectroscopy *by Richard P Van Duyne, Adam D McFarland and Christy L Haynes at Northwestern University.* (AC, September, 2005. 77,17, 339A-346A).



A Random Walk through Electron-Transfer Kinetics *by Ryan J White and Henry S White at the University of Utah.* (AC, June, 2005. 77, 11, 214A- 220A).

-Meetings…. Meetings….Meetings

Announcement of upcoming GRC conference on ELECTROCHEMISTRY- Winter 2006 – note the new location and date

The 2006 Gordon Research Conference on Electrochemistry will be held at Santa Ynez Valley Marriott in Buellton, Ca from 2/12 - 2/17. The conference chair is Dr. Hector Abruna of Cornell University.

The link to the conference program that appears on the GRC web site:
http://www.grc.org/programs/2006/elecchem.htm

The GRC announcement: If interested in attending this conference, you may apply via the web site. http://www.grc.org/application/apply2.cfm?ID=10765

The 1st ECHEMS Meeting was held on the Isola di San Servolo, a tiny island in front of Venice, on June 30 - July 3, 2005.

ECHEMS is a new international organization aimed at promoting the use and development of electrochemistry as a powerful tool to study scientific problems in hot areas of current research. ECHEMS was established in 2004 as a fusion of the former EUCHEM of Electrochemistry and the Sandbjerg Meetings on Organic Electrochemistry. The ECHEMS Meetings will be held annually, at the end of June, and the main topic and host Country will be changed every year.

The purpose of these meetings is to gather young and more experienced scientists to present and discuss the results of their research in a very informal and friendly atmosphere. Participation of young researchers, graduate students, and post-doctoral fellows is particularly encouraged. In keeping with the informal spirit of these meetings and the wish to promote personal contacts between all the participants, the participation will be limited to a restricted number of people, 50-80, who will be accommodated for 3 days at the conference site.

The topic addressed by the 1st ECHEMS Meeting is: Electrochemistry in Nanosciences. The selection of this specific topic originates from our belief that electrochemistry will play a pivotal role in the future development of several branches of nanosciences. Well-known lecturers will be invited to introduce some of the most relevant achievements and current challenges of the selected topic. Their goal shall be to trigger interest and new ideas for future electrochemical projects and collaborations in this rapidly growing area of research. Contributed papers dealing with different aspects of nanosciences (e.g. nanoparticles, devices, molecular electronics, self-assembled monolayers, application of electrochemical scanning-probe microscopy techniques, bioelectrochemistry, etc.) are solicited.
Both oral papers and posters will be considered. The focus shall be on science rather than on technology.

Location: The meeting was held on San Servolo from Thursday (June 30) evening to Sunday (July 3) morning. San Servolo is a very nice little island of the Venetian Laguna. It can be reached from Piazza San Marco, the heart of Venice, by using a public boat (vaporetto) service (in 10 min). It also can be reached (by boat, in 20 min) from the Venice International Airport "Marco Polo". Conference Fee: The fee, which covers the accommodation (three nights) and the meals, is € 450 (Participant) or € 300 (PhD students and post-doctoral fellows). Possible ways of supporting the students are under consideration. Scientific Committee:
Flavio Maran (2005 Chair), Padova (Italy); Kim Daasbjerg, Aarhus (Denmark);
Philippe Hapiot, Rennes (France); Jiri Ludvik, Prague (Czech Republic);
Merete F. Nielsen, Copenhagen (Denmark); Bernd Speiser, Tubingen (Germany).

Organizing Committee: Flavio Maran, Sabrina Antonello Dipartimento di Scienze Chimiche Università di Padova, Via Marzolo 1, 35131 Padova, Italy email: echems(at)chfi.unipd.it Tel: +39-049-8275147 Fax: +39-049-8275135 email: f.maran(at)chfi.unipd.it
web page: http://www.chfi.unipd.it/home/maran

-ON THE MOVE

As our prez pointed out in his message, Prof. Eric Bakker has recently moved from Auburn University in Alabama to Purdue University. Prof. Robert Corn has now been a resident of California for some time, with his move to UC Irvine from the University of Wisconsin. Keep us posted on your moves!

-JOBS –JOBS -JOBS

Echem colleagues,

Gary Maciel and I have a post-doc available to work on NMR/electrochemistry projects. I would appreciate it if you could bring this position to the attention of any interested researchers.

Thanks,

Bruce

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Rotational Vacancy

National Science Foundation
Rotational Vacancy
DIRECTORATE FOR ENGINEERING DIVISION OF DESIGN, MANUFACTURE, AND INDUSTRIAL INNOVATION ARLINGTON, VA 22230
ANNOUNCEMENT NO: E20050141-Rotators
OPEN: 9/26/05 CLOSE: 10/26/05 POSITIONS WILL BE FILLED ON A ONE OR TWO YEAR VISITING SCIENTIST APPOINTMENT, INTERGOVERNMENTAL PERSONNEL ACT (IPA)
ASSIGNMENT BASIS, OR FEDERAL TEMPORARY APPOINTMENT. The National Science Foundation is seeking candidates for three positions as SBIR/STTR Program Managers in the Office of Industrial Innovation (OII), Directorate for Engineering, Arlington, VA. One position is in Advanced Materials and Manufacturing (AM) and two positions are in Biotechnology (BT). The Office of Industrial Innovation (OII) is responsible for supporting small business research that seeks to accelerate the industrial innovation based on fundamental academic scientific and engineering discovery and innovation. The OII is responsible for the implementation of the Small Business Innovation Research and Development Act (SBIDA) of 1982, Public Law 97-219 and its subsequent reauthorizations at the National Science Foundation (NSF). The OII operates two legislated programs for the small business community; Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR). The OII invests in cutting-edge, high risk, high quality applied research in science, engineering and education in the SBIR/STTR

program with a clear goal of innovation that benefits society and the nation through commercialization. The OII periodically issues SBIR/STTR solicitations with research topics selected from a broad spectrum of technologies More information about the Office of Industrial Innovation can be found on their website at http://www.nsf.gov/eng/sbir The Biotechnology (BT) topic addresses the opportunities for small businesses to transform discoveries in the rapidly advancing frontiers in the biosciences to the commercialization of new products, devices, processes, or services though Biotechnology innovation research. BT covers a broad field including Genomics, Proteomics, Bioinfomatics, Biochips, Biosensors, Biomedical Devices, Environmental Bio, Ag-Bio, Marine Bio, Bioprocessing, Biomaterials, Nano-Bio, Tissue Engineering, Metabolic Engineering and other related research areas excluding research involving the testing of pharmaceuticals in human clinical trials or animal models. Qualifications required: Applicants must have a Ph.D., or equivalent experience, in biology, biosciences, bioengineering, biochemical, biomedical engineering or a closely related field, and six years of successful research experience, research administration, and/or managerial experience in research, design and development of biotechnology products, devices, processes or services. Specific experience in the commercialization of innovative biotechnology products or services, preferably in a small business setting, is sought. The Advanced Materials and Manufacturing (AM) topic addresses development of new materials and manufacturing that introduce new approaches to advance the competitive nature and state of the art for U.S. industry. AM covers both materials and manufacturing technologies including high temperature materials, structural materials, engineered materials, coatings, composites, polymer processing, powder processing, machining, casting, joining, additive manufacturing and other related research areas. Qualifications required: Applicants must have a Ph.D., or equivalent experience, in materials science, mechanical, chemical or industrial engineering or a closely related field, and six years of successful research experience, research administration, and/or managerial experience in new materials, advanced manufacturing, new product design, development and engineering, as well as in new business development. These positions will be filled on a one or two year Visiting Scientist Appointment, under the terms of the Intergovernmental Personnel Act (IPA) or as a Federal Temporary Appointment. Temporary and Visiting Scientist appointments will be made under the Excepted Authority of the NSF Act with a current salary range of $88,369 to $137,713, depending on qualifications and experience. For Visiting Scientist appointments, individuals are in a non-pay leave status from the home institution and are appointed to NSF's payroll as a Federal employee. NSF withholds FICA and provides reimbursement for fringe benefits. For Federal temporary appointments of more than one year, the usual civil service benefits (retirement, health and life insurance) are applicable. For IPA assignments, the individual remains an employee on the payroll of his or her home institution and the institution continues to administer pay and benefits. NSF reimburses the institution for NSF's negotiated share of the costs. Individuals eligible for an IPA assignment include employees of State and local government agencies, institutions of higher education, Indian tribal governments, federally funded research and development centers and qualified nonprofit organizations. For more information regarding Visiting Scientist appointments or IPA assignments, visit our website at http://www.nsf.gov/about/career_opps/. DUTIES AND RESPONSIBILITIES: As Program Manager, plan and administer the relevant program within the framework of legislation, agency policies, missions, objectives and resources and serves as spokesperson of the program and with the scientific, engineering, and business community. Implement the proposal review and evaluation process for the relevant program (e.g., review of proposals; selection of reviewers; management of program; and allocation of budget). Implement new or revised policies, and develops technical, fiscal, and administrative approaches to improve the activities and management of the program. Manages and monitors grants and interagency agreements to ensure fulfillment of commitments to/and by NSF. Work with program staff NSF-wide especially within the Directorate for Engineering, the Directorate of Biological Sciences, the Directorate of Computer Information Science and Engineering, the Directorate for Mathematical and Physical Sciences and the Directorate for GeoSciences to apprise them to the requirements of SBIR and sensitize them to the requirements of the small business community. Design, develop, manage, coordinate, and implement small business solicitations, conferences, publications, reports and research and study projects. Develop and present clear and concise explanations and

interpretations of NSF policies and research program initiatives for small businesses, the academic community, large industrial firms, the investment community, state and local governments, and other federal agencies. Serve as the NSF's representative on permanent or ad hoc committees. HOW TO APPLY: Applications may be transmitted electronically to rotator(at)nsf.gov. Individuals may also submit a resume or any application of your choice to the National Science Foundation, Division of Human Resource Management, 4201 Wilson Blvd., Arlington, VA 22230, Attn: E20050141-Rotators. In addition, you are encouraged to submit a narrative statement that addresses your background and/or experience related to the Program you are applying for. You are asked to complete and submit the attached Applicant Survey form. Submission of this form is voluntary and will not affect your application for employment (the information is used for statistical purposes). Telephone inquiries may be referred to the Executive and Visiting Personnel Branch, at (703) 292-8755. For technical information, contact Dr. Kesh S. Narayanan, Division Director, at (703) 292-8050 or knarayan(at)nsf.gov. Hearing impaired individuals may call TDD (703) 292-8044. The National Science Foundation provides reasonable accommodations to applicants with disabilities on a case-by-case basis. If you need a reasonable accommodation for any part of the application and hiring process, please notify the point of contact listed on this vacancy announcement.
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e- mail - you wrote

Hi Anna,
I am breathing many sighs of relief, and am very happy to pass it on! Carol Korzeniewski was elected vice chair for 2006, in what I believe was an inspired choice.
As for dates and times for 2006, I'm not sure that has all been decided. However, last I knew it sounded like we may move to the new site north of Santa Barbara. Tito will know more (hda1(at)cornell.edu). See you again soon, I hope.
Best,
Dan
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Professor Daniel A. Buttry
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I have been in touch with Dan Buttry, who has chaired a very successful GRC on Electrochemistry bypassing major obstacles (ED). The 2006 year's conference will be chaired by Tito Abruna. Carol is next as chair. Dan is right, the new site has been announced (see Meetings above).

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