

SEAC

C O M M U N I C A T I O N S

Editor: Dick Durst

Volume 7, No. 2

June 1989

President's Message

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.

-Editor

EDITORIAL

As I write this editorial, controversy still swirls about the purported cold fusion phenomenon. By the time this issue of the Newsletter hits the streets, I imagine the furor will be over and we will know, once and for all, whether electrochemistry is a hero or a goat. One thing is certain, as Al Bard stated in his closing remark at the ACS meeting in Dallas, "Thanks, Stan, for giving old electrochemists a reason for getting back into the lab." (or words to that effect). Indeed, these have been several of the most exciting weeks of my otherwise uneventful career. Not only was I having a lot of fun, but I learned quite a bit of nuclear physics and chemistry in the process, I also learned that, in the excitement of the moment, more parochial activities are forgotten (at least temporarily) and everyone pitches in enthusiastically. Everyone I approached for assistance: chemists, metallurgists, and even doubting physicists, came willingly to my aid with advice, hands-on help and, yes, even equipment! In fact, I almost had to beat people off with a stick; everyone had a pet theory or wanted to be part of these history-making experiments.

But then it all started to unravel. After a few tentative confirmations (and some retractions), more and more doubters came forward with reports of negative results and explanations of what went wrong. This week, at the APS meeting in Baltimore, the physicists and a few chemists leveled several solid broadsides at Pons and Fleischmann. Next week is the Electrochemical Society meeting in L.A. and a chance for the chemists to respond. You will know the answer before you get this issue; I'm hoping for the best.

This is where we stand today, Pons, Fleischmann, and a few others sticking by their guns, while growing numbers of scientists, especially physicists (gloating once again in their supposed supremacy over chemists), point out the flaws in the research. In hindsight, the problem is clear: reporting results prematurely and incompletely. Publishing first in the Journal of Wall Street is unacceptable. Reports published in a peer-reviewed journal which required experimental details and control experiments might have avoided the tens of thousands of man-hours wasted on experiments set up with insufficient data. While the Journal of Electroanalytical Chemistry is peer-reviewed, the process must have broken down somehow; perhaps the

pressure to be first in reporting the phenomenon overcame good publishing practice. It's easy to be critical at this point; and many are doing it. Let's hope that a lesson has been learned from all of this. But I'm sure it hasn't; human nature being what it is will repeat this scenario again when the stakes are high enough. It's also easy for the rest of us to stand back and say that we wouldn't have handled it the way that Pons and Fleischmann did; but are you really sure?

I had some fun, but now I'm a little resentful over the hours wasted chasing a mirage. Perhaps the reports I didn't write, the tax returns I didn't file, and the nice weather I didn't enjoy weren't all that important. But certainly being late in getting out this issue of SEAC Communications is inexcusable, and I beg your forgiveness.

For the next issue, I would be very interested in hearing from the rest of you concerning your experiences and feelings on cold fusion. Do you think there still might be something there to investigate? Did you try to duplicate it? What did you see? What effect will all of this have on the field of electrochemistry? Why am I babbling like this instead of getting some sleep?

Dick Durst

LETTERS

Dear Sir:

I've read Pete's description of the Philbrick K2-X op amp that I sent you in the latest SEAC Newsletter, and found that I must not have clearly described its history. Perhaps you can correct this, at least in your

museum, or maybe you might not want the K2-X, because it's not quite of the historical value you were led to believe.

Glenn Booman first used these types of op amps in his instrument at the Phillips Petroleum Co. (now Idaho Nuclear Co.) at Idaho Falls in the late '50's, and published his landmark paper on the potentiostat/coulometer instrument in Anal Chem. in 1957. Actually he conceived the idea of using modular op amps in his Ph.D. thesis work of the early '50's at the University of Washington, and while there he used a built-from-scratch design from a Boeing analog computer. Booman was just waiting for someone to come out with a ready-made op amp, when Philbrick finally did.

I came to LLNL in late 1958 (from the University of Washington), and having interacted with Booman in the '50's, immediately built an instrument from the schematic in his 1957 paper. In those days (and to some extent even now), the nuclear laboratories had to have instruments for controlled-potential coulometry, because that technique is the best way to determine plutonium, and one of the best for uranium.

The particular K2-X unit that I sent you was used in my 1959 version of Booman's instrument, but not by Glenn himself because he never worked here. I hope all this clears up the "pedigree," and is of some interest. Those early days in electroanalytical chemistry were really exciting; it's no fun just doing chemistry with "black boxes" (except from BAS) the way we do now.

Jackson E. Harrar
Section Leader, Inorganic Analysis
Lawrence Livermore
National Laboratory

Dear Sir:

With reference to our recent telecon concerning donation of early samples of electroanalytical instrumentation to the electroanalytical museum collection with which you are associated via

ACS Award in Electrochemistry

sponsored by EG&G PARC

Ralph Adams, Professor of Chemistry at the University of Kansas, is once again honored for his contributions to electrochemistry. While his early research centered on the mechanisms of organic electrode reactions, in 1969 his interests shifted toward applying electrochemistry to problems in neuroscience. In June 1975 he completed three years of training in psychiatry at the Menninger School of Psychiatry. Currently his research focuses on using electroanalytical techniques to measure neurotransmitters implicated in mental illness, particularly schizophrenia.

Adams received a B.S. degree in chemistry from Rutgers University (1950) and a Ph.D. from Princeton University (1953) under the direction of N. H. Furman. In addition to being a member of the Department of Chemistry at Kansas, Adams holds appointments in the Department of Biochemistry and the Department of Pharmacology and Toxicology. He is also affiliated with the Department of Psychiatry at the University of Kansas Medical Center in Kansas City.

Reprinted from: *Analytical Chemistry*, Vol. 61, No. 9, May 1, 1989

SEAC, please find enclosed two items of possible interest for inclusion in your collection:

1. The first Silver Sulfide ISE to be constructed by Jim Ross and Martin Frant ca. 1966 at Orion Research, Inc. in Cambridge, MA. This electrode was evaluated by Dr. Truman ("Ted") Light and myself in our laboratory at the Foxboro Company in Foxboro, MA in 1966, and found to exhibit near-Nernstian response to both $S=$ and $Ag+$ over a range of more than four decades in activity. To the best of my knowledge, this electrode, while rather crude in construction by today's standards, still functions.

2. A single crystal of silver sulfide grown at Harvard University in Cambridge, MA by Prof. James Lingane and students, probably in the late 1940's or early 1950's. This crystal was presented to Dr. Light and myself in 1966 while visiting Prof. Lingane at Harvard to confer on fundamental properties of silver sulfide.

I believe that I am also in possession of the first Fluoride ISE constructed by Martin Frant at Orion in ca. 1966-1967, but have so far been unsuccessful in locating it among my past twenty-five years accumulation of "junk." Should it "surface," I will send it to you along with the particulars of acquisition. I hope these items enclosed will be of interest to you, and wish you well in your endeavors. As we discussed, one tends to become more interested in the past as one grows older. It seems that we share this interest.

Regards,

Dr. James L. Swartz
Valmet Automation
Measurement and Control Division

ELECTROCHEMISTS IN THE NEWS

Royce Murray presented the first Elving Lecture on Analytical Chemistry at the University of Michigan, Ann Arbor, on March 28, 1989. The title of his lecture was: "Some Novel Electrochemical Reactions: Polymer Solvents, Enzymes and Superconductor Electrodes." (Royce, don't forget you still owe me an article on your 1988 Reilley Award - Editor.)

Garry Rechnitz is moving to Hawaii (presumably because of the availability of fresh, exotic fruit for use in his biosensors. See accompanying article on Kiwi fruit. - Editor).

Effective July, 1989, the Hawaii Biosensor Laboratory will commence operation with the Department of Chemistry, University of Hawaii at Manoa. The Laboratory, under the direction of Professor Garry A. Rechnitz, will conduct multidisciplinary research on biosensors and provide advanced training in order to meet the world-wide demand for professionals in this field.

Initial research will target immunochemical, biocatalytic, and receptor-based biosensors, as well as their application in biomedicine and biotechnology. The Hawaii Biosensor Laboratory is intended to provide an international focus for research and training, with special emphasis on the Pacific Basin region.

New AAAS Executive Officer

Dick (or Rich, as he is now called) Nicholson has been named the new Executive Officer of the AAAS.

Richard S. Nicholson, a Washington veteran who has spent most of his career at the National Science Foundation, has been named AAAS executive officer.

By training a chemist, Nicholson will be leaving the post of assistant director for mathematical and physical sciences at NSF, which he has held since 1985. He joined NSF in 1970,

ACS Award for Computers in Chemistry

sponsored by DEC.

Christie G. Enke received a B.S. degree from Principia College (Illinois) in 1955 and a Ph.D. degree from the University of Illinois in 1959. He was a faculty member at Princeton University before moving to Michigan State University (1966), where he was appointed full professor in 1972.

Enke's research accomplishments are in the areas of analytical instrumentation, mass spectrometry, electroanalytical chemistry, spectroscopy, and the applications of mini- and microcomputers to chemical instrumentation and research. He has coauthored 13 books, many of which deal with the application of computers in chemistry. He was the 1974 recipient of the ACS Award in Chemical Instrumentation.

Reprinted From: *Analytical Chemistry*, Vol. 60, No. 20, October 15, 1988

moving up to direct its chemistry division in 1977.

Nicholson was associate professor of chemistry at Michigan State University before joining NSF. He earned his Ph.D. at the University of Wisconsin (1964) and his B.S. at Iowa State University (1960). He was born in 1938 in Des Moines.

President Reagan conferred on Nicholson the Presidential Distinguished Rank, the government's highest civil service honor, in 1982. He was elected an AAAS Fellow in 1979, and is a member of Sigma Xi, Phi Eta Sigma, and the American Chemical Society.

His 1965 publication "Experimental Verification of an ECE Mechanism for the Reduction of p-Nitrosophenol" (*Anal. Chem.* 37:190), coauthored with I. Shain, is one of the most-cited papers in the physical sciences. Nicholson has also served on the editorial advisory boards of *Analytical Chemistry* and *Chemical & Engineering News*.

Nicholson and his wife play tennis whenever they get the chance. Until recently, they played occasionally with neighbors Dan and Marilyn Quayle. The Vice President's new official home is on the grounds of the Naval Observatory, and comes complete with ten-

nis court. "I've told him he owes me a game on his new court," Nicholson said.

Reprinted From: *The AAAS Observer* 3 March 1989

NEWS ITEMS

Supporters Honor KU Brain Researcher with Endowed \$500,000 Fund

Colleagues and students of an internationally renowned researcher in analytical and brain chemistry have raised more than \$500,000 for the Ralph N. Adams Fund in the Department of Chemistry at the University of Kansas. Ted Kuwana, the fund drive's co-chairman, announced today.

Kuwana, KU's regents distinguished professor in pharmaceutical chemistry and chemistry, said the fund's income will provide \$20,000 a year in unrestricted research support to KU's Ralph "Buzz" Adams, university distinguished professor of chemistry. After he retires, the fund will be used to attract a prominent scientist to KU to continue research in areas closely related to Adams' interests.

The idea for a fund came from Adams' former graduate and postdoctoral students who wanted to express

their gratitude and esteem for him, said Kuwana, Adams' first Ph.D. student at KU. They formed the Adams Campaign Board in 1986 and set a goal of raising \$250,000 in five years. By July, 1988, 27 supporters had contributed an average gift or commitment of \$1,500.

"Ralph is a superb teacher and a great role model," said fund drive co-chairman Don Leedy of Cincinnati, who also received his Ph.D. degree at KU under Adams.

Former student and Adams Board member Gus Manning of Palo Alto, California, described Adams as one of the most idealistic, productive and happy people he'd ever met. "He taught us that nothing works better than being enthusiastic and authentic," Manning said.

Adams earned an international reputation as an analytical chemist. Since 1970 his work has focused on brain chemistry and biological psychiatry with an emphasis on schizophrenia. Adams' research can contribute significantly to the study of schizophrenia, with important implications for drug design, clinical diagnosis and therapeutic approach, Kuwana said.

From the beginning, analytical chemistry captured Adams' interest. He had a full basement chemistry lab while still in high school in Atlantic City, NJ. He earned his bachelor's degree in 1950 at Rutgers University, New Brunswick, NJ, and his doctorate at Princeton University in 1953.

When he came to KU in 1955 as an assistant professor, his research area - solid electrodes - was new and unestablished in analytical chemistry. Adams was one of the first scientists to prove the existence of free radicals in electrode reactions. His textbook "Electrochemistry at Solid Electrodes," published in 1969, remains the only text of its kind.

Adams received the Fisher Award in Analytical Chemistry from the American Chemical Society in 1982, the C.N. Reilly Award from the Society for Electroanalytical Chemistry

ACS Award in Colloid or Surface Chemistry

sponsored by Kendall Company.

Arthur T. Hubbard is Eminent Scholar in Surface Science at the University of Cincinnati and head of the university's Center for Surface Chemistry. He is chairman of a continuing symposium series on "Photochemical and Electrochemical Surface Science," sessions of which are held at each ACS national meeting under the auspices of the ACS Division of Colloid & Surface Chemistry. He is also associate editor of the ACS surface and colloid journal, *Langmuir*.

Hubbard is responsible for creative research efforts that have helped bring into existence a number of new lines of study in surface chemistry, electrochemistry, and electroanalytical chemistry. These include:

- Theory and practice of thin-layer electrochemistry, an area that has become a mainstay of electrochemical measurement technology.
- Chemical modification of electrode surfaces, which originated with his studies of surfaces modified by chemisorption of bifunctional molecules.
- Modification of electrode surfaces for use in electrochemical characterization of the brain in vivo, studies that led to breakthroughs in the detection of compounds involved in transmission of nerve impulses.
- The discovery that aromatic compounds adsorb at platinum electrodes to form discrete orientational states, each displaying different chemical and electrochemical reactivity and surface spectroscopic behavior.
- Electrochemical studies at well-defined electrode surfaces, combining surface characterization in ultra-high vacuum with electrochemical investigations in solution. These studies have led to breakthroughs in the understanding of electrode surface structure and composition, ionic double-layer phenomena, electrodeposition of metals, electrochemical reactivity, and the passivation and corrosion of ferrous alloys.

Hubbard earned a bachelor's degree in chemistry (*magna cum laude*) in 1963 from Westmont College, Santa Barbara, Calif. He received a Ph.D. degree in 1967 from the California Institute of Technology, where he held a National Science Foundation fellowship. After graduation he was appointed to the chemistry faculty of the University of Hawaii. In 1976 he was appointed professor of Chemistry at the University of California, Santa Barbara, where he remained until his recent move to the University of Cincinnati.

Reprinted From: November 14, 1988 C&EN

in 1984 and the I.M. Kolthoff Gold Medal Award from the American Pharmaceutical Society in 1985.

A \$250,000 gift from the Donald A. and Jane C. Stark Charitable Trust in Sarasota, Florida, and a \$210,000 commitment from Ingrid and J. K. Lee of Lawrence recently pushed the Adams fund drive well past its goal. The Stark Foundation and Lee gifts have been included in Campaign,

Kansas, the university's \$150 million fund drive, and will be administered by the Kansas University Endowment Association.

MEETINGS

September 8-9, 1989

This notice sent in by Ed Bowden (NC State University):

SYMPOSIUM ON BIOSENSORS

(3rd Annual SYMPOSIUM OF THE NORTH CAROLINA SECTION OF THE AMERICAN CHEMICAL SOCIETY) to be held in Chapel Hill, North Carolina. Fundamentals, principles of operation, device development and applications will be covered with respect to amperometric, potentiometric, optical, and piezoelectric biosensors. A tutorial session, aimed at non-practitioners, will be held Thursday evening, September 7 preceding the symposium. Contributed papers in the form of poster presentations are welcomed.

Further information from:

Professor William E. Hatfield
Department of Chemistry
University of North Carolina at
Chapel Hill
Chapel Hill, North Carolina 27514

FACSS

October 1-8, 1989

The preliminary program for **Electroanalytical Symposia** at FACSS-69 includes an exciting collection of 58 papers. This year's meeting will be held October 1-6 in the Chicago Hilton, Chicago, Illinois. We have asked for sessions on Tuesday, Wednesday, and Thursday (October 3-5), and are awaiting final scheduling.

Many thanks to organizers of symposia: Anna Brajter-Toth (University of Florida), Debra Rolison (Naval Research Laboratory), and Andrzej Wieckowski (University of Illinois).

Address meeting questions to:

Brenda R. Shaw
(Electroanalytical Program Chair),
Department of Chemistry
University of Connecticut
Storrs, CT 06269-3060
phone (203) 486-3052 (or 2012 for
message) or **Bitnet: ShawB**
@ UConnVM.

ELECTROANALYSIS IN GASES, SOLIDS, FLUIDIZED BEDS, AND SUPERCRITICAL FLUIDS

M. Fleischmann, "Fluidized-Beds and Related Electrode Structures"

J. W. Evans and F. M. Doyle, "Fluidized-Bed Electrochemistry and the Characterization of Particles and Electrolyte with In Situ Indicator Electrodes"

D. R. Rolison, "Dispersion Electrolysis at Nanometer-sized Electrodes"

S. Pons, "Electrochemistry in the Gas Phase"

M. L. Lonamire et al., "Solid State Electrochemistry: Use of **Poly(ethylene oxide)** as a Polymer Electrolyte Solvent"

C. J. Barbour et al., "Solid State

Voltammetric Measurements and Polymer Electrolyte Plasticization as a Basis for an Electrochemical Gas-Liquid Chromatography Detector"

M. S. Wriahton, "Electrochemistry in Frozen Solutions"

Z. Borkowska et al., "Electrochemistry in Frozen Electrolytes"

A. Parthasarathy and C. R. Martin, "Oxygen Reduction at **Perfluorosulfonate Ionomer Film-Coated Ultramicroelectrodes**: Transport and Kinetics"

R. M. Crooks et al., "Electrochemistry in Supercritical Fluids"

K. E. Creasy and B. R. Shaw, "Gas-Phase and Solid State Electrochemistry Using Zeolite Matrices at Elevated Temperatures"

A. Fitch and S. A. Lee, "Hydration Effects in Ion-Conduction on Clay-Modified Electrodes"

M. Iwunze and J. F. Rusling, "Electrochemistry in Water Tubules and Oil Phases of Bicontinuous Microemulsions"

I. C. Hernandez and P. Vanysek, "Microinterface - an Answer to Microelectrodes in Electrochemistry on Immiscible Liquid Interfaces"

ELECTROANALYSIS OF FILMS AND SURFACES

A. T. Hubbard, "Direct Imaging of Surface Structures by Angle-Dependent Auger Microscopy"

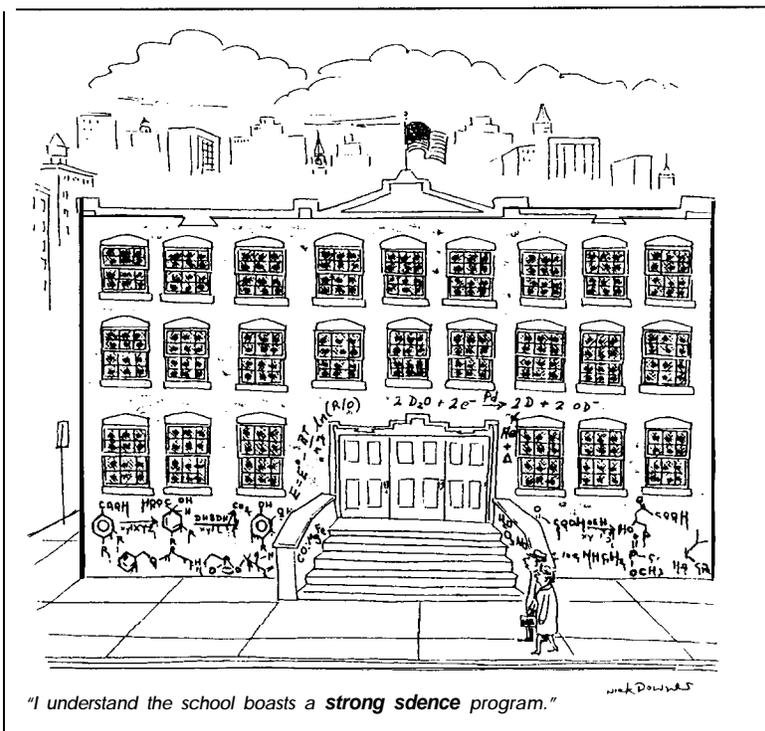
R. P. VanDuyne, "Recent Advances in Surface Laser Spectroscopy"

T. M. Cotton, "Raman Spectroscopy of Chemically Modified Electrodes"

M. J. Weaver, "Time Resolved FTIR Spectroscopy at Single Crystal Electrode Surfaces"

R. G. Nuzzo, "Spectroscopic and Chemical Studies of Organic Thin Film Interfaces"

J. T. Hupp, "How to Build Structured, **Multicomponent Polymer Films** on Electrode Surfaces"



Meetings continued.,

L. R. Faulkner, **Open Discussion** on Thin Films and Surfaces: Significance, Methods, Focus, and Common Concepts

L. R. Faulkner, "Dynamics in Microstructures at Electrodes"

B. C. Schardt, "Imaging of Organic Compounds on Platinum Electrode Surfaces"

F. T. Waaner, "Modeling of the Electrical Double Layer in Ultra-High Vacuum"

C. Korzeniowski, "Infrared Spectroscopy as a Probe of Electrode Processes"

S. Chang and M. J. Weaver, "In-Situ Infrared Spectroscopy of Well-Defined Single-Crystal Electrodes: Adsorption and Electrooxidation of CO on Pt (110), Pt (100), and Pt (111)"

P. W. Bohn, "Orientation of Complex Adsorbates by Raman Scattering and Linear Dichroism"

A. Wieckowski, "Electrochemical In Situ Surface Science by Radioactive Labeling"

A. Wieckowski, **Open Discussion** on In Situ and Ex Situ Methods of Surface Electrochemistry

BIOELECTROANALYSIS AND MINIATURIZATION - IN VIVO AND INSTRUMENTAL USE

M. E. Collison and M. E. Meyerhoff, "Potentiometric Ion/Gas Selective Sensors for Continuous In Vivo Measurements: Progress and Challenges"

W. G. Kuhr et al., "Enzyme-Modified Ultramicroelectrodes for Monitoring Neurotransmitter Release In Vivo"

P. T. Kissinaer, "Microdialysis Sampling Probes: The In Vivo Biosensor that Works Today"

M. D. Ward, "Piezoelectric Detection of Biological Targets via Enzymatic Amplification Routes"

L. R. Faulkner, "Limits to Spatial and Temporal Resolution in Electrochemistry"

B. R. Shaw et al., "Practical Reference Electrodes for Electrochemical Detectors and Microsensors"

R. Shoup, "Microdialysis as an In Vivo Sampling Technique for LCEC"

D. C. Johnson et al., "Direct, Electrocatalytic Detection of Aliphatic Amines, Amino Acids, Amino Alcohols, and Amino Sugars in Liquid Chromatography"

A. Braiter-Toth et al., "Strategies for the Development of New Surfaces for the Amperometric Detection of Biological Molecules"

MODIFIED ELECTRODES

Y. Liu and M. D. Ryan, "Electroreduction of Iron Porphyrin Nitrosyls in the Presence of Sub-

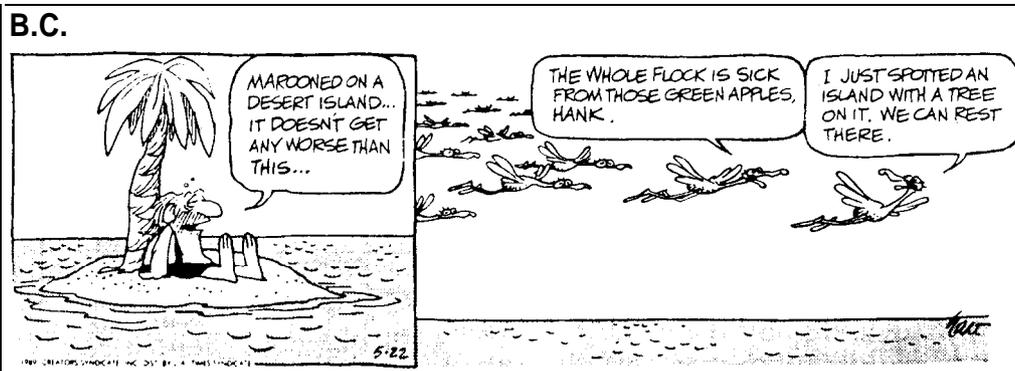
ties in Ion Exchange Membranes from the Analysis of Nonlinear Diffusion at Ultramicroelectrodes"

C. Bruntlett and P. He, "Impedance Analysis of Electrodes Modified with Redox Films"

C. Li and L. R. Faulkner, "Electron Transfer Dynamics at Electrodes Modified by Alternate Adsorption of Isopolymolybdate and Water Soluble Cations"

T. Grav and J. Cox, "Controlled Potential Electrolysis at a Modified Electrode"

R. Jaworski and J. Cox, "Voltam-



stituted Phenols"

P. W. Crawford and M. D. Ryan, "Electrochemistry of Iron Porphyrin Complexes with Sulfate"

D. V. Brown et al., "Mn(III)-Porphyrin-Based Thiocyanate-Selective Membrane Electrode: Characterization and Application in Flow-Injection Determination of Thiocyanate in Saliva"

V. J. Wotring and L. G. Bachas, "Influence of Ionophore Structure on the Anion Selectivity of Membrane Electrodes Based on Diquaternary Ammonium Salts"

J. Fish et al., "Cathodic Stripping Analysis of Heterocyclic Nitrogen DNA/RNA Bases in Non-Aqueous Media"

Z. Sun and P. Vanysek, "Electrochemical Determination Method of Lead(II) Based on the Transfer Across Liquid/Liquid Interfaces"

C. O. Huber, "Electroanalytical Sub-ppm Aqueous Chlorine Measurements"

M. T. Cruanes et al., "Development of a Methodology for High Pressure Studies of Electrochemical Systems"

M. E. Taylor and L. R. Faulkner, "Characterization of Transport Proper-

metry of Hydrogen Peroxide at a Modified Electrode"

G. J. Pvrka and Q. Fernando, "Electrochemistry of Charge Transfer Complexes of Copper Chelates and Tetracyanoquinodimethane (TCNQ)"

A. Galal et al., "Electrosynthesis and Characterization of Highly Conducting Poly(3-methylthiophene) on Stainless Steel Substrates"

ELECTROANALYSIS

S. Chen and Y. O. Su, "Spectral and Electrochemical Speciation of Iron(III) Tetrakis(N-methyl-2-pyridyl)porphine in Aqueous Media"

R. A. Romero, "Differential Pulse Polarographic Determination of Aluminum in Hemodialysis Solutions"

R. Palaniappan, "Indirect Differential Pulse Polarographic Determination of Pt(II): An Efficient Micro-Analytical Method"

L. D. Moore and D. C. Lankin, "Applications of Cyclic Voltammetry in Non-Aqueous High Resistance Medium to Selected Transition Metal Complexes"

J. Xu and P. Vanysek, "Cyclic Voltammetry on the Microinterface between Two Immiscible Solutions"

Meetings continued...

October 21-24 & 27-30, 1989

The "2nd International Seminars on Electroanalytical Chemistry" (ISEC) will be held in Changchun on October 21-24, 1989. The Symposium on Electroanalytical Chemistry at the "3rd Beijing Conference and Exhibition on Instrumental Analysis" (BCEIA) will be held in Beijing on October 27-30, 1989. Professors H. Berg (DDR), T. M. Cotton (USA), R. Guillard (France), D. Jagner (Sweden), L. Kryger (Denmark), T. Kuwana (USA), H. Metzner (BRD), M. Senda (Japan), W. Simon (Switzerland), P. E. Sturrock (USA), et al. have been invited to give reports and lectures for both the 2nd ISEC and 3rd BCEIA.

For information, contact:

Changchun Institute of Applied Chemistry,
Academia Sinica
Changchun 130022
PRC. Telex: 83063 CHIAC CN; Fax: 431-885653.

May 2-4, 1990

BIOSENSORS '90: The first World Congress on Biosensors will be held in Hong Kong on May 2-4, 1990.

Biosensors '90 is a three day event consisting of two symposia and a day of general papers, including a formal poster session and an opportunity to conduct poster workshops.

A symposium on Affinity Sensors will include:

- Immunosensors
- Nucleic Acid Probes
- Cell Receptors
- General Affinity Systems

A symposium on Glucose Biosensors will include:

- Electrochemical Sensors
- Optical Sensors

• Piezoelectric Sensors

• Calorimetric Sensors

The Congress will bring together the multifacets of Biosensors but, in the wider context, will also examine other sensing devices in intimate contact with biological systems.

Authors are requested to submit two copies of abstracts in English, typed in double space, not exceeding 300 words including title, name(s) or author(s) and affiliation. Both copies should be sent to the Programme Chairman representing your country. Please ensure that your full address, including country of origin, is clearly stated and indicate whether you would prefer to present an oral paper or a poster session.

The deadline for submission of abstracts is November 1, 1989. An acknowledgment of receipt will be sent to you.

Authors of accepted abstracts will be offered the opportunity to submit full papers for a special edition of the international journal "Biosensors" published by Elsevier Applied Science.

Programme Chairman - North and South America, Canada
Professor W. R. Heineman
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Cincinnati, Ohio 45221 USA

ADDRESS CHANGES

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NEW MEMBERS

Bill MacCrehan, NIST 9/88
Javad Zadell, University of Kansas 10/4
Steven Soper, University of Kansas 10/5
Todd Wielgos, Baxter Healthcare Corp. 10/26
Larry Larew, Iowa State University 10/28
Ronald Wong, EG&G Princeton Applied Research 11/11
Michael Fronczak, University of Pittsburgh 12/30
Lance Kuhn, University of Pittsburgh 2/1/89
Christopher Johnson, Northwestern University 2/20
Pauline Lee, Whitehall Labs 3/3
F. James Holler, University of Kentucky 3/8
R. P. Torrey, Tennessee Technical University 3/8
Louise Mahoney, SUNY at Buffalo 3/11
Kurlan Varughese, New Mexico State University 3/13
Ziad Hussein Taha, New Mexico State University 3/14
?McCarthy, McGill University, Montreal, Canada 3/14
Marie DiMaso, Merck Frost Canada, Inc., Dowal, Canada 3/14
Raymond O'Donnell, SUNY at Oswego 3/14
S. Mennino, University of Milano, Milan, Italy 3/14
Lo Gorton, University of Lund, Lund, Sweden 3/14
Carlos Cabrera, University of Puerto Rico, Rio Piedras, P.R. 3/14
Ana Guadalupe, University of Puerto Rico, Rio Piedras, P.R. 3/18
Petr Vanysek, Northern Illinois University 3/19
Joseph Vitt, Iowa State University 3/19
Robert Broman, Cypress Systems, Inc. 3/27

EMPLOYMENT OPPORTUNITIES

Postdoctoral or Sabbatical Leave Position

A postdoctoral or sabbatical leave position is available to carry out electrochemical or photoelectrochemical measurements coupled with electron paramagnetic resonance, double and triple resonance, and optical studies of intermediates that are relevant to various aspects of photosynthesis. Initially, model systems are being studied which may lead to a better understanding of the role of carotenoids as the antenna and photoprotect device in plant photosynthesis. A new Bruker EPR-ENDOR/TRIPLE Spectrometer and a BAS-100A Electrochemical System interfaced to EPR and optical equipment will be used in the study. Background references can be found in recently published papers [JACS., 110, 2151 (1988); J. Phys. Chem., 92, 4600 (1988); and Chem. Phys. Letters, 128 238 (1986)]. Additional details are available upon request. Salary is dependent on previous experience.

Please send resume or inquiries and two letters of recommendation to:

Dr. Lowell Kispert
Chemistry Department
The University of Alabama
PO Box 870336
Tuscaloosa, AL 35487-0336
(205) 348-7134

Electrochemical Scientist

An opening exists at the Bettis Laboratory for an Electrochemical Scientist. The research work involves electroanalytical and corrosion mechanism studies with heavy emphasis on "hands-on" laboratory work. Knowledge and skills in Spectroscopy would be an extra plus. An individual with an advanced degree is preferred, but a strong candidate without an advanced degree would definitely be considered. U.S. Citizenship is Required.

Please send resume to:
Brian C. Walsh
Manager, Analytical Chemistry
Westinghouse Bettis Laboratory
PO Box 79
West Mifflin, PA 15122-0079

ANNOUNCEMENT

RE: A Research Support Program on Reproductive Hazards in the Workplace, Home, Community, and Environment

Proposals are encouraged in the following areas:

- 1) Development of animal and human markers of xenobiotic exposure, markers of early physiologic and genetic alterations, and markers of changes of individuals' susceptibility to damage;
- 2) Studies of mechanisms of toxicity of normal reproductive and developmental functions at the molecular, cellular, and organ levels;
- 3) Improvements in methods of assessing human reproductive risk from animal, laboratory, and biomarker data; and
- 4) Epidemiologic investigations of abnormal reproductive effects in exposed groups and of factors that may alter the outcome.

Requests for applications are to be in the form of a 300 word abstract. For further information write or call Grant Administration, March of Dimes Birth Defects Foundation, 1275 Mamaroneck Avenue, White Plains, NY 10605, telephone (914) 997-4552. DEADLINE FOR RECEIPT OF APPLICATION IS JULY 1, 1989

LIAR???

The Author is Robert J. Thornton. He is a professor of economics at Lehigh University, and he has invented a system he calls LIAR. The letters stand for Lexicon of Inconspicuously Ambiguous Recommendations. LIAR permits recommendation-writers to serve up phrases that seem to say good things, but really say bad ones.

A few Thorntonian examples:

About a person who is hopelessly inept: **"I most enthusiastically recommend this candidate with no qualifications whatsoever."**

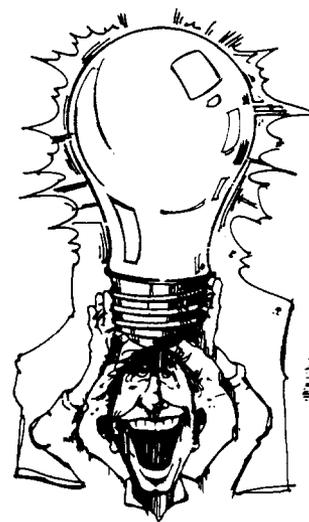
About a person who isn't very industrious: **"in my opinion you will be very fortunate to get this person to work for you."**

About a person who isn't worth further consideration: **"I would urge you to waste no time in making this candidate an offer of employment."**

About a person who simply doesn't have the credentials: **"I cannot say enough good things about this candidate or recommend him too highly."**

About an ex-employee who had trouble getting along with his co-workers: **"I am pleased to say that this candidate is 8 former colleague of mine."**

About a person who is so unproductive that the position would be better left unfilled: **"i can assure you that no person would be better for this job."**



MEMBERSHIP CHAIRMAN DECLARES STATE OF EMERGENCY

WEST ORANGE, NJ (API) - In a dramatic press conference held today at his suburban estate, SEAC Membership Chairman Joe Maloy appointed every Member of the Society to the prestigious Membership Committee.

Beads of perspiration trickled down his worried brow as he declared that a state of emergency exists. "We have a real time bomb ticking away here within the Society," Maloy opined, "and I'm not sure that the action I am taking today will be enough to stop it."

Maloy's concern grew out of a recent study he commissioned regarding the number of electroanalytical papers presented at the Pittsburgh Conference over the past ten years. Detailed analysis of the 1979 and 1989 conference programs revealed that while the number of all papers has been increasing at an annual rate of 8.5% over the last decade, the number of electroanalytical papers has been increasing at a remarkable annual rate of 28.2%. Should these trends continue into the next century, all of the 6100 papers given at the 2005 Pittsburgh Conference will deal with some aspect of electroanalytical chemistry.

In a separate press conference at College Station, SEAC Member Chuck Martin, himself a contributor to both conferences in question, verified the fact that in 1979 only 10 out of 739 papers could be considered to be electroanalytical, while in 1989, 120 out of 1667 fell into this category. Martin also recalled that it was a lot colder in Cleveland than it was in Atlanta.

"In a way, SEAC is a victim of its own success," Maloy stated. "Our productivity is increasing much faster than our membership is. Quite frankly, I don't

see how we're going to come up with enough Members to give 6100 papers in just sixteen years. Most of our current Members will be even more retired than they are now. The thought of all these old fogies coming out of retirement to give a dozen papers at a single meeting boggles the mind. Our only hope is to go after the physicists, the chromatographers, and the pre-osteopaths while they are still undergraduates. That's why I am deputizing every Member and sending each one a recruiting kit. I'm hoping that each current Member will be able to recruit at least one new Member before the next Pittsburgh Conference. A few years like that and we'll be ready to give those 6100 papers by the turn of the century."

Confronted by this reporter at her Storrs office, SEAC Statistician Brenda Shaw said that she has been unable to verify the accuracy of the projections that Maloy used. SEAC President Barry Miller has been unavailable for comment for several weeks. Past President Peter Kissinger, when reached at his West Lafayette executive suite, said that he no longer comments on controversial issues.

The new membership application form enclosed with this issue is the "recruiting kit" mentioned in the above article. I no longer comment on controversial subjects, either.



-Ed.