S.E.A.C.
Society for Electroanalytical Chemistry

SEAC Newsletter

Volume 2, No. 3, October, 1985

PROFESSOR FRED ANSON
1986 WINNER OF C. N. REILLEY AWARD

Professor Fred C. Anson will be the recipient of the third Charles N. Reilley Award given by the Society for Electroanalytical Chemistry and sponsored by BAS, Inc. Professor Anson obtained M.S. and Ph.D. degrees at Harvard University under J. J. Lingane. Following his graduate work he returned to his undergraduate alma mater, the California Institute of Technology, as an instructor. He is currently Professor and Chairman of the Division of Chemistry and Chemical Engineering there. He has been the recipient of numerous awards and fellowships. Most recently he had an Alexander von Humboldt Award to work at the Fritz-Haber-Institute der Max-Planck-Gesellschaft, Berlin, and was given the first David C. Grahame Award of the Physical Electrochemistry Division of the Electrochemical Society in 1983.

Professor Anson's studies have focussed on understanding and using chemistry at electrode-solution interfaces. Early studies involved the influence of adsorption on electrode reactions. Elegant work on inorganic species with ligands that form a bridge between the reactive metal and the electrode paved the way for remarkably fruitful forays into electrocatalysis, inorganic chemistry and modified electrodes. His studies of adsorption using a variety of electroanalytical techniques led to the widespread acceptance of chronocoulometry and the Anson plot as a means of quantitating electroactive adsorbates. More recently he has initiated and developed the area of ionic polymer electrode modifications. His masterful investigations have led to his ability to closely control the various events occurring in these films almost as a conductor directing an orchestra.

At least 19 of his former post-doctoral associates and graduate students are currently in academic positions. He has served as a member of the Editorial Boards of the Journal of Electroanalytical Chemistry and the Journal of Physical Chemistry. Professor Anson, through his insightful and sustained investigations of interfacial chemistry, and his role as a teacher and scholar has been, and continues to be, a major influence in the field of electroanalytical chemistry.

Professor Anson will address "Structural Effects in the Electrochemical Behavior of Polyelectrolyte Coatings on Graphite Electrodes." Professors Pons, Johnson, Wightman and Rechnitz will follow the Award Address. The importance of surface chemistry in electrochemistry has been stressed by Professor Anson throughout his career. Appropriately a discussion of vibrational spectroelectrochemistry will show that the power of FTIR is not confined to homogeneous solutions. With some instrument modification it is possible to obtain microsecond resolution for kinetic studies. The fundamental basis for this spectroscopy will be explained. The use of the adsorption of molecules containing donor atoms on clean Pt surfaces has been made the basis of a powerful detection technique. The controlled selectivity of pulsed amperometric detection makes it a powerful detection technique for liquid chromatography today. The world of microelectrodes is opening up wider and wider to reveal exciting possibilities. Electrode modifications on microelectrodes can now be prepared which yield analytically useful selectivity while retaining the rapid response typical of microelectrodes. Many of the goals of analytical chemistry are performed exquisitely by living organisms. Why not use them in analytical devices? This important and provocative question will be addressed.

S. Weber

* NOMINATIONS FOR SEAC BOARD OF DIRECTORS *

The terms of the following Directors of SEAC will expire at the time of the next annual meeting:

Stanley Bruckenstein - SUNY at Buffalo
Royce W. Murray - University of North Carolina
Robert A. Osteryoung - SUNY at Buffalo

The nominating committee (Henry Blount, Acting Chairman) must provide a list of nominees for these positions by NOVEMBER 15. This list, according to the By-laws, will include any person nominated by at least ten members of the Society together with others deemed appropriate by the nominating committee. All SEAC members are invited to send suggestions of nominees to: HENRY N. BLOUNT, III
NATIONAL SCIENCE FOUNDATION
CHEMICAL ANALYSIS, CHEMISTRY DIVISION
WASHINGTON, DC 20550

SUGGESTIONS SOLICITED

LIFE MEMBERSHIP IN SEAC

The Society is considering an option of life memberships, to simplify bookkeeping. If you have any suggestions as to how this could be implemented (e.g., fee level), please write to Professor Royce Murray at the University of North Carolina at Chapel Hill. Professor Murray is Chair of the finance committee.

BUZZ ADAMS' REFLECTIONS

Bill Geiger's invitation to recipients of the Charles N. Reilley Award to write a few words for the SEAC Newsletter – "reflections on any topic" as Bill put it, may open the door for a variety of senile ramblings on my part. However, the award presentation at New Orleans did evoke much nostalgia on my part. And so, when the rats outwit me (which is a good part of the time) I turn back to thoughts of the good old days.

They indeed were good days and exciting times when I started my graduate studies with Professor M. Howell Furman at Princeton. Furman's group – consisting of W. D. Cooke and C. N. Reilley – was small but scientifically powerful when the late R. P. Taylor and I joined it in 1950. Cooke was a post-doctoral fellow and C. N. was in his second year of graduate work. They were magnificent old timers to learn from but neither Taylor nor I ever managed to accomplish in a month what those two could pull off in an afternoon. We shared a large common lab with Clark Bricker's group: Bill Dippel, J. K. Lee and Bill Schmidt. The lab still had some continuing projects from Furman and Bricker's major contributions to the electroanalytical chemistry of the Manhattan Project. Although the research interests of the whole room ranged from chelate extractions to flame photometry, discussions of electroanalytical methodology dominated the lab and the continuing arguments ran into the night at the Graduate College. (In those days all graduate students lived in a "castle" on the edge of campus – the Graduate College. Grace was in Latin and we wore gowns to dinner every evening. Only when the main dining hall was full could you overflow into the breakfast rooms in more casual attire. We hard-core scientists were usually "late" in arriving from the lab.)

Those lab discussions were stimulating and when they faded they were often revived by sly ponderings by C. N. (I say "sly" because I suspect he knew most of the answers already.) We puzzled over the relationships between potentiometry and current voltage curves and tried to fathom out "reversibility." That may sound laughable today but one must remember most of us didn't know anything about such things then. This was 1951-52 and the contents of Paul Delahay's bible, "New Instrumental Methods in Electrochemistry" didn't appear until 1954 (that's Big Delahay, not to be confused with Little Delahay – "Instrumental Analysis," which was published late in 1957).

Dr. Furman would often wander in on one of these discussions, coming from his appointed rounds in the quant lab. (He personally greased stopcocks and helped students get their crucibles to constant weight every afternoon throughout his career.) He seemed to love those sessions and he'd stand quietly in the background and the more we argued, the more he'd smile and nod approvingly. When finally we turned to him for his opinion, he'd invariably preface his remarks with "Well, you fellows certainly know more about this than I do, but I think..." What a crock – the Boss knew everything, we knew that! One of the true giants in analytical chemistry, he was a walking encyclopedia of information, yet he was such an unpretentious and humble scientist. He never demanded nor pushed people to work. If you knew he was interested in something, you somehow just felt you couldn't let him down – you just had to work like the devil to do it right. Later, before I left Princeton, he said, "Buzz, every student is different, but they're just like young birds ready to fly. You just have to let them perch on your hand and puff at each one of them differently – sooner or later they'll fall off and away they'll go."

While very conservative and demanding in his interpretation of results, the Boss encouraged us to work on wild and wooly ideas. He was much in favor of the "let's try it" approach. Try a quick and dirty experiment and if it was promising, then came the careful re-evaluations and refinements. I was much reminded of Furman many years later when we had

the honor of having the Nobel laureate Julius Axelrod visit our lab. During discussions with graduate students, he was asked, "Dr. Axelrod, can you characterize for us your approach to research?" Without much pause, this also elegant and unpretentious man said, "Well, I guess I always thought it was better to do an experiment than to not do one."

It was a pretty heady atmosphere to work in Furman's lab in those days. All the great names visited - Hobart Willard, Kolthoff, Lingane and many others. When Don Cooke took off to Cornell and C.N. left for North Carolina I muddled through being the electrochemical guru of the lab for awhile. New people like Bob Dilts, Rudy Bottei and Lou Savegh joined the group. J. K. Lee, as he would put it, "parked around" between Princeton Junction and Hong Kong. I stayed on as an exalted Instructor in analytical chemistry - and began to seriously pursue studies of organic oxidations at solid electrodes. During this time, J. K. Lee, who was supposed to be doing counter-current extractions for Bricker, began bootlegging studies of oxide permation on platinum and gold in my little lab. We were completely unaware of Tall Fred's work with Lingane in this area, but we all ended up contributing something to the troubled state of oxide surfaces on platinum. Professor Furman was president of the ACS about that time. He didn't like that, all the traveling, etc., which didn't leave him enough time to hang around the lab and he was relieved when the year was over. Princeton, apparently embarrased that they had not so honored an ACS president, then made him chairman of the department. Another year of purgatory!

In 1955, I decided I wasn't too well suited to the Ivy League. Certainly my general comportment and sartorial conservativeness qualified me to stay but I just felt it was time to head down the runway. At Lawrence, shop was set up in a small lab next to my office. My first graduate student, Ted Kuwana, and I shared the minimal equipment - lots of 45 V. batteries and resistors and a L & N pH meter with which we could do potential and current scan voltammetry and chronopotentiometry. The only trouble I had with Ted was that he worked all night in the lab. At that time I came in about 0500 to work till Gini and the kids were up for breakfast. When I arrived resistors would still be warm and Ted bubbling over to tell me what he'd done during the night. I couldn't get my own experiments done! So - we quickly reached a working agreement - I'd come in, we'd just say "hi" and Ted would go sack out and we'd discuss his results later in the afternoon. It is such a delight to have Kuwana rejoin us here in Lawrence. I was so pleased I could present him with a welcoming gift - the same old pegboard battery and resistor circuit he and I used in 1957. I never could toss that out and now I suspect he might still be able to wring another good experiment out of it!

Soon the lab grew and from that period till now there has been a steady succession of outstanding undergraduates, graduate students, technicians, post-doctorals and colleagues in the group. And I must say that they have been an illustrious group - just look around and see what they're doing now. Faraday would snap-roll in his grave if he knew the far-out things they and others are doing in electrochemistry today. My receiving the C. N. Reilley aware was certainly a tribute to all these people. Like Professor Furman, all I did was stand on the edge of discussions and nudge them along - although, unlike him, it was because I really didn't have much to contribute except the approving nod and smile. And the award is also a real tribute to Gini and my daughters - especially Gini who perservered through all those years with patience and only a bemused smile at the fool in her house who spent all of his non-flying hours worrying about what happened to electrons and who came home besmudged with carbon paste, late for dinner most every day.

There's a 4 X 8' piece of painted beaver-board in my office that came from Ted's early lab and all the students sign it with their own brand of remarks when they leave. Pete Kissinger wrote "A good experiment made <u>him</u> dance with delight." They've kept me dancing all these years and the jig's not quite up yet.

CONTRIBUTIONS TO
REILLEY AWARD ENDOWMENT FUND

Thanks to the following contributors who each generously donated $100 to the REILLEY AWARD ENDOWMENT FUND. All contributions to the fund are tax deductible and are deposited in an interest-bearing account designed to perpetuate the annual cash award for outstanding accomplishments in electroanalysis.

Electroanalytical Consulting Associates, West Orange, NJ - $100 and Elsevier Science Publishing Co., Inc., New York, NY - $100.

Persons or organizations wishing to contribute to the endowment fund should make their contributions payable to SEAC, and submit it to:

Professor Larry Faulkner, Treasurer
SEAC
C/O University of Illinois
Dept. of Chemistry
Urbana, IL 61801

NEW MEMBERS OF SEAC

Regular Membership

Ralph Adams, University of Kansas
Anthony Addison, Drexel University
Terry Berger, Hewlett-Packard
Eileen Birch, University of Cincinnati
Gino Bontempelli, Univ. Degli Studi di Padova, Italy
Lap-Tak Chan, Montefiore Hospital
Alebachew Demoz, Karlsruhe, Germany
Howard Dewald, University of Cincinnati
Lynda H. Fleming, Univ. of Wisconsin Med. Sch. (MCC)
Michelle Herrera, DuPont - New Biomedical Products
Irving John Higgins, Cranfield Inst. of Tech., U.K.
Carl L Housmyer, Merrell Dow Research Institute
Yung Y. Huang, American Hospital Supply Corporation
Andrzej Lasia, University of Sherbrooke, Canada
Thomas Layloff, FDA
John Leddy, Los Alamos Nation Laboratory
Conan Li, Cambridge Research Laboratory
Franco Magno, Univ. Degli Studi di Padova, Italy
Edward Novak, Lafayette Clinic
Albert Robbat, Jr., Tufts University
Elaine Ryan, Bristol-Myers
Anne-Marie Simon, Fac. des Sci. de St. Jerome, France
Wolfgang Thormann, University of Arizona
Otis L. Updike, University of Virginia
Barry Watson, Anatrace, Inc.
Larry M. Wier, St. Bonaventure University

Student Membership

Donna M. Caster, University of Cincinnati
Nicholas Corso, Tufts University
David Cunningham, University of Cincinnati
Leslie J. Lyons, University of Wisconsin
Reginaldo Saraceno, Pennsylvania State University
Scott Schwab, Ohio State University
Mary Celine Scott, Mayo Clinic|Mayo Foundation

Any individual with an interest in electroanalytical chemistry is invited to join SEAC. Dues are $10 for 2 years. Students are welcome, with dues of $5 for 2 years. For applications, contact:

Prof William R. Heineman
University of Cincinnati
Dept. of Chemistry
Cincinnati, OH 45221
(513-475-5325)

MEETING CALENDAR

Charles N. Reilley Award Symposium in Electroanalytical Chemistry, March 11, 1986 - Contact Dennis C. Johnson, Iowa State University, Dept. of Chemistry, Ames, IA 50011

International Electroanalytical Symposium, Cherry Hill, NJ, May 28-30, 1986 - Contact Josie Bewsey, IES, Box 2206, West Lafayette, IN 47906

Conference on Electroanalysis, Dublin, Ireland, June 10-12, 1986 - Contact Malcolm Smyth, School of Chem. Sci., National Inst. for Higher Education, Glasnevin, Dublin 9, Ireland

1986 PITTSBURGH CONFERENCE ELECTROCHEMISTRY PROGRAM MARCH 10-14, 1986 ATLANTIC CITY, NJ

*Monday, A.M., Kinetics and Mechanisms

Electroanalytical Applications of Instrumentally Interpreted Current Transients, Arunee Therdteppitak and J. T. Maloy

In-situ Laser Activation of Solid Electrodes, Melanie Poon and Richard L. McCreery

Electrochemical Observation of Structural Change Accompanying Electron Transfer Reactions, Doris A. Smith and Franklin A. Schultz

Electrochemistry of Catenated Sulfur Compounds, Joseph Jordan and J. E. Yakupkovic*

The Effect of Temperature and pH on Cytochrome c Redox Reactions, Kent B. Koller and Fred M. Hawkridge

Functional Micelles for Electrocatalysis: Reduction of Allyl Halides with Bipyridyl Derivatives of Co(III), G. N. Kamau, S. S. Shukla, T. Leipert, and J. F. Rusling

Electrocatalytic Reduction of Vicinal Dihalides with Vitamin B_{12}, T. F. Connors and J. F. Rusling

*Monday, P.M., Modified Electrodes

Electrochemical Mediation of Redox Activity of Reagents Immobilized at Non-Conducting Surfaces, C. Widrig and M. Majda

Electrodeposition and Characterization of Metal Microparticles in Polymeric Films, D. Bartak, B. Kazee, K. Shimazu, and T. Kuwana

Electrodepostion of Pt Microparticles on Glassy Carbon Surfaces, K. Shimazu, T. Kuwana, and D. Weisshaar

Polymer Modified Electrodes as Electrochemical Sensors, C. R. Martin, M. W. Espenscheid, R. M. Penner, and A. R. Ghatak-Roy

Microelectrode Studies of Free-Standing Polymer Membranes Without Solvent or Supporting Electrolyte, L. D. W. Whiteley and C. R. Martin

The Electrochemical and Conducting Properties of Poly (3-substituted Thiophen-2,5-diyls), H. B. Mark, Jr., H. Zimmer, C. V. Pham, A. Czerwinski, and L. Davidson

Alkylmercaptan Monolayer on Gold Electrodes, H. O. Finklea, T. A. Furtsch, S. Avery, A. Blackburn, and M. Lynch

Dithiocarbamate Electrode for Trace Metal Analysis, G. G. Wallace and D. M. T. O'Riordan

Chemical Preconcentration and Voltammetric Determination of Ni(II) at a Dimethygloxime-Containing Chemically Modified Electrode, R. P. Baldwin

Preparation and Electrochromism of a Vanadium Hexacyanoferrate Film Modified Electrode, S. Dong and Fengbin Li

*Tuesday, A.M., Spectroscopy

Surface Laser Spectroscopy of Electrodeposited and Photoelectrodeposited Thin Metal Films, R. P. Van Duyne, J. Haushalter, K. Carron and B. Johnson

Characterization of Carbon Electrode Surface Groups with X-Ray Photoelectron Spectroscopy Preceded by Chemical Derivatization, W. G. Collier and T. F. Tougas

Fluorescence Detected Surface EXAFS of Iodine on Platinum, H. D. Abruna, P. Chandrasekhar, M. Albarelli, J. G. Gordon II, O. R. Melroy, and G. L. Borges

Direct Structural Determination for Solution Species Using EXAFS Spectroelectrochemistry, H. D. Dewald, W.R. Heineman, and R. C. Elder

Spectroelectrochemical Correlation Flow Detector for Enhanced Selectivity, J. L. Anderson and L. E. Fosdick

Long Optical Pathlength Thin-Layer Spectroelectrochemistry; Adsorption and Hydrogenation of Aromatics at Pt, Y. Gui and T. Kuwana

(This session will be followed by a variety of papers on chemometrics)

*Tuesday, P.M., Reilley Award Symposium

Structural Effects in the Electrochemicl Behavior of Polyelectrolyte Coatings on Graphite Electrodes, F. C. Anson

Vibrational Spectroelectrochemistry, Stanley Pons

Biosensors: Asking Questions of Nature, G. A. Rechnitz

The Quest for a Universal Anodic Detector, D. C. Johnson

Surface Modified Microvoltammetric Electrode, R. M. Wightman

*Wednesday, A.M., Sensors

Impedance Monitoring of Dielectric and Resistance Properties of Polyvinychloride (PVC) Membranes, R. P. Buck and G. Horval

Characterization of Reactive Impurities in Acetonitrile Propylene Carbonate and Other Dipolar Aprotic Solvents, J. F. Coetzee, C.-C. Liao, and T.-H. Chang

A Further Study of pH Glass Electrode with Varied Inner-To-Outer Electrode Membrane Surface Ratio, K. L. Cheng

A Drift Effect in Metal Oxide Microelectrodes, H. Diamond and E. Berman

Design of Electrolytic Analogues of Potentiometric Ion Selective Electrodes, J. A. Cox, R. Francis, A. Bhatnagar, and T. Gray

Application of a New Photoelectrochemical Detector for HPLC, W. R. LaCourse and I. S. Krull

Analytical Detection of Part-Per-Million Oxygen Levels Using an Improved Electrochemical Gas Sensor, T. J. Lindsay, Y. J. Choi, and J. F. Price

Determination of Fat Soluble Vitamins in Serum Using LCEC, W. A. MacCrehan and E. Schonberger

Open Tubular LC with EC Detection for the Analysis of the Intracellular Fluid of Single Neurons, R. Kennedy, R. L. St. Claire III, and J. G. White

Detection of Retinol and Its Impurities Using LC‖UV, EC, E. Schonberger and William A. MacCrehan

*Wednesday, P.M., Analysis

The Electrochemical Reduction and Determination of 1,2-Dibromoethane in Aqueous Solutions, R. Bilewicz, R. Tokoro, and J. Osteryoung

Pulse Polarographic Determination of Iron in Sodium Tungstate and Cobalt or Nickel Compounds, W. Schmidt and W. K.-Chhetri

Use of Chelating Organic Dyes for Adsorptive Stripping Voltammetric Measurements of Trace Metals, J. Wang and J. S. Mahmoud

Stripping Voltammetry at Solid Electrodes, Tadeusz Hepel

Determination of Some Organic Plating Bath Additives Using Electrochemical Techniques, A. Palus

Voltammetric Analysis of As $^{3+}$ in a Gold Plating Bath, A. L. Cordry, Ph.D.

Determination of Chromium (III) and Chromium (VI) in Wastewater and Chromate Conversion Baths by Differential Pulse Polarography, T. W. Rodgers

A Unique Method for the Detection of Ethylene Oxide, D. A. Stewart, R. M. Anel, and J. D. Jolson

Determination of Ammonia in the Presence of Other Amines by Anodic Amperometry, R. Arumugham and C. O. Huber

Potentiometric Determination of Trace Amounts of Volatile Thiols in Natural Gas, S. M. Farroha, A. E. Habboush, and S. Y. Kurthagb

*Thursday, A.M., General

An Enhanced Electrochemical Analyzer, P. He, and L. R. Faulkner

Hydrodynamic Chronocoulometry, S. E. Morris and L. R. Faulkner

The Uses of Pulse Methods in Cyclic Voltammetry, G. N. Eccles and W. C. Purdy

Formation Constant Determination of Some Metal Complexes Using Cyclic Voltammetry, J. T. Long and S. G. Weber

Depletion Effects in Normal Pulse Voltammetry: Studies Using Digital Simulation and Kalman Filtering, D. M. Caster and S. D. Brown

Fabrication, Theory and Experimental Characterization of Linear and Ring Gold Microelectrodes with Submicrometer Thickness, W. Thormann, J. W. Bixler, A. M. Bond, and T. L. E. Henderson

Electrodepositions at Cylindrical Single Carbon Fiber Microelectrodes, J. Golas and J. Osteryoung

Modeling and Simulation of <u>In Vivo</u> Voltammetry, L. Nicolaysen, A. C. Michael, and J. B. Justice, Jr.

CV Determination of Trace Levels of Oxonine Dyes, W. R. Schmidt, H. H. Richtol, and D. A. Atkens

*Friday, A.M., General

Transient Membrane Potentials of Glass Electrodes, M. A. Arnold

Microprobe Techniques for Making Spatially Resolved Measurements Within the Diffusion Layer, R. C. Engstrom, D. Wunder and S. Winquist

Three Probe Variable Temperature Electrical Resistivity Measurement System for Polymeric Films and Its Correlation with Other Analytical Techniques, J. D. Rancourt

Micro-Ring Carbon Electrodes, Y.-T. Kim, R. A. Wallingford, and A. G. Ewing

Multispecies Integrated Electrochemical Sensors, C. R. Balulescu, I. Lauks, and J. Patterson

The True Limiting Noise in Hydrodynamic Amperometry, T. A. Berger

A Continuously Cleaned Amperometric LC Detector, T. A. Berger

Voltammetric Study of Proton Transfer Facilitated by Terramycin Across an Oil‖Water Interface, E.Wang and Y. Liu

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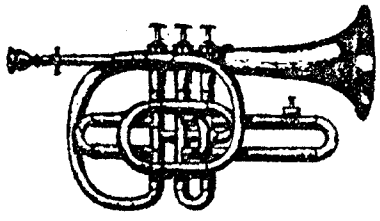
*** CONTRIBUTIONS SOLICITED ***

Spread the word. Air your opinions. Give us the scoop, and share gossip about the undercurrents of electroanalytical chemistry. Send anything from position notices to press releases to:



Prof. William Geiger
Editor
SEAC Newsletter
c‖o Dept. of Chemistry
University of Vermont
Burlington, VT 05405

CALL FOR PAPERS
Electrochemical Society Meeting
Boston, MA
May 4 - 9, 1986

For the 169th ECS Meeting in Boston there are many interesting symposia for which contributions are being solicited. Abstracts are due December 1, 1985. Some symposia titles and symposia chairpersons are:

Electrochemical Sensors for Biomedical Applications
C. K. N. Li, Cambridge Research Laboratory, 195 Albany Street, Cambridge, MA 02139

Organic Semiconductors at the Molecular Level
D. S. Ginley, Sandia National Laboratories, Org. 1154, Albuquerque, NM 87185, or
J. J. Smith, Office of Naval Research, Chemistry Div., Arlington, VA 22217-5000

Electrodeposition of Semiconductors
M. Tomkiewicz, Dept. of Physics, Brooklyn of CUNY, Brooklyn, NY 11210; R. Noufi, Solar Energy Research Inst., 1617 Cole Blvd., Golden, CO 80401; G. Hodes, Dept. of Plastic Research, The Weizmann Inst. of Science, Rehovot 76100, Israel

Electrochemical and Ionic Mechanisms in Electromagnetic Cell Stimulation
G. Rein, Dept. of Orthopedic Surgery, Mt. Sinai Medical School, New York, NY 10029

Organic Reaction Mechanisms
J. F. Russling, Dept. of Chemistry, University of Connecticut, Storrs, CT 06268; P. Zuman, Dept. of Chemistry, Clarkson University, Potsdam, NY 13676

Electrode Processes IV
B. E. Conway, Dept. of Chemistry, University of Ottawa, Ont. Canada K1N 9B4; M. J. Weaver, Dept. of Chemistry, Purdue University, West Lafayette, IN 47907; L. R. Faulkner, Dept. of Chemistry, University of Illinois, Urbana, IL 61801

General Sessions in Physical Electrochemistry
B. Miller, AT&T Bell Labs., Rm. 1D-350, Murray Hill, NJ 07974

Ion Transfer at Liquid-Liquid Interfaces
R. P. Buck, Dept. of Chemistry, University of North Carolina, Chapel Hill, NC 27514

A SALT AND BATTERY IS AN ELECTROCHEMICAL OFFENSE!

MEMORIAL SYMPOSIUM FOR DONALD E. SMITH

A symposium in Don's memory was organized by Prof. Rick Van Duyne, and held under the auspices of the 190th American Chemical Society Meeting in Chicago on Thrusday, September 12, 1985. Many of the speakers commented on the outstanding personal qualities and scientific achievements of Don.

Speakers and their titles were:

Prof. Royce W. Murray, University of North Carolina
"Electroactive Polymer Films on Interdigitated Array Electrodes"

Prof. Dennis H. Evans, University of Wisconsin
"Evaluation of Electrochemical Kinetic Parameters Using the Bond-Henderson-Oldham 'Global Analysis'"

Prof. William R. Heineman, University of Cincinnati
"Immunoelectrochemistry"

Prof. Larry R. Faulkner, University of Illinois
"Chemical Microstructures on Electrodes"

Dr. Stephen W. Feldberg, Brookhaven National Lab.
"Implications of Extended Heterogeneous Electron Transfer"

Prof. William E. Geiger, The University of Vermont
"Electrochemistry of Metal Cyclooctatetraene Compounds"

Dr. Kathryn R. Bullock, Johnson Controls, Inc.
"Electrochemical and Spectroscopic Studies of Lead Corrosion Films"

Dr. Eric Brown, Eastman Kodak Co.
"Heterogeneous Charge Transfer Rate Studies in Silver Electrodes"

Prof. Theodore Kuwana, University of Kansas
"Electrocatalysis at Carbon Electrodes"

Prof. Richard P. Van Duyne, Northwestern University
"Raman Spectroelectrochemistry"

TRANSITIONS

Janet G. Osteryoung Explores International Interface

Congratulations to Prof. Janet Osteryoung of SUNY Buffalo on receiving both a Guggenheim Fellowship for 1985-86 and a Fulbright Award. Janet will spend part of her time at the University of Southampton with Roger Parsons and will be in Portugal later on the Fulbright Award. SEAC's overseas recruiting should be enhanced!

Bulletin Board

RESEARCH ASSOCIATE AT THE NATIONAL BUREAU OF STANDARDS

The National Committee for Clinical Laboratory Standards offers the position of Research Associate at the National Bureau of Standards Gaithersburg, Maryland

The Research Associate will work in the Inorganic Analytical Research Division of the Center for Analytical Chemistry at the Bureau of Standards (NBS) on the development of methods for electrolyte activity measurements in biological fluids using potentiometry, and on the development of new reference materials for clinical chemistry. The research will focus initially on sodium measurements using amalgam cells and cells with transference. The position is a one-year appointment, renewable for two additional years, and offers excellent opportunities in advanced technology in analytical chemistry.

A doctorate in chemistry or a related discipline with experience in electrochemistry or experimental physical chemistry is required. Experience in biochemistry, analytical instrumentation, potentiometry, and thermodynamics is also appropriate.

Qualified applicants should submit a resume to Dr. John V. Bergen, **National Committee for Clinical Laboratory Standards**, 771 East Lancaster Avenue, Villanova, PA 19085.

For additional information, contact Dr. William F. Koch or Dr. George Marinenko, National Bureau of Standards, Center for Analytical Chemistry, Gaithersburg, Maryland 20899, (301-921-2883).

ACS ANALYTICAL SUMMER INTERNSHIPS

The ACS Division of Analytical Chemistry will once again operate a program of "Summer Internships", aimed at introducing talented undergraduates to the modern analytical chemistry area. Students chosen to participate in the program will be employed by industrial, government or academic analytical laboratories, where they will carry out various phases of fundamental or applied research in the analytical area. Participating laboratories agree to hire one or more students during the summer. Applicants are screened and evaluated by the Professional Status Committee of the Analytical Chemistry Division, and those students most qualified have their applications and reference letters sent to several of the participating laboratories. These organizations then select those individuals they deem suited for their particular needs and, via the Professional Status Committee, make contact with the students. The Professional Status Committee acts as a broker, soliciting applications from both students and organizations willing to hire the students for the summer. Salary and details of employment are between the organization and the student.

Ideally, to qualify for the program, students should be attending a four-year college and be between their junior and senior years at the start of the summer of 1986 and have completed a course in Instrumental Analysis. We are also seeking applications from seniors graduating in 1986 who have specifically demonstrated their interest in analytical chemistry by application to graduate school with the intention of majoring in that area. Graduate students in analytical chemistry will also be considered for the program.

For the 1985 Summer Intern Program, sixty-seven completed applications were received. Some of these were rejected on the basis of low grade-point averages, insufficient backgrounds in analytical chemistry, or rather restrictive geographic requirements, but efforts were made to place fifty-four students. Twenty-five organizations (industrial, government and academic) initially indicated an interest in participating in the program. Of these, fifteen eventually placed one or more students, five were obliged to withdraw for budgetary reasons, and five were unable to make contact with an appropriate student. The final results were that eighteen students were placed with fifteen different organizations. Not all of the students who received offers accepted, of course. A number had found positions on their own or were otherwise occupied for the summer.

The main purpose of this communication is to ask those of you who are SEAC members to 1) consider participating in the program by agreeing to hire one or more students during the summer of 1986 and 2) request those of you in the academic world to solicit your good undergraduates to apply to this program. The deadline for student applications will be February 15, 1986.

More information regarding the program, as well as student application forms, can be obtained from Robert A. Osteryoung, Professional Status Committee, Division of Analytical Chemistry, ACS, c/o Dept. of Chemistry, State University of New York at Buffalo, Buffalo, NY 14214, Telephone: 716-831-3820.

KEEPING AN "ION" SOMEONE.

Utah CHEMFET Chips Available

Dr. J. Janata of the University of Utah has announced the availability of field effect transitors capable of acting as ion-selective electrodes. In order to stimulate research in this area and to provide a service to the chemical community, these chips are being sold at the cost of production, shipping, and handling. These chips are for research purposes only and not for commercial use. Prices are either $6.50 (UU03 chip) or $11.00 (UU03-5M chip) and orders of 10-100 units are being accepted. Make checks payable to "University of Utah, Dept. of Bioengineering" For more information or to place an order write:

Dr. J. Janata
Univ. of Utah
Dept. of Bioengineering
2059 MEB
Salt Lake City, UT 84112