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

SEAC Newsletter

Volume 1, No. 3 October, 1984

PHILIP J. ELVING, 1913-1984

It is with great sadness that I have to report that Professor Philip J. Elving died on Friday evening, March 16, 1984 of cancer of the liver. He died peacefully at St. Joseph's Mercy Hospital in Ann Arbor while Mrs. Elving was with him. Phil's contributions to electrochemistry and analytical chemistry can hardly be overestimated. He will be remembered by his colleagues and friends as an exceptionally distinguished educator, a prolific writer and a gifted editor. Furthermore, those who knew him well were aware of his concern for the welfare of others, his humanitarian interests and his strong religious commitment.

Phil earned his Ph.D. from Princeton in 1937. He then spent relatively short periods on the chemistry faculty at Penn State and Purdue Universities and in industry (Publicker Industries). In 1952 he joined the chemistry department at the University of Michigan where he taught and did research for 32 years before being granted professor emeritus status in 1983. Over the course of an exceptionally distinguished career Phil published more than 270 journal articles and 19 book chapters. He also served as a co-editor (until 1972 with I. M. Kolthoff and from 1974 with J. D. Winefordner) of the monograph series Chemical Analysis. More than 50 titles were published in this series. Beginning in 1959 he co-edited (with I. M. Kolthoff) the monumental Treatise on Analytical Chemistry which is undoubtedly the most comprehensive systematic work ever undertaken in analytical chemistry.

Phil was active in a number of professional societies. In the American Chemical Society he served as the chairman of the Analytical Group of the Philadelphia Section (1944-45), as Chairman of the University of Michigan Section (1955-56) and as Vice-Chairman (1947) and Chairman (1948) of the Division of Analytical Chemistry. He also served as Vice-Chairman (1964-66) and Chairman (1966-68) of the Electroorganic Division of The Electrochemical Society and as a Member of the Board of Directors of the society between 1966-68. Phil also worked on several important committees of the American Society for Testing and Materials (ASTM) and on the Advisory Editorial Boards of the journals Analytical Chemistry, Analytica Chimica Acta, Bioelectrochemistry and Bioenergetics, Critical Reviews in Analytical Chemistry, Journal of the American Chemical Society, and the book series Organic Analysis and Advances in Analytical Chemistry and Instrumentation.

Phil's outstanding scientific contributions were recognized through the Fisher Award in Analytical Chemistry of the American Chemical Society (1960), the Anachem Award (1957), the Medaille de Honneur, Universite de Liege (1965) and the Distinguished Faculty Achievement Award of the University of Michigan (1977). Shortly before retiring, he was named Willard Professor of Chemistry at the University of Michigan.

Phil was a leader in the field of organic electrochemistry and employed voltammetric and polarographic techniques to study such diverse phenomena as bond fission, adsorption, reaction kinetics and structural and solvent effects as well as to solve analytical problems. Over the past 15-20 years Phil began using electrochemical techniques to study the redox chemistry and adsorption behavior of various biologically significant compounds, an area that has come to be known as bioelectrochemistry.

All of the many graduate students and postdoctorals who worked in Phil's laboratory will recall his patient guidance, friendliness and good humor. He was also an extremely well read man and it was a pleasure to talk with him on almost any topic. There is no doubt that with the passing of Phil Elving chemistry, and particularly electroanalytical chemistry, has lost one of its most eminent and articulate contributors. He will be missed.

Glenn Dryhurst
Norman, Oklahoma

NOTICE

The terms of the following Directors of SEAC will expire at the time of the next annual meeting: Professor Fred C. Anson (Caltech), Professor Allen J. Bard (U Texas), Professor Ralph N. Adams (U Kansas). The nominating committee (Professor Joseph Maloy, Department of Chemistry, Seton Hall University, E. Orange, New Jersey 07079, Chairman) must furnish me with 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. Suggestions for nominees may be sent to me, or directly to Professor Maloy.

Janet G. Osteryoung State University of New York
Department of Chemistry Buffalo, New York 14214

1985 C.N. Reilley Award

Professor Ralph N. Adams has been selected as the 1985 recipient of the C. N. Reilley Award given by the Society of Electroanalytical Chemistry. The award, sponsored by Bioanalytical Systems, Inc., is in recognition of Professor Adams' signal accomplishments in solid electrode voltammetry, organic oxidation mechanisms and in vivo electrochemistry.

After WWII service in the Army Air Force and obtaining the B.S. Degree from Rutgers University, Professor Adams joined the research group of N. Howell Furman (where C. N. Reilley was also a student). He received the Ph.D. degree in 1953 following which he stayed on at Princeton as an instructor for two years before moving to the University of Kansas where he is now a University Distinguished Service Professor.

The influence of Professor Adams on the field of electrochemistry has been broad, deep and sustained. He has been the Ph.D. advisor for a large number of highly successful electrochemists who carry on the tradition of good science so aptly learned under his tutelage. His research interests up to 1969 centered on mechanisms of organic electrode reactions. The pursuit of the mechanistic details fostered tremendous progress in key techniques such as the monitoring of electrode-produced free radicals by epr, the use of voltammetry, particularly cyclic voltammetry, the use of nonaqueous solvents in voltammetry and the invention of carbon paste. Besides laying the foundation for understanding the anodic oxidations of many compounds (e.g. phenols and amines), a widely read textbook, Electrochemistry at Solid Electrodes grew out of this work.

In 1969, the research interests of his laboratory shifted to applying electrochemistry to problems in the field of neurosciences. The research emphasis in his laboratory is now almost entirely involved with applying electrochemistry and other techniques to in vivo and in vitro measurements of biogenic amine neurotransmitters. This research effort is particularly involved with the chemistry of mental dysfunction. The techniques that have been developed in his lab during this period include liquid chromatography‖electrochemistry and the use of small voltammetric electrodes as in vivo probes. Both of these techniques are showing a remarkable success and are providing entirely new information concerning central nervous system processes.

Steve Weber
University of Pittsburgh

Bulletin Board

The University of Texas at Austin will have an opening at the Assistant Professor rank on its analytical chemistry faculty for Fall, 1985. We are seeking nominations for this position and would like to invite you and your colleagues to recommend suitable candidates.

We would like to fill this position with a young man or woman who has truly outstanding potential as a teacher and as a scholar in any area of analytical chemistry. It is expected that this person will establish a vigorous, competitive research program which will be characterized by a high degree of innovation and creativity. In general, we would prefer applicants who have had some postdoctoral experience, but we would certainly consider any exceptional candidates; we would like to have complete applications by the end of November.

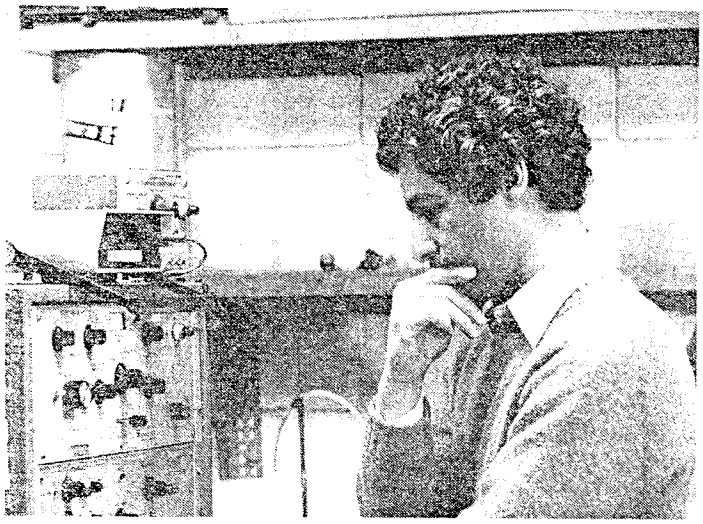
The University of Texas at Austin is an affirmative action‖equal opportunity employer. We would especially welcome qualified women applicants and qualified applicants from all minority groups. All qualified candidates will be given fair and equal consideration without regard to sex, race, creed, or national origin.

Allen J. Bard
Professor of Chemistry

POSIDOCTORAL POSITIONS in Interdisciplinary Research Among Inorganic, Analytical, Polymer, Medicinal and Clinical Chemistries. Openings, now or expected, in the following areas: (1) Chemistry of technetium and rhenium radiopharmaceuticals; (2) Synthesis of organic ligands for radiopharmaceutical development; (3) Development of analytical and electrochemical techniques related to Tc and Re radiopharmaceuticals; (4) Polymer-modified electrodes; (5) Electrochemical immunoassay; (6) EXAFS and WAXS using synchrotron X-rays on biomedical problems; (7) Separation and characterization of metabolites of gold antiarthritis drugs. For positions 1 and 2 contact Prof. E. Deutsch, for positions 3-5 contact Prof. W. Heineman, and for positions 6 and 7 contact Prof. R. Elder, all at the Chemistry Department, University of Cincinnati, Cincinnati, OH 45221, an affirmative action‖equal opportunity employer.

A shy young chemist from Coventry
Blushed while doing electrochemistry
Just the thought made him cough
For he wouldn't 'take it all off'
During experiments in stripping voltammetry!

WILLIAM GEIGER RISES ALL TO BECOME NEW EDITOR OF SEAC!



Bill Geiger (shown here examining instrumentation being held in escrow until he completes the first edition of the SEAC Newsletter for 1985) has graciously accepted editorship of this distinguished publication.

Material to be included in future SEAC Newsletters should be sent to Bill at the address below. We are particularly anxious for listing of titles and authors of papers in upcoming Symposia of interest to electrochemists. All of you who are organizing Symposia are asked to send along these listings as early as possible, so that we can publicize them well in advance of the meeting.

Besides business-like affairs such as notices of available positions (industrial, academic, or post-doctoral), we would like to include "newsy" items, opinions, etc., of a less formal nature, in keeping with the friendly and collegial attitudes of the electroanalytical community. We hope to hear from many of you soon!

Submit Newsletter Items to:
Professor William E. Geiger, Jr.
Department of Chemistry
University of Vermont
Burlington, VT 05405

MEMBERSHIP IN SEAC

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 an application, contact:
Professor Janet Osteryoung
Dept. of Chemistry, SUNY at Buffalo
Buffalo, NY 14124

POSITION OPEN
PRODUCT SUPPORT ELECTROCHEMIST

An immediate opening is available for a PhD. le[vel] electrochemist. This is not a traditional resea[rch] position, but does involve problem-solving wi[th] electroanalytical techniques. The successf[ul] candidate will possess better than average writi[ng] skills, and will be equally adept at or[al] presentations. Responsibilities include support [to] field sales personnel, participation in trade sh[ows] and seminars, preparations of technic[al] documentation, and development of n[ew] instrumentation of technology. Equal opportuni[ty] employer M‖F. Reply with resume to LRK‖CSB, BA[S] 2701 Kent Ave., Purdue Research Park, W. Lafayett[e] IN 47906

POSITIONS OPEN
TECHNICAL INSTRUMENTATION SALES

Immediate openings for entry-level sales personn[el] with a minimum B.S. degree in chemistry. Produ[ct] line includes a full range of electroanalytic[al] instruments. Experience in sales desirable, but [not] necessary. Practical knowledge of electrochemic[al] or chromatographic instrumentation a definit[e] asset. Salary and commission, retirement, medica[l] full benefits package. Equal opportunity M‖F. Reply with resume to LRK‖JD, BAS, 2701 Kent Ave. Purdue Research Park, West Lafayette, IN 47906

Looking ahead to 1985, the symposia on electrochemical topics at the A.C.S. national meetings will include the two indicated below. Please contact Stanley Bruckenstein, Stanley Pons or Michael Philpott (about eight months in advance) if you would like to present a paper:

Spring 1985

Location: Miami Beach
Dates: April 28 - May 3
Title: 'Electrodeposited Films'
Organized by Stanley Bruckenstein, Department of Chemistry, SUNY, Buffalo, NY 14214

Fall 1985

Location: Chicago
Dates: September 8 - 13
Title: 'Vibrational Spectroscopy of Electrode Surfaces'
Co-chaired by E. Stanley Pons, Department of Chemistry, University of Utah, Salt Lake City, [UT] 84112, and Michael R. Philpott, IBM Corporation, 5600 Cottle Rd., San Jose, CA 95193

Arthur T. Hubbard
Professor of Chemistry

INTERNATIONAL CONGRESS OF THE PACIFIC BASIN SOCIETIES

Honolulu, Hawaii
December 16-21, 1984

Symposium on Organic Electrochemical Synthesis

Organizers: T. Shono (CSJ), M.M. Baizer (ACS), D.G. Peters (ACS), and D.R. Arnold (CIC)

'Electrooxidative Dimerizations of Indoles and Tetrahydrocarbazoles,' J. M. Bobbitt, T. T.-t Chou, P. M. Scola, C. L. Kulkarni (ACS).

'Electrochemical Conversion of Formaldehyde to Ethylene Glycol.' N. L. Weinberg, M. Reicher, J. A. Rika, H. R. Weinberg (ACS).

'Effect of Hydration Acid-Base and Keto-Enol Equilibria on Electroreduction of 1,2-Diketones, a-Ketoacids and Their Esters.' P. Zuman, J. Segretaria, J. Kozlowski (ACS).

'Voltammetric Study of Equilibria and Kinetics of Cyclodextrin-Ferrocene Inclusion Complexes.' D. H. Evans, T. Osa, T. Natsue (ACS).

'Ring Alkylation of Electrochemically and Chemically Generated Arenetricarbonylchromium Anions.' R. D. Rieke, L. D. Schulte, W. P. Henry, S. N. Milligan, I. Tucker (ACS).

'Reaction of Anodically Generated Manganese (III) Carboxylates with Conjugated Dienes.' J. P. Coleman, R. C. Hallcher, D. E. McMackins, T. E. Rogers (ACS).

'Electro-reductive Activation of Dioxygen for Selective Autoxidation, Oxidation, and Oxygenation of Organic Substrates.' D. T. Sawyer, T. S. Calderwood, H. Sugimoto, M. S. Mcdowell (ACS).

'Electrochemical Modification of Lignins.' H. L. Chum, D. K. Johnson, M. Ratcliff, S. Black (ACS).

'Recent Advances in Indirect Electrochemical Processing.' R. L. Clarke, L. L. Freerks, A. K. Wasson (ACS).

'Intramolecular Electroreductive Cyclization' R. D. Little, D. P. Fox, L. Moens, M. M. Baizer (ACS).

'Bioorganic Electrochemistry.' L. L. Miller, B. Zinger, R. Blankenpoor, M. V. Lente (ACS).

'Organic Electrochemistry and High Energy Power Sources.' D. Cipris (ACS).

'The Special Role of Quaternary Ammonium Cations in Organic Electrosynthesis,' E. K.-Miller, R. Andruzzi, T. Mahachi (ACS).

'Electrochemical Reduction of Alkyl Halides at Mercury and Carbon Cathodes in Dimethylformamide, D. G. Peters (ACS).

'Electrolytic Preparation of Novel Azidodinitro Compounds.' M. B. Frankel, J. A. Weber (ACS).

1985 PITTSBURGH CONFERENCE

March 25-April 1, 1985
New Orleans, Louisiana

Papers Contributed to the Symposium on Electroanalytical Chemistry given in conjunction with the Charles N. Reilly Award in Electroanalytical Chemistry

Detection Principles
(Wednesday a.m)
R.M. Wightman, presiding

'Coated Wire Ion Selective Electrodes.' Reiser

'Biosensors Based on Reversible Reactions at Blocked and Unblocked Interfaces.' Buck

'An Enzymatic-Membrane Electrode Detection System for Transition Metal Ion-Chromatography.' Meyerhoff

'Status and Techniques for Blood Lithium Measurement.' Christian

'Advantages of Fiber Electrodes in Potentiometric Stripping Analysis.' Coetzee, Hussam, Ecoff

'Anodic Voltammetry of Nucleic Acid Constituents at Metal Oxide Surfaces.' Hmi, Huber

'AC Voltammetry with Carbon Paste Electrodes.' Curran, Gelbert

'Square Wave Voltammetry on Platinum Microdisk Electrodes Using Synchronous Detection.' Schuetie, McCreery

'Trace Analysis of Aluminum by Differential Pulse Polarography' Brichta, Johnson

'Cathodic Stripping Voltammetry of Thioacetamide at a Silver Electrode' Hepel, Bruckenstein

'In Vivo Voltammetric Method for Kinetics of Neurotransmitter Metabolism.' Justice, Michael

Detection Principles
(Wednesday pm)
R.W. Murray, presiding

'LCEC Studies of the Metabolism of Aromatic Xenobiotics Including Benzene, Phenol, and Aniline.' Lunte, Radzik, Kissinger

'Anodic Electrocatalysis for Electroanalysis.' Johnson, Polta, Tang, Polta, Yoe

'Microelectrode Ensembles for Electrochemical Detection in Flowing Systems.' Tallman, Cope

'Rapid Scanning Coulostatic LCEC.' Nieman, Trubey

'Scanning Microvoltammetric Detector for Open Tubular Liquid Chromatography.' White, Jorgenson

'Adsorptive Stripping Voltammetry.' Wang, Luo, Faria, Freiha, Mahmoud, Deshmukh, Bondaker

'In Situ Infrared Spectroelectrochemistry.' Pons, Korzeniewski

'Analysis of Biomolecules by Surface Enhanced Resonance Raman Scattering.' Cotton

'A Photochemical Detector for HPLC and FIA.' Krull, LaCourse

'In Situ Cleaning and Activation of Solid Electrode Surfaces by Pulsed Laser Light.' Hershenhart, Poon, McCreery

'Photoelectrochemical Response of Macro- and Micro-platinum and Carbon Electrodes.' Berry, Weber

Kinetics and Mechanisms
(Thursday am)
M.E. Myerhoff, presiding

'Homogenous and Heterogeneous Electron Transfer Reactivity for Members of Structurally-Related Redox Series.' Koval, Ketterer, Reidsema, and Noblett

'Electrochemical Studies of the Reaction of Carbon Dioxide with Cobalt and Nickel Macrocycles.' Gangi, Durand

'The Effect of pH on Electron Transfer Rates at Carbon Electrodes.' Wightman, Deakin

'Digital Interpretation of Kinetically Controlled Current Transients: An Illustration of a Basis for Heuristic Electroanalytical Knowledge.' Therdteppitak, Maloy

'Application of Digital Methods to the Study of Pulsed Voltammetric Responses of Kinetic Systems.' Caster, Brown

'Effects of Surface Energetics and Surface Oxide Layers on the Cyclic Voltammetry of Metallocenes at Nonilluminated p-InP.' Koval, Austermann

'Electrochemical Characterization of the Iron-Molybdenum Cofactor from Nitrogenase.' Schultz, Gheller, Newton

'An Analytical Approach for Probing Microbially-Mediated Corrosion.' Little, Gerchakov

'The Effect of Temperature, pH, and Electrolyte Composition on Cytochrome c Redox Reactions.' Koller, Hawkridge

'Electrochemical Reduction of 1,1,4,4-Tetraphenylbutatriene in Dimethylformamide.' Chen, Anderson, Peters

'The Mechanism of As(III) Oxidation at Pt Electrodes.' Kao, Kuwana

Modified Electrodes
(Thursday p.m.)
R.P. Buck, presiding

'Information Content of Voltammetric Data.' Perone

'Polymer Coated Microelectrodes.' Ewing, Geng, Chidsey, Murray

'Oriented Monolayers of Alkyltrichlorosilanes on Gold Electrodes.' Finklea, Blackburn, Richter

'Applications of Electrodes Modified by Films of Mixed Metal Complexes.' Cox, Kulesza, Kulkarni, Das

'Voltammetry at Carbon Electrodes Modified with Tungsten Oxide Bronzes.' Kulesza, Faulkner

'Investigations of Highly Ordered Pyrolytic Graphite Edges.' Britton, Dellaporta, Rasco, Ohlson, Talasek

'Luminescence Probe Studies of Nafion Membranes.' Martin, Prieto, Szentirmay

'Extractive Accumulation of Organic Compounds into Carbon Paste Electrodes.' Deshmukh, Wang, Bondaker

'Electroanalytical Studies of Conducting Heterocyclic Polymer Electrodes.' Mark, Zimmer, Czerwinski, Pham

'A New Fabrication Method of Ion-Sensitive Polymeric Membranes for ISFET.' Maruzumi, Tsukada, Miyagi

SYMPOSIUM ON SPECTROELECTROCHEMISTRY AND ELECTROANALYSIS

167th Meeting of the Electrochemical Society

Toronto, Canada, May 12 - 17, 1985

Contributions dealing with all aspects of research in spectroelectrochemistry or electroanalysis are invited. The symposium will include theoretical and experimental work related to the development and application of new techniques or to the improvement and extension of established methods. Abstracts are due 12/1/84. The procedure for submitting a paper is outlined in the September issue of the Journal of the Electrochemical Society.

Suggestions and inquiries should be made to W. R. Heineman, Department of Chemistry, University of Cincinnati, Cincinnati, OH 45221, or L. R. Faulkner, Department of Chemistry, University of Illinois, Urbana, IL 61801.

INTERNATIONAL SYMPOSIUM ON ION-SELECTIVE ELECTRODES

June 10-14, 1985
Shanghai, People's Republic China

The International Symposium on Ion Selective Electrodes is sponsored by the Shanghai Society of Chemistry and Chemical Engineering, and is supported by the Chinese Chemical Society. SEAC member R.P. Buck is among the distinguished scientists on the Academic Committee for the Conference.

The Symposium language will be English. Topics of discussion for the meeting will include:

- Trends of Ion-Selective Electrode Research
- Methods and Theoretical Work on Ion-Selective Electrodes, and New Developments
- Applications of ISE's to organic species, biomedical and environmental problems

Those wishing to present a paper should submit a one page summary, in English, to the following address prior to December 15, 1984:

Professor Zhang Zong-Rang
Department of Chemistry
Shanghai Teachers College
10, Guilin Road, Shanghai
People's Republic of China

The 27th Annual
ROCKY MOUNTAIN CONFERENCE

July 14-19, 1985
Denver, Colorado

CALL FOR PAPERS: ELECTROCHEMISTRY SYMPOSIUM

Organizers Carl Koval (SEAC member) and Mike Elliott are again seeking participants for an electrochemistry symposium held during the Rocky Mountain Conference. This valuable meeting, called a "mini-Pittsburgh conference" is co-sponsored by the Rocky Mountain Section for Applied Spectroscopy and the Rocky Mountain Chromatography Discussion Group. The technical program is organized in symposia, which include, in addition to Electrochemistry:

- Atomic Spectroscopy
- Chromatography
- Environmental Chemistry
- EPR (an international symposium)
- IR and Fluorescence Spectroscopy
- Ion Chromatography
- NMR
- Surface Analysis

Papers which emphasize the use of a particular electrochemical technique, method, or measurement are particularly welcome. A copy of the Call for Papers and an abstract form can be obtained by writing to:

Professor Carl Koval
Department of Chemistry
University of Colorado, Boulder
Campus Box 215
Boulder, CO 80309

An avante garde fellow named Dave
Wanted Electrochemistry to be brave
He put a Boy George hat
On his potentiostat
To change it from square wave to new wave!

Previous gathering of the SEAC Social Club.