volume 13, no. 1
december 1996

# SEAC communications

## President's Message

"SEAC's Teenage Years"

Judging from the excellent attendance, most of you participated in the SEAC events at Pittcon'96. Congratulations again to Mark Wightman and Lou Coury, who were honored at the Reilley Symposium, and many thanks to the many SEAC members who braved the lousy weather to attend the SEAC reception and the Pittcon electroanalytical sessions. Also, many thanks to the people who organized the events, particularly Joe Maloy, Gary Christian, and Andy Ewing.

As SEAC enters its 14th year, we can collectively look back on a period of growth and increased visibility. The membership and treasury have reached healthy and sustainable levels, and a stable pattern of activities and governance has been established. Perhaps most important, electroanalytical chemistry has grown from a marginally significant topic at Pittcon in 1981 to a major force in the 1990s. The Reilley Award Symposium has been very well attended, and has stimulated other electrochemical sessions. Pittcon has thus become a "good meeting" for electroanalytical chemistry, to hopefully everyone's benefit.

When describing the current state of SEAC, adjectives somewhere between "established" and "mature" come to mind. The good news is that we have a well-established and prestigious award, a popular symposium, a means to recognize new researchers in our field, and good visibility. Furthermore, we have achieved these goals without taking on the expensive responsibility for a large overhead or permanent staff. A heavy dose of volunteer labor from the membership and board of directors has kept the value of SEAC membership high while keeping the cost low.

But although the monetary investment in a volunteer organization can be kept low, the investment in effort must be continued to maintain a vibrant SEAC. Continued growth and activity of the teenager will depend on continued effort from its membership. As long as the scientific benefits of SEAC are maintained at their current high level, I am confident that the membership's support and energy will persist.

*Rick McCreery*

Addendum to President's message:

I am pleased to report that Debra Rolison of the Naval Research Lab will take over as the SEAC newsletter editor after this issue. Debra is very informed

Dick has managed to do it efficiently and with a welcomed dose of humor. Thanks again, Dick!

## Editorial

Well, it's taken some time, but it's finally happened. I've been replaced as Editor of ***SEAC Communications*** (not that I can really be replaced!). So this is my swan-song issue of the newsletter. Naturally, the issue is late again, which is one of the reasons that I am moving on to other activities which have become very time-demanding and prevented me from devoting the effort necessary to get out timely issues of the newsletter.

As noted in Rick McCreery's "President's Message", we (the Society) are very fortunate to have an outstanding scientist as the new editor. Debra Rolison, an old friend from my days as a Fed scientist, has graciously volunteered (How's your arm?) to assume the editorial duties following this issue. I know Debra will do a great job as Editor, and I expect that she will burn with the same enthusiasm I had six years ago when I started. To keep this enthusiasm burning, I call on all of you to provide her with newsworthy material for the newsletter. There is nothing more discouraging for an Editor than to approach a publication deadline with little more than a few bits and pieces that he/she has been able to find in the literature or on the Internet. Especially nowadays, when communications are so facile, we should be able to fire off a newsy item to the editor in a matter of minutes. In that regard, Debra's phone number and e-mail address are: 202-767-3617 and rolison@nrl.navy.mil, respectively. It couldn't be easier.

Before I conclude, I want to personally congratulate our newest SEAC Award winners: Ingrid Fritsch of the University of Arkansas and Dennis Johnson of Iowa State University. Their biographical sketches, provided by Dan Buttry, appear on the next page. I hope you all will attend the Reilley Symposium at Pittcon'97 in Atlanta to honor our 1997 awardees. Also, on the subject of Reilley Awards, just because I'm stepping down as Editor doesn't exempt the former Reilley Award winners from their obligation to write their remembrance articles for the newsletter. You scofflaws know who you are, and I expect Debra will pick up the gauntlet on this noble quest and hound you mercilessly until you comply!

Let me end this editorial by saying that, as much as I groused about member participation, there have been several of you who have been very supportive, and I thank you. I also want to thank Pete Kissinger and BAS for their considerableefforts in redacting, printing, and mailing the

[Editorial continued on next page]

### Inside...

*SEAC Awards*
*SEAC Election Results*
*New Members*
*Pseudoscience or Scientific Breakthroughs*
*Meeting Announcements*
*SEAC and the Mad Cow Disease*

**The Society for Electroanalytical Chemistry**
111 Lorene Place
West Lafayette, IN 47906

**Editor:**

*Dick Durst*
Cornell University
Analytical Chemistry Labs
Geneva, NY 14456-0462
Tel: (315) 787-2297
Fax: (315) 787-2397
E-mail: dick_durst@cornell.edu

**Regional Editors:**

*Alan Bond*
Monash University
Clayton, Victoria
3168 Australia

*Karl Cammann*
Westfälische Wihelms
Universität
D-4400 Münster, Germany

*Yoshio Umezawa*
University of Tokyo
Hongo, Tokyo 113
Japan

[Editorial, cont.]

newsletter. Serving as your Editor has been, on balance, a very enjoyable experience for me. I have had a chance to interact with quite a number of my colleagues on a more personal level than I might have otherwise. I have also had the opportunity to wax and wane from foolish to philosophical without having to go through the peer review process (although many times I'm sure you wished that someone would have kept me under control!). On the other hand, unless Debra really clamps down on me, I expect to contribute items to future issues. So, beware! You haven't heard the last from me.

I thank the many SEAC members (i.e., both of you) who have graciously complimented me on past issues, and I hope my warped sense of humor did not offend anyone and perhaps it might even be missed by some of you.

And I leave you with these final words of hope: May your redox reactions always be reversible, may your electrodes never foul, and may your electrons meet little resistance (i.e., unless you're doing potentiometry). Who says I'm suffering from spongiform encephalopathy? (vide infra)

***Dick Durst***

# SEAC AWARD Winners for 1997

***Ingrid Fritsch***

Since 1992, SEAC Young Investigator Ingrid Fritsch has been on the faculty at the University of Arkansas where she has been investigating the influence of interfacial electric fields on surface coordination and molecular orientation in chemically modified electrodes. Fritsch received her B.S. degree with honors, magna cum laude, from the University of Utah in 1985. She was awarded an NSF Graduate Fellowship, and did her Ph.D. research with Larry Faulkner at the University of Illinois where she studied the diffusion of electrons in networks of redox centers. As a postdoctoral fellow in Mark Wrighton's lab at MIT, she conducted electrochemical studies of diffusion and surface modification by self-assembly techniques.

***Dennis Johnson***

Charles N. Reilley Awardee Dennis Johnson received a B.A. degree from Bethel College in 1963 and a Ph.D. degree under the direction of Stanley Bruckenstein at the University of Minnesota in 1967. He took a position as an Instructor at Iowa State University in 1968, rose steadily through the academic ranks, and became a Professor in 1979. He has had a long-standing relationship with the Ames Laboratory at ISU, where he has been a Senior Chemist since 1981.

Johnson's research interests include the use of anodic processes for electrochemical detection of polar aliphatic compounds following separations by liquid chromatography and capillary electrophoresis, the study of oxygen atom transfer reactions at noble metal and doped metal oxide electrodes, and application of electrooxidations in electrochemical incineration, a novel approach to detoxification of several types of chemical waste. In particular, he is widely known for his pioneering work in the development of pulsed electrochemical detection for analysis of alcohols, amines, and numerous organosulfur compounds in HPLC. He had written over 160 research publications and has presented more than 150 papers at scientific meetings, universities, and industrial laboratories.

Professor Johnson has received the Kolthoff Award in Analytical Chemistry (Univ. of Minn., 1965), the Young Author Award of the Electrochemical Society (1971), the Ion Chromatography Award of the First International Ion Chromatography Conference (1988), the Iowa Governors, Science Medal (1991), and the Palmer Award in Chromatography from the Minnesota Chromatography Forum (1993).

# Charles N. Reilley Award Nominations Solicited

Nominations for the 1998 C. N. Reilley Award are hereby solicited. Nominations should include a letter of nomination describing the individual's significant contributions to electroanalytical chemistry, at least two seconding letters of support, and a curriculum vitae for the individual. All nomination materials will be retained by SEAC.

Once nominated, any individual will be considered for the Reilley Award for three years without being renominated. The submission of any additional supporting information or a renomination is welcome at any time, but the decision on the 1998 Award will be based upon the material that is available to the Award Committee on March 15, 1997. For further information, please contact Dan Buttry at voice: (307) 766-6677, FAX: (307) 766-2807, or e-mail: buttry@uwyo.edu. All nomination materials should be sent to:

Professor Dan Buttry
Department of Chemistry
University of Wyoming
Laramie, WY 82071-3838

**Previous Reilley Awardeas**

| | | |
|---|---|---|
| 1984 | Allen J. Bard | University of Texas |
| 1985 | Ralph N. Adams | University of Kansas |
| 1986 | Fred C. Anson | California Institute of Technology |
| 1987 | Robert A. Osteryoung | North Carolina State University |
| 1988 | Royce W. Murray | University of North Carolina |
| 1989 | Theodore Kuwana | University of Kansas |
| 1990 | Jean-Michel Saveant | Universite de Paris VII |
| 1991 | Stanley Bruckenstein | SUNY Buffalo |
| 1992 | Stephen Feldberg | Brookhaven National Laboratory |
| 1993 | Dennis Evans | University of Delaware |
| 1994 | Barry Miller | Case Western Reserve University |
| 1995 | William Heineman | University of Cincinnati |
| 1996 | R. Mark Wightman | University of North Carolina |
| 1997 | Dennis Johnson | Iowa State University |

# SEAC Young Investigator Award Nominations Solicited

Nominations for the 1998 SEAC Young Investigator Award are hereby solicited. Potential recipients must be within seven years of obtaining their Ph. D., or other terminal degree, and under 35 years of age at the time of nomination. Candidates can be nominated by any member of SEAC. Nominations should include a letter of nomination describing the individual's promise in the area of electroanalytical chemistry, at least one seconding letter of support, and a curriculum vitae for the individual. All nomination materials will be retained by SEAC.

Once nominated, any individual will be considered for the SEAC Young Investigator Award for three years without being renominated. The submission of any additional supporting information or a renomination is welcome at any time, but the decision on the 1998 Award will be based upon the material that is available to the Award Committee on March 15, 1997. Nomination files carried over from year to year will automatically be removed from consideration once the candidate reaches the age of 35. For further information, please contact Dan Buttry at voice: (307) 766-6677, FAX: (307) 766-2807, or e-mail: buttry@uwyo.edu. All nomination materials should be sent to:

Professor Dan Buttry
Department of Chemistry
University of Wyoming
Laramie, WY 82071-3838

**Previous Young Investigator Awardees**

| | | |
|---|---|---|
| 1993 | Werner Kuhr | University of California, Riverside |
| | Leonidas Bachas | University of Kentucky |
| 1994 | Adrian C. Michael | University of Pittsburgh |
| 1995 | Mark Anderson | Virginia Polytechnic Institute |
| 1996 | Louis A. Coury | Duke University |
| 1997 | Ingrid Fritsch | University of Arkansas |

# SEAC Election Results

Joe Maloy has provided the results of the election of SEAC Officers and Directors whose terms began on July 1, 1996.

| | | | |
|---|---|---|---|
| President-Elect: | R. Mark Wightman | Directors: | Debra Rolison |
| Secretary: | Joseph T. Maloy | | Richard Crooks |
| Treasurer: | Joseph G. Gordon, II | | James Cox |

# Kudos

Congratulations are in order to the following SEAC members:

**Pittsburgh Analytical Chemistry Award**

Pittcon'96 honored one of Pittsburgh's most distinguished analytical chemists by presenting the Pittsburgh Analytical Chemistry Award to **Johannes F. Coetzee,** Emeritus Professor of Chemistry at the University of Pittsburgh. Throughout his career, effective teaching of Analytical Chemistry at both the graduate and undergraduate level has been a priority for Professor Coetzee and played a key role in keeping the Analytical Chemistry program (teaching and research) alive and viable at the University of Pittsburgh during the 1960s and early 1970s.

Dr. Coetzee's long and distinguished career began in the 1950s, as one of the last doctoral students of I.M. Kolthoff at the University of Minnesota, receiving his Ph.D. in 1956. He has served as a faculty member at the University of Pittsburgh, Department of Chemistry, becoming Full Professor in 1966 and Emeritus Professor in 1989.

In addition to his extensive university career, Professor Coetzee has distinguished himself in many professional organizations. Internationally, Professor Coetzee has served at various times as an associate member, secretary and chairman of the Commission on Electroanalytical Chemistry of the International Union of Pure and Applied Chemistry (IUPAC), as well as an elected member of the Analytical Division Committee of IUPAC.

**ACS Division of Analytical Chemistry Award in Electrochemistry.**

**Janet Osteryoung,** the Division Director of Chemistry at the National Science Foundation (NSF) and Professor and Head of Chemistry (on leave) at North Carolina State University, received the ACS Division of Analytical Chemistry Award in Electrochemistry, sponsored by EG&G Princeton Applied Research.

Dr. Osteryoung received her B.S. degree from Swarthmore College where she was a Merit Scholar and member of Phi Beta Kappa and Sigma Xi. Her Ph.D. was from the California Institute of Technology where she was an NSF graduate and Woodrow Wilson Fellow.

Prior to joining N.C. State, Dr. Osteryoung was Professor of Chemistry at SUNY University at Buffalo. Her research interests are in chemical analysis and electrochemistry with an emphasis in advanced electroanalytical techniques and their application to the phenomenology of surface reactions, materials degradation, and the fabrication of microelectromechanical devices. She served as Head of Chemistry at N.C. State from January 1992 to August 1994. At her current position at NSF, Dr. Osteryoung is responsible for federal funds in excess of $120 million to support research and education in the chemical sciences.

Dr. Osteryoung has authored about 200 research papers and is co-author of a general chemistry text. Her numerous awards include the Garvan Medal, the Anachem Award and the Schoellkopf Medal. She is a Fellow of the AAAS, a Guggenheim Fellow, and a past Visiting Professor at the University of Southampton. She is a past Chair of the DAC and has served on the Advisory Board of Analytical Chemistry.

**Talanta Medal**

**Gary D. Christian,** Department of Chemistry at the University of Washington, has been awarded the 1995 Talanta Medal.

As research scientist, editor, scholar, teacher, and administrator, Dr. Christian's contributions over the past 30 years to electroanalytical chemistry, atomic spectroscopy, process analysis, and flow injection analysis have been at the cutting edge. His research has resulted in significant advances in analytical chemistry.

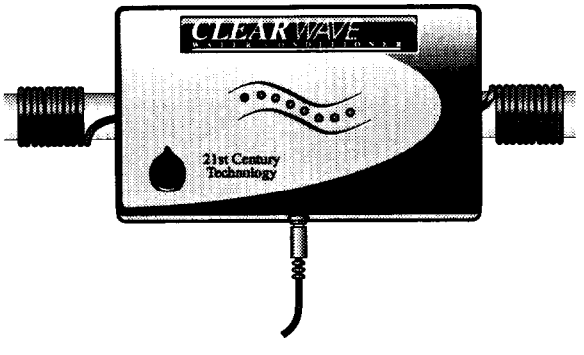
# New SEAC Members

(Information supplied by the SEAC Membership Committee Chairman, Andy Ewing.)

| Name | Date | Affiliation |
|---|---|---|
| Crayston, Joe A. | 10/29/95 | California Institute of Technology |
| Creager, Stephen | 3/6/96 | Clemson University |
| Dunstan, Thanthrimudalgie D. | 10/30/95 | University Of Tennessee |
| Lamp, Brian D. | 2/1/96 | University of South Dakota |
| Michael, Adrian C. | 3/5/96 | University of Pittsburgh |
| Ng, Lily M. | 1/13/96 | Cleveland State University |
| Scheeline, Alexander | 3/8/96 | University of Illinois |
| Sun, Lifang | 2/5/96 | University of Pittsburgh |
| Taha, Ziad H. | 3/25/96 | World Precision Instruments, Inc. |
| Tess, Mark | 3/13/96 | Miami University of Ohio |
| Van Dyke, David A. | 12/26/95 | Grand Valley State University |

New Student Members

Archhambault, Mark E.
Khaskelis, Anthony I.
Murray, William P.
Piø à0 ring, Jason
Zhang, Hong
Xia, Wanlin



# Pseudoscience or Scientific Breakthroughs?, cont.

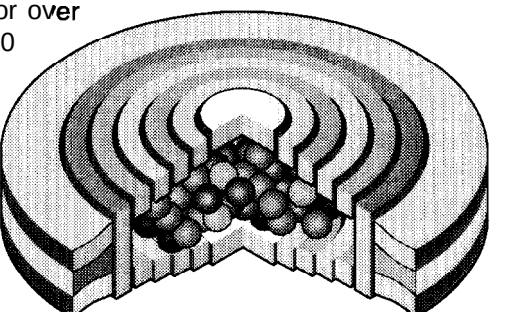
## Revolutionary New Laundry Product Cleans Great With Only Water, Saves Money, Halts Pollution

**Clean Power Laundry Disks**

If you're tired of wasting money on detergents and polluting your local water, then you should try this unique laundry product from Japan that virtually eliminates detergents. We were skeptical at first but after testing them, we found that they really do work! Simply drop these three 2½" disks into your washing machine with your clothes. Metallic elements, including silver and copper, in the activated ceramics release electrons which in turn produce ionized oxygen. This form of oxygen is a totally natural cleanser which breaks up dirt and organic compounds. The activated ceramics also emit infrared electromagnetic waves which cause the water molecules to disassociate and penetrate deeper into the fabrics, removing dirt and odors.

Laundry disks are kind to the environment since you can wash your clothes without pouring harsh chemical detergents down the drain. You can use less water since less rinsing is required. They present a great alternative for people who are chemically sensitive to detergents. The disks last for over 500 laundry loads (some people have even used them for up to 700 washes). This is about two years for most people. The disks are recommended for everyday washing in warm water. Some people find it most effective to add a teaspoon of detergent for dirtier clothes. Imported.

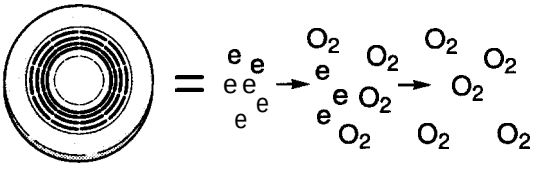
**54-169 Laundry Disks (3 disks) $49**



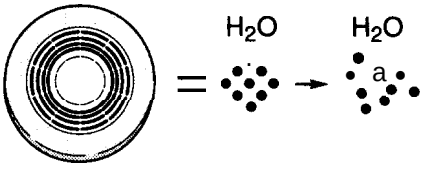
***Want to learn more? Check out our home page on the world wide web–http://www.well.com/www/realgood/***

**There are three principles which Laundry Disks use to maximize the cleansing power of water.**

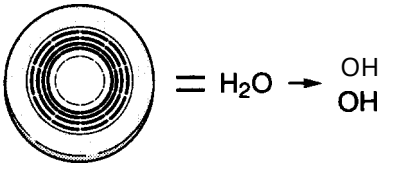
1. Metallic elements (including copper and silver) in the activated ceramics release electrons which in turn produce ionized oxygen. This form of oxygen is a totally natural cleanser which breaks up dirt and organic compounds.




2. The activated ceramics also emit "far infrared electromagnetic waves" which cause water molecule clusters to disassociate, allowing much smaller individual water molecules to penetrate into the innermost part of the fabric and remove dirt.




3. When water contacts the activated ceramics, an abundance of OH ions is produced, reducing the surface tension of the water and greatly increasing its penetrating power. Ordinary detergents make use of this same principle, but do so by using harsh chemicals.



# The Faraday's Restaurant

This item was submitted by Pete Kissinger, who found it on the WWW, presumably while searching for information on Michael Faraday. It's amazing what one can find on the Web. Who has the time to input all that is out there? In any case, the next time you're in Aberdeen, stop by Faraday's and lift a pint in a toast to SEAC.

— Editor

## The Faraday's Restaurant

2 Kirk Brae, Cults
Aberdeen AB19SQ
Tel (01224) 869666

Chef-Patron John Inches has a faithful following for the imaginative cuisine he serves at his charming restaurant on the fringes of Aberdeen.

His style reflects a background in traditional Scottish Cooking - he worked in top Scottish hotels before opening his own restaurant - enlivened by a love of France.

French inventiveness is echoed in the menu, which relies on fresh local produce cooked with a difference. A well-chosen wine list complements the cooking - which may include such dishes as tender spring lamb casserole of red lentils, cream, garlic and fresh herbs, or salmon with parsley butter, grapefruit and lemon sauce.

Another talking point is the restaurant itself. It takes its name from Michael Faraday, the Victorian "father of electrical engineering". The tall-ceilinged restaurant, which used to be an electricity pump station for the locality, has been beautifully converted in Victorian style to provide an intimate, atmospheric ambience.

TYPICAL 3 COURSE DINNER
from £14.95 (Mon - Thurs)

TYPICAL GOURMET DINNER
from E25.50 (Fri - Sat)

LOCATION
4 miles from city centre just off A93

# Meeting Announcement

ICFIA '97
January 72-l 6, 1997
Orlando, Florida

The Eighth International Conference on Flow Injection Analysis (ICFIA '97) will be held at Embassy Suites Hotel (International Drive/Jamaican Court) Orlando, Florida.

Abstracts of 150-250 words are solicited on methods and applications in the growing fields of FIA and SIA. Deadline for abstracts: November 15, 1996.

Publishers and producers of instruments, equipment, software, and literature relevant to FIA are invited to exhibit.

Program organizing committee: Gary Christian and Jarda Ruzicka of the University of Washington.

Registration fees and deadlines:
Before October 1, 1996, $250
October 2-December 1, $275
After December 1, $300
Students: Before October 1, $115
After October 1, $140

For a Registration Form or vendor information. contact:

Sue Christian
PO. Box 26
Medina, WA 98039-0026 USA
FAX: 206-454-9361 or
206-688-l 565
e-mail: sue@flowinjection.com

# Electrochemical Society – Call for Papers

We would like to announce the Call for Papers for the General Society Student Poster Session at the 191 st Electrochemical Society Meeting in Montreal, Quebec, Canada, May 4-9, 1997. The Poster Session provides a forum for students to present results of their research that are of general interest to the Society. A competition will be held to determine the two best posters. A cash prize of $250 will be awarded to the winning student authors. If there are several student coauthors on a winning poster, a maximum award of $750 will be divided equally among them. Honorable mentions will be awarded to the third and fourth place posters, Student authors who are working toward B.S., M.S., and Ph.D. degrees are eligible for awards.

A completed form and camera-ready abstract must be received either by mail or electronically by January 2, 1997. Applications that are sent by FAX or ordinary E-mail will not be accepted. Electronic submission instructions are available on the ECS World Wide Web Site: http://www.electrochem.org. Please send a completed form and abstract to the ECS Headquarters ***and*** a copy to one of the Poster Session organizers below.

Abstract forms or information on the Meeting are available through the ECS Headquarters of the Poster Session organizers. The World Wide Web sites for the ECS (given above) and for ECS Student Services and Information (http://ecs.electrochem.org/student.html) are useful sources that will help to answer questions. We also welcome suggestions or inquiries at the phone numbers and addresses below.

Ingrid Fritsch
Department of Chemistry and Biochemistry
University of Arkansas
Fayetteville, Arkansas 72701
Voice: (501) 575-6499
E-mail: ifritsch @comp.uark.edu

Johna Leddy
Department of Chemistry
University of Iowa
Iowa City, Iowa 52242
Voice: (319) 335-l 720
E-mail: johna_leddy@uiowa.edu

# SEAC and the Mad Cow Disease

On reading a recent article in ***Science*** magazine on the mad cow disease in the UK, I came across a reference to SEAC, which I thought rather curious. While I realize that insanity and electrochemistry are closely related (probably via the exposure to so much mercury in our younger days), I was still surprised by the report. On reading further, I discovered that SEAC actually stood for the "Spongiform Encephalopathy Advisory Committee" of the Ministry of Health. Thus relieved of concern about the mad cow connection, I returned to my more immediate concerns with mad graduate students (or are they just angry?).

— Editor