



AMERICAN CHEMICAL SOCIETY
DIVISION OF INDUSTRIAL AND ENGINEERING CHEMISTRY
SUBDIVISION OF SEPARATION SCIENCE AND TECHNOLOGY

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February 27, 1998

SS&T NEWSLETTER

Andy Bond, Editor

Chair's Message

SS&T Continues to Provide Excellent Technical Programming

by Doug Way

A diverse range of technical sessions are planned for upcoming ACS national meetings by the SS&T Subdivision Programming Committee. At the spring ACS meeting in Dallas, March 29 - April 2, scheduled symposia are "Surfactant-Based Separations" and "Radioactive and Hazardous Waste Forms." In addition, the SS&T Award Symposium for 1998 will honor Prof. Barry L. Karger from the Chemistry Dept. at Northeastern University, for his research in capillary electrophoresis. The day long SS&T Award Symposium, entitled "Where is Separation Science Going?," will feature a range of topics related to bioanalytical separations including capillary electrophoresis, mass spectrometry, and HPLC.

At the fall 1998 ACS meeting in Boston, a symposium entitled "Nuclear Separations for Radiopharmacy" will occur.

The planned technical sessions for the 1999 ACS national meetings should appeal to SS&T members in academia, national laboratories, and industry. At the spring ACS meeting in Anaheim, CA, sessions will again address a wide range of topics such as: "Inorganic Materials for Separations," "Bioseparations," "Calixarene Molecules for Separations," "Separations in Nuclear Chemistry," and "Research Needs in Industrial Separation Science and Technology." Make plans to bring your family to Anaheim and Disneyland.

Creating quality programming at the national ACS meetings is the primary focus for the subdivision officers. We are also involved with joint programming with the

Separations Division of AIChE. The focus of our planning efforts now are meetings in the year 2000 and beyond including the Pacifichem meeting scheduled for December 2000 in Honolulu. We are always looking for ideas for technical session topics and potential symposium organizers. If you are interested, please contact any of the officers listed above and/or attend the Programming Committee meeting Sunday evening in Dallas (LeMeridien Hotel, Nice Room, 6 pm).

If you will be attending the Dallas meeting, our Executive Committee meeting on Monday night (LeMeridien Hotel, Alsace Room, 5 pm) is also the subdivision's annual business meeting. We would welcome your participation and input.

Some WWW Links to Separations

AIChE Separations Division:

<http://www.aiche.org/docs/division/SEP.HTM>

I&EC Division: <http://radar.ch.ua.edu/~acsiec/>

ACS-PRF: <http://www.acs.org/acsgen/prf/grant.htm>

ACS Meetings: <http://www.acs.org/meetings/welcome.htm>

Chemical Abstracts Service: <http://www.cas.org/>

North American Membrane Society:

<http://www.che.utexas.edu/nams/NAMSHP.html>

U. S. Patent Boolean Search Page:

<http://patents.cnidr.org/access/search-bool.html>

Gatlinburg SS&T for Energy Applications Meeting Another Success

by Ken Nash

The Tenth Symposium on Separation Science and Technology for Energy Applications, cosponsored by the U. S. Department of Energy, Oak Ridge National Laboratory, the American Institute of Chemical Engineers, and our SS&T Subdivision, was held in Gatlinburg, Tennessee, October 20-24, 1997. There were about 140 registered attendees who came to the beautiful Smoky mountains of Tennessee from around the world to see the fall colors (mostly green this year) and to discuss separation science. The six oral sessions included the topics Ion Exchange/Adsorption, Inorganic Ion Exchange, Solvent Extraction, Membranes/Engineering Aspects, Novel Aspects, and DOE Wastes. The popular Tuesday evening poster session included presentations on all of these topics with 68 posters scheduled. On Wednesday evening, Charles Russomanno, Director of the DOE/OIT Industries of the Future Initiative, discussed the role(s) of separation science in defining the future of U. S. industrial development. Dr. Valeri N. Romanovski of the Khlopin Radium Institute, who led a delegation of nine Russian scientists and engineers, also spoke on the progress being made in Russia on the cleanup of their nuclear weapons complex. The meeting was, as always, characterized by lively discussions and the fruitful cross-fertilization of ideas that arises from the confinement of separations scientists and engineers in this cordial environment. Congratulations to the Organizing Committee members Mac Toth (ORNL), Jack Watson (ORNL), and Jerry Harness (DOE) for a job well done.

Thank You from the New SS&T Officers

The new slate of officers would like to thank the departing SS&T Subdivision officers for their service. Doug Way assumes the chair position from John Scamehorn who has done an outstanding job, especially in maintaining the high standard for SS&T technical programming. We will count on John's advice this year to keep the subdivision running smoothly. We have split the secretary/treasurer position into

two officer positions starting this year. Thanks to Kent Abney for his past service as secretary/treasurer and for an outstanding job as newsletter editor. Kent will continue as subdivision treasurer. We also want to thank Gregg Lumetta, the membership committee chair, for maintaining the membership database and for designing the new membership brochures.

Thanks to the 1997 SS&T Officers and Committee Members!

Officers:

John Scamehorn	Chair
Bruce Moyer	Past Chair
J. Douglas Way	Chair-Elect
Kenneth Nash	Vice Chair-Elect
Kent Abney	Secy./Treasurer

Executive Committee Members:

John Scamehorn (Chair)	Dale Ensor
Steven Cramer	Dave Pruett
Ralph Gatrone	Gordon Jarvinen
Luis Nuñez	Wally Schulz
Norm Schroeder	
Robin Rogers	

Programming Committee:

J. Douglas Way (Chair)	Steven Cramer
John Scamehorn	Dale Ensor
Kenneth Nash	Ralph Gatrone
Bruce Moyer	Dave Pruett
Spiro Alexandratos	Wally Schulz
Bruce Pynnonen	Gordon Jarvinen
Dick Bartsch	Norm Schroeder
Andrew Bond	Kent Abney
Robin Rogers	James Ritter
Luis Nuñez	

1998 SS&T Officers and Committee Members

1998 Executive Committee:

J. Douglas Way (Chair)
John Scamehorn (Past Chair)
Kenneth Nash (Chair-Elect)
Gordon Jarvinen (Vice Chair-Elect)
Kent Abney (Treasurer)
Andrew Bond (Secretary)
Gregg Lumetta (Membership Committee Chair)
Spiro Alexandratos (AIChE Liaison)

1998 Members-at-Large:

Steven Cramer	Dale Ensor
Ralph Gatrone	Dave Pruett
Luis Nuñez	Robin Rogers
Norm Schroeder	Wally Schulz

1998 Programming Committee:

Kenneth Nash (Chair)	J. Douglas Way
John Scamehorn	Andrew Bond
Gordon Jarvinen	Dale Ensor
Bruce Moyer	Dick Bartsch
Dave Pruett	Kent Abney
James Ritter	Robin Rogers
Luis Nuñez	Steven Cramer
Ralph Gatrone	Wally Schulz
Spiro Alexandratos	Norm Schroeder
Bruce Pynnonen	
Schroeder	

Addresses, phone numbers, and email addresses for the SS&T officers appear on the front page of this newsletter. Please feel free to contact any of these individuals regarding thoughts or concerns related to the SS&T Subdivision.

Upcoming Dallas SS&T Meeting Agenda

Spring ACS National Meeting, Dallas, TX, March 29-April 2, 1998.

- 1 SS&T Award Symposium Sponsored by IBC Advanced Technologies, Inc. and Millipore Corp. Honoring Barry L. Karger: "Where is Separation Science Going?"** Organized by Roger W. Giese, Pharmaceutical Sciences Department, Northeastern University, Boston, MA 02115; Ph. 617-373-3227; Fax 617-373-8720; email rgiese@lynx.neu.edu.
- 2 Surfactant-Based Separations.** Organized by John F. Scamehorn, University of Oklahoma, Dept. of Chemical Engineering, 100 East Boyd, Norman, OK 73069-2044; Ph. 405-325-4382; Fax 405-325-5813; email scamehor@mailhost.ecn.uoknor.edu and Jeff Harwell, University of Oklahoma, Dept. of Chemical Engineering, 100 East Boyd, Norman, OK 73069-2044; Ph. 405-325-5811; Fax 405-325-5813; email harwell@mailhost.ecn.uoknor.edu.

All separations in which surfactants play an important role will be covered. Some topics of interest are ore flotation, paper deinking, soil remediation, micellar-enhanced ultrafiltration, foam-based separations, extraction into reverse micellar solutions, micellar-chromatography, admicellar chromatography, absorption into emulsions, microemulsion-based separations, biphasic aqueous separations using nonionic surfactants, and surfactant-enhanced adsorbent regeneration, just to mention a few. Publication as an ACS Symposium Series is planned.

- 3 Radioactive and Hazardous Waste Forms.** Organized by Luis Nuñez, Chemical Technology Division, Argonne National Laboratory, 9700 S. Cass Avenue, Argonne, IL 60439-4804; Ph. 630-252-3069; Fax 630-252-5246; email nunez@cmt.anl.gov.

This symposium will address advances in radioactive and hazardous waste form research and technology development at industrial, academic, and governmental facilities. The waste forms to be addressed by this symposium include but are not limited to glass, ceramic, metallic, and cementitious materials. Topics to be covered comprise waste form preparation, characterization, waste form processing and physical properties, and alteration in the presence of water. Other areas of interest include radionuclide solubility and speciation, fissile material stabilization and disposition, radiation effects, and nuclear waste management.

- 4 I&EC General Poster Session.** Organized by Andrew H. Bond, Chemistry Division, Argonne National Laboratory, 9700 S. Cass Ave., Argonne, IL 60439; Ph. 630-252-0957; Fax 630-252-7501; email bond@anlchm.chm.anl.gov.

General poster presentations for the Division of Industrial and Engineering Chemistry cover such topics as the chemistry of industrially important synthesis and manufacturing processes, methods of monitoring and modeling such reactions, and means of improving large-scale processing by use of advanced separations methods, enhanced materials chemistry, and pollution prevention strategies.

Committee Meetings and Mixers

At the Dallas ACS Meeting, the SS&T Program Committee Meeting will be held early Sunday evening, March 29, 6-7:30 pm, at LeMeridien in the Nice Room, and the SS&T Executive Committee will conduct the annual SS&T Business Meeting early Monday evening, March 30, 5-7:30 pm, at LeMeridien in the Alsace Room. The order of business of the Executive Committee meeting will include reading of the minutes of the 1997 Executive Committee meeting, Treasurer's report, report on the I&EC Division Executive Committee meeting, Program Committee report, Membership Committee report, Nominating Committee report (Nominations for Vice Chair-Elect, Secretary, and Treasurer), and miscellaneous business. *All SS&T Subdivision members are invited to attend each of these meetings.* You can influence the Subdivision's programming and business - attend and let your opinions and ideas be heard. The I&EC Division mixer and poster session will be held from 8:00-10:00 on Sunday evening in the Hyatt Regency Ballroom. The I&EC Section presentations can be seen from 7:00-9:00 on Monday evening in the Convention Center Exhibit Hall A, Level 3.

BARRY L. KARGER WINS 1998 ACS AWARD IN SEPARATIONS SCIENCE AND TECHNOLOGY

The 1998 ACS Award in Separation Science and Technology sponsored by IBC Advanced Technologies, Inc. and Millipore Corp. has been awarded to Professor Barry L. Karger who is the James L. Waters Professor of Analytical Chemistry and Founding Director of the Barnett Institute of Chemical Analysis and Materials Science at Northeastern University. Professor Karger has published more than 230 research reports in the fields of analytical biotechnology, capillary electrophoresis, DNA sequencing, protein characterization, combinatorial chemistry, microfabrication, gas chromatography, high performance liquid chromatography, and high performance capillary electrophoresis. Professor Karger has coedited the book *An Introduction to Separation Science* and has received the ACS Fisher Award in Analytical Chemistry, the ACS Supelco Award in Chromatography, the J. P. Martin Medal awarded by the Chromatography Society of the United Kingdom, and the Steven Dal Nogare Memorial Award for Chromatography. A more complete listing of Professor Karger's achievements and contributions to chemistry and to separations science can be found at the URL <http://www.barnett.neu.edu/members/karger/karger.htm>.

The annual ACS Award in Separation Science and Technology is sponsored by IBC Advanced Technologies, Inc. and Millipore Corp. and was established in 1982 to recognize outstanding accomplishments in fundamental or applied research directed to SS&T. The scope of the award covers a broad range of fields including biology, chemistry, engineering, geology, and medicine. The nomination deadline is February 1 of each year. An award symposium sponsored by the Subdivision is being held in Professor Karger's honor at the Spring ACS National Meeting in Dallas (see page 3).

SS&T Programming for the Boston ACS Meeting

“Nuclear Separations for Radiopharmacy”

216th American Chemical Society National Meeting August 23-27, 1998 in Boston, MA

To achieve the high chemical and radionuclidic purity needed for radiopharmaceuticals, rapid and selective chemical separations methods are required. The objective of this symposium is to identify and discuss needs within existing and proposed radiopharmaceutical preparation processes and to highlight advances in separations chemistry that are of interest to the radiopharmaceutical industry. Accordingly, papers discussing the use of chemical separations with the goal of providing high-purity radionuclides for use in medical imaging and/or therapy will be accepted. Of particular interest are novel separations media and conventional liquid/liquid and solid/liquid separations processes exhibiting enhanced selectivity, extraction kinetics, or radiation and chemical stability. The program will include both invited and contributed papers as well as a poster session. A limited number of overview lectures will also be presented. Authors should forward three copies of an abstract (one on original ACS form) to one of the organizers by April 1, 1998. Proceedings of this symposium will be published.

Organized by Robin D. Rogers, Department of Chemistry, The University of Alabama, Tuscaloosa, AL 35487; Ph. 205-348-4323; Fax 205-348-9104; email rdrogers@bama.ua.edu and Andrew H Bond and Mark L. Dietz, Chemistry Division, Argonne National Laboratory, Argonne, IL 60439; Ph. 630-252-0957 (AHB); Fax 630-252-7501; email bond@anlchm.chm.anl.gov.

SS&T Programming for the Anaheim ACS Meeting

Anaheim, CA March 21-26, 1999

Separations Award Symposium, Organizers TBA.

Separations in Nuclear Chemistry. Spiro D. Alexandratos, Department of Chemistry, University of Tennessee, Knoxville, TN 37996; Ph. 423-974-3399; Fax 423-974-3454, email alexsd@utk.edu and Lester R. Morss, Chemical Technology Division, Argonne National Laboratory, Argonne, IL 60439; Ph. 630-252-3667; Fax 630-252-4771; email morss@cmt.anl.gov.

Bioseparations. Roger Harrison, School of Chemical Engineering and Materials Science, University of Oklahoma, Norman, Oklahoma 73069; Ph. 405-325-4367; Fax 405-325-5813; email harrison@uoknor.edu.

Inorganic Materials for Separations. Abraham Clearfield, Department of Chemistry, Texas A&M University; College Station, Texas 77843-3255; Ph. 409-845-2936; FAX 409-845-4719; email clearf@acxrd.tamu.edu.

SS&T Anaheim Programming, *Continued*

CALIXARENE MOLECULES FOR SEPARATIONS

This symposium will focus on the application of calixarene derivatives to chemical separations. Topics appropriate to this symposium include synthesis and purification of calixarenes important to separations, studies of calixarene-substrate binding, demonstration of specific separations using calixarenes, and development of separation technologies based upon calixarenes. Abstracts should be prepared according to the standard ACS Abstract Form, which is available over the internet at <http://www.acs.org/meetings/abstract/abinfo.html>.

Completed abstract forms should be submitted to G. J. Lumetta at Pacific Northwest National Laboratory, P. O. Box 999, MSIN P7-25, Richland, Washington 99352 (or by e-mail at gregg.lumetta@pnl.gov) or to R. D. Rogers at Department of Chemistry, The University of Alabama, Tuscaloosa, Alabama 35487 (or by e-mail at rdrogers@bama.ua.edu). The deadline for abstract submission is October 15, 1998.

SS&T Symposia Scheduled for the San Francisco ACS Meeting, March 26-30, 2000 (Note Change of Venue)

Separations Award Symposium. Organizers TBA.

Isotope Separations. Organizers TBA.

Closed Loop Applications for Industrial Wastewater. Organizers TBA.

Field-Enhanced Separations. James A. Ritter, Department of Chemical Engineering, Swearingen Engineering Center, University of South Carolina, Columbia, South Carolina 29208; Ph. 803-777-3590; Fax 803-777-8265; email ritter@sun.che.scarcolumbia.edu and David A. Rockstraw, Department of Chemical Engineering, New Mexico State University; MSC 3805, P. O. Box 30001, Las Cruces, New Mexico 88003-8001; Ph. 505-646-7705; Fax 505-646-7706; email drockstr@nmsu.edu.

Processing Problems in DOE Privatization. Norman C. Schroeder, Los Alamos National Laboratory, P. O. Box 1663, CST-11 Mail Stop J514, Los Alamos, NM 87545; Ph. 505-667-0967; Fax 505-665-4955, email nschroeder@lanl.gov.

Bioseparations. Organizers TBA.

Research Needs in Industrial Separation Science and Technology

Organized by Curtis L. Munson, Chevron Research and Technology Company, 100 Chevron Way, Richmond, CA 94802-0627; Ph. 510-242-1612; Fax 510-242-2893; email clmu@chevron.com, Jay F. Miller, Union Carbide Technical Center, P. O. Box 8361, South Charleston, WV 25303; email millerjf@ucarb.com, and Paul F. Bryan, Union Carbide Technical Center, P. O. Box 8361, South Charleston, WV 25303; Ph. 304-747-4131; Fax 304-747-5744; email bryanpf@ucarb.com.

Molecular Level Characterization in Separations.
Organizers TBA.

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DOE Vision 2020 Workshop on Distillation, Adsorption, and Crystallization

A separations workshop will be held at the Garden Plaza Hotel in Oak Ridge, Tennessee, on May 11-13, 1998. Separations experts will identify future research needed in three separation technology areas: distillation, crystallization, and extraction. The workshop results will be used to develop roadmaps for the next steps in the implementation of Technology Vision 2020: The U. S. Chemical Industry. The objective of Vision 2020 is to improve the competitiveness of the industry by focusing research and development on factors that influence growth and competitive advantage. It will also guide the future direction of the U. S. Department of Energy's Office of Industrial Technologies' partnerships program with material and energy intensive industries. Sponsors include the American Chemical Society, the American Institute of Chemical Engineers' (AIChE) Center for Waste Reduction Technologies, the AIChE Separations Division, the Council for Chemical Research, the U. S. Department of Energy's Office of Industrial Technologies, and Oak Ridge National Laboratory. For more information, please contact Earl Beaver of Monsanto at 314-694-6087 (EARL.R.BEAVER@monsanto.com), Charles Russomanno of the Department of Energy at 202-586-7543 (charles.russomanno@hq.doe.gov), Sharon Robinson of Oak Ridge National Laboratory at 423-574-6779 (ssr@ornl.gov), or Paul F. Bryan of Union Carbide at 304-747-4131 (bryanpf@ucarb.com).

Other Upcoming Meetings

22ND INT'L SYMPOSIUM ON HIGH PERFORMANCE LIQUID PHASE SEPARATIONS

May 3-8, 1998 in St. Louis, MO

Contact: Janet Cunningham, Ph. 301-898-3772, Fax - 5596.

10TH ANNUAL MEETING OF THE NORTH AMERICAN MEMBRANE SOCIETY (NAMS)

May 16-20, 1998 in Cleveland, OH

Contact: G. Glenn Libscomb, University of Toledo, Toledo, Ohio 43606; Ph. 419-530-8088, email: glenn.libscomb@eng.utoledo.edu/nams98. See

<http://www.che.utoledo.edu/NAMS98/> for detailed information.

6TH INT'L CONF. ON FUNDAMENTALS OF ADSORPTION

May 24-28, 1998 in Giens, France

Contact: Dr. F. Meunier, Orsay Cedex, FRANCE; Fax 31-1-69-85-8088.

INTERNATIONAL SYMPOSIUM, EXHIBIT, AND WORKSHOP ON PREPARATIVE CHROMATOGRAPHY, ION EXCHANGE, AND ADSORPTION/DESORPTION PROCESSES AND RELATED TECHNIQUES

May 31-June 3, 1998 in Washington, DC

Contact: Janet Cunningham, Barr Enterprises, P. O. Box 279, Walkersville, MD 21793; Ph. 301-898-3772; Fax 301-898-5596; email janetbarr@aol.com.

PROBLEMS OF SELECTIVITY IN SOLVENT EXTRACTION

June 21-27, 1998 in Moscow, Russia

Contact: Dr. T. P. Sidorova, Kurnakov Institute of General and Inorganic Chemistry, Russian Academy of Sciences, 31 Leninsky prospect, 117907 GSP-1, Moscow, Russia; Ph. +7-095-955-4834; Fax +7-095-954-1279; email kholkin@ionchran.msk.ru. See

<http://www.glasnet.ru/~yurtov> for detailed information.

SFC/SFE'98: 8th INTERNATIONAL SYMPOSIUM AND EXHIBITION ON SUPERCRITICAL FLUID CHROMATOGRAPHY AND EXTRACTION.

July 12-16, 1998 in St. Louis, MO

Contact: Janet Cunningham, Barr Enterprises, P. O. Box 279, Walkersville, MD 21793; Ph. 301-898-3772; Fax 301-898-5596; email janetbarr@aol.com.

FIFTH INT'L CONFERENCE ON INORGANIC MEMBRANES (MEMBRANE SOCIETY OF JAPAN)

June 22-26, 1998 in Nagoya, Japan

Contact: Secretariat of ICIM5 98, c/o JTB Event & Convention Service, 5F Ryoshin Bldg., 4-8-12 Meieki, Nakamura-ku, Nagoya 450, Japan; Ph. +81-52-561-9880; Fax +81-52-541-2520; email: jtbecs@cjn.or.jp.

22ND INT'L SYMP. ON CHROMATOGRAPHY

Sept. 13-18, 1998 in Rome, Italy

Contact: Prof. Francesco Dondi, Ferrara, ITALY, 39-532-29-1154, Fax 39-532-24-0707.

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