



Sensor News

A Newsletter for the Sensor Division of the Electrochemical Society

Fall, 2000

Sensor Division Officers

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Message from the Chairman

I would like to thank you all for your support and efforts in making the Sensor Division a great success within the Society. The biennial term of the executive officers ends this fall and new officers will be elected at the business meeting/luncheon on Tuesday, 24th October, 12:15 pm, in rooms Phoenix 19 & 20, of the Phoenix Civic Plaza. I welcome all of you to attend this meeting where you can choose your new representatives.

It is a special honor and privilege to welcome at the luncheon Dr. Antonio Ricco, recipient of the Sensor Division Outstanding Achievement Award. His award lecture entitled "Gas Sensor Arrays for Vapor Analysis & Microfluidic Arrays for Bioanalysis: Size Does Matter," will be on Monday, Oct 23rd, 10:00 am, in room Tucson 43, of the Phoenix Civic Plaza.

I would like to draw your attention to the opportunities that the Sensor Division provides for professional development with two short courses: "Fundamentals of Micromachining" that is offered on Sunday, Oct. 22nd and "The Analytical Chemistry of Chemical Sensors," which we plan to offer at the Fall 2001 Meeting in San Francisco.

Finally, I would like to extend you an invitation to attend the executive committee meeting on Sunday Oct. 22nd and to participate in the planning of future Symposia sponsored by the Division. A special thanks to Cindy Bruckner-Lea for editing the news letter. On a personal note thanks to all of you who have contributed to the Sensor Division over the past year and who have made the experience of Chairman an enjoyable one

Yours Sincerely,
Peter J. Hesketh

Sensor Division—Become Involved!

Help is needed! Sensor Division members are welcome to attend the Executive Committee Meetings of the Sensor Division that are held at each ECS meeting. These meetings are typically held on Sunday evening before the beginning of the technical sessions on Monday morning. At the Fall ECS meeting in Phoenix, this meeting will be held on Sunday, October 22nd at 8:45 pm in room Yuma 34, Phoenix Civic Plaza. Please come if you would like to organize future Sensor Division Symposia, or provide input and ideas about upcoming symposia. Sensor Committee Meeting times and places are often posted in the Meeting Program on the ECS web page or in the Interface Meeting Program. If not, just ask for meeting information at the ECS meeting check-in desk. If you can't attend the Sensor Committee Meetings and would like to help with future symposia, simply contact one of the Division Officers. At the fall meeting, business conducted at the Executive Committee meeting is presented to the general membership at the Sensor Division Luncheon later in the week.

Tony Ricco Receives Sensor Division Outstanding Achievement Award

Dr. Antonio (Tony) Ricco was selected as recipient of the 2000 Sensor Division Outstanding Achievement Award. He received his BS in chemistry, from the University of California at Berkeley, in 1980 and Ph.D. in inorganic chemistry from MIT in 1984. He spent 15 years at Sandia National Laboratories in the Microsensor Department and has been a pioneer in the development of chemical sensors based upon acoustic wave, optical, electrochemical and chemiresistor platforms. In 1999 he joined ACLARA BioSciences as Director of Micromachining. His group at ACLARA develops core technologies in support of the commercialization of disposable plastic fluidic devices for bioanalytical applications.

Tony Ricco is the co-author of over 125 publications, and has been the recipient of numerous awards. In addition, he has made many contributions to ECS and other scientific organizations. He has co-organized over 20 symposia in the area of chemical sensors and microanalytical systems over the last ten years, more than half of these on behalf of the Sensor Division of ECS. He was Chairman of the Sensor Division in 1994-1996, and in 1998 he was elected a Fellow of the Electrochemical Society. Currently, he serves on the Society's long-range planning and publication committees.

Tony will present his award address "Gas Sensor Arrays for Vapor Analysis and Microfluidic Arrays for Bioanalysis: Size Does Matter," as part of the Microsensor Systems for Gas and Vapor Analysis Symposium on Monday, Oct. 23rd, 10 am in room Tucson 43, of the Phoenix Civic Plaza. The award will be presented during the Sensor Division Luncheon on Tuesday, Oct 24th, 12:15 pm, in rooms Phoenix 19 & 20, of the Phoenix Civic Plaza. Past recipients of this award are Jiri Janata (1994), Richard Buck (1996) and Ingemar Lundstrom (1998).

Sensor Division Slate of Officers

The two-year term of the Executive Committee officers ends this Fall. The new officers will be elected at the business meeting/luncheon at the Fall ECS meeting in Phoenix, Arizona. The luncheon will be held on Tuesday, October 24, at 12:15 pm in rooms Phoenix 19 and 20, Phoenix Civic Plaza. All members of the Sensor Division are welcome and encouraged to attend.

Following is the slate of Sensor Division Officers for consideration at the Fall ECS Meeting in Phoenix:

Chairman: Prof. Joseph Stetter (Illinois Inst. Tech.)

Vice Chairman: Prof. Dick Crooks (Texas A&M Univ.)

Secretary/Treasurer: Dr. Cindy Bruckner-Lea (PNNL)

Members at large:

Dr. Karel Domansky (MIT)

Dr. Greg Fry (Sandia)

Dr. Jay W. Grate (PNNL)

Prof. D. Jed Harrison (U. Alberta)

Prof. A. R. Hillman (U. Leicester)

Prof. George Horvai (Tech. U. Budapest)

Dr. Henry G. Hughes (Motorola)

Prof. Jiri (Art) Janata (Georgia Tech.)

Dr. Jing Li (Cyano Sciences)

Prof. Mike Sailor (UCSD)

Prof. Diane K. Smith (San Diego State Univ.)

Dr. Frederick Yamagishi (HRL Laboratories)

Prof. Noboru Yamazoe (Kyushu Univ.)

Prof. Ted (Edward T.) Zellers (U. Michigan)

Microfabrication Short Course October 22 at Phoenix ECS Meeting

The objective of this course is to provide participants the basic principles and practical aspects of the most advanced state of electronics and MEMS processing. This course will be given by Peter J. Hesketh from the School of Mechanical Engineering at Georgia Institute of Technology, and Davorin Babic, from the Microfabrication Applications Laboratory at the University of Chicago at Illinois.

This one-day course will cover the following topics:

1. Growth and properties of silicon;
2. Oxidation of silicon, wet and dry oxidation processes;
3. Diffusion processes, dopants and dopant sources;
4. Lithography, negative and positive photoresists, polyimide resist processing, photoexposure principles, e-beam and x-ray lithography;
5. Etching, wet chemical, plasma etching, reactive ion etching;
6. Thin film deposition, brief introduction to vacuum technology, metallization, refractory metals, dielectrics ;
7. Chemical vapor deposition, chemical kinetics, polysilicon doping, thin film characterization;
8. Fabrication of a silicon pressure sensor - case study.

New Sensor Web Site

Rapid advances are currently being made in diverse but related sensor technology fields such as chemical analyses, geophysical sensing, and information management. The potential exists to apply these sensor technologies in the environmental field for hazardous waste cleanup, as well as in other fields. However, few forums exist that focus on integrating these new tools into other systems and programs.

A new web site, the Sensor Technology Information Exchange (SenTIX), located at <http://www.sentix.org>, now meets this need. SenTIX is designed to enhance communication among all segments of the sensor and instrumentation industries so that information about recent technological advances are available for review and application by developers, vendors, and users in the hazardous waste cleanup field as well as other sensor fields.

SenTIX contains a sensor information database with publicly-accessible submit and search functions. It also contains a discussion forum. The database and discussion forum will assist in "match making" among sensor developers, vendors, and users. In addition, SenTIX contains calendar of events, news, and links pages to other web sites.

SenTIX is funded through a cooperative agreement between WPI, a not-for-profit corporation affiliated with Virginia Polytechnic Institute and State University, and the U.S. Environmental Protection Agency. For more information, contact either Dr. Larry Keith, WPI, (540) 557-6095, Larry_Keith@wpi.org, or Mr. Dan Powell, U.S. EPA, (703) 603-7196, Powell.Dan@epa.gov.

Member News.....

Petr Vanysek, a past chair of the Sensor Division, is now a member of the ECS New Technology Subcommittee. Petr is also currently on sabbatical at ACLARA BioSciences in Mountain View, CA, working on microfluidic devices for bioanalysis, and enjoying the mild California weather.

IEEE Sensors Journal Started

The IEEE established a Sensors Council in 1999 for the purpose of creating a focus for the sensor activities of IEEE societies, and for starting a high quality, affordable journal.

Sensor researchers and users are invited to submit papers and help make the IEEE Sensors Journal the leading sensor publication in the world. Papers on sensor applications are of special interest.

The inaugural issue is scheduled for June 2001. It will consist of a collection of review papers, covering a wide range of sensor technologies. The deadline for submissions is 1 September 2000. The call-for-papers, and other relevant information can be found on the Sensors Council website, <http://www.ieee.org/sensors>.

The subscription price will be \$19- per year for IEEE members. The non-member (institutional) price will be \$495 per year.

Short Course on the Analytical Chemistry of Chemical Sensors

A one-day short course on chemical sensors will be offered by Prof. Joseph Stetter (Illinois Institute of Technology; stetter@iit.edu) on Sept. 2, 2001 at the Fall ECS meeting in San Francisco.

The objective of this course is to sharpen the skills in science and engineering of all users and developers of chemical sensors. The course will cover the following topics:

1. Fundamentals of Chemical Sensors – electrochemical, optical, mechanical, thermal.
2. Origins of Sensor Specifications – sensitivity, selectivity, speed, stability.
3. Measurement of Sensor Characteristics – concentration, calibration and lifetime/drift.
4. Comparison and Prediction of Performance; know your problem and use the "BS" filter.
5. Applications and Case Studies of Selected Chemical Sensors.

If you need some fundamental background about sensors, if you are just beginning in this area, or if you need to know how to tell if a sensor or instrument will work for your needs, then this course is for you.

Sensor Division Executive Committee Meetings: Highlights

Honolulu: October 17, 1999

The following were present: Masuo Aizawa, Cindy Bruckner-Lea, Dick Crooks, C. D. Feng, Peter Hesketh, Henry Hughes, Samantha Pak, Tony Ricco, Joe Stetter, Fred Yamagishi, Ted Zellers

1. Minutes approved. Minutes from the Seattle meeting were unanimously approved.

2. Thanks... Peter thanked the organizers of the Sensor Division symposia, and Tony Ricco and Jed Harrison who ran a short course on Chemical Analysis with Microsensors and Microsystems, for their efforts at the Fall 1999 meeting.

3. Toronto (14 - 19 May, 2000):

- Impedance Spectroscopy (Buck, Vanysek, Hesketh)
- Sensors for Energy Technology (Kinoshita, Stetter, •• Logothetis, Soltis, Visser)
- Sensors for Diabetes (Henning, Cunningham)
- Polymer Manufacturing Process Sensors II (Stokes)
- There will be a proceedings volume for the symposium entitled "Sensors for Diabetes."

4. Treasurer's report:

As of June 30, 1999 there was \$20, 477.06 in the Sensor Division Custodian Fund. About \$2000.00 was added from sales of the Seattle meeting Book of Abstracts and Sensor Division Proceeding Volume. The Outstanding Achievement Award of the Sensor Division account balance was \$6, 249.77 on June 30, 1999, which includes an addition of \$182.00 in interest during the preceding six months.

5. Discuss fund transfer. Hesketh proposed transferring \$6000 from the custodial account to the award account, but Ricco suggested that there really wasn't any difference in where the money was kept. Discussion followed and ultimately it was decided to revisit this issue at the next Executive Board meeting.

6. Financial support for future meetings.

Phoenix (22 - 27 October, 2000)

The following symposia are planned:

a. Acoustic Wave Based Sensors VI. Estimated two days funded at one registration per day. It was also suggested that the Physical Electrochemistry Division would cosponsor this one. To be decided at the planning meeting. Two total registrations were requested for the two-day symposium: \$600. Unanimously approved.

b. Microfabricated Systems and MEMS V. A proceedings volume is planned. Money for 10-12 speakers is required. About \$1K is required from DS&T. \$1K from the Sensor Division and another \$1K from Electronics Division. Unanimously approved.

c. Microsensor Systems for Gas and Vapor Analysis. Two registrations are requested: \$600. Unanimously approved.

d. Solid-State Ionic Devices. No request was made at the meeting for funding, but subsequently Peter Vanysek contacted Hesketh and requested \$350.00.

Hesketh indicated that he would like to do a short course on Microfabrication. He plans to present a proposal at the Toronto meeting.

Washington, D.C. (25 - 30 March, 2001)

The following symposia are planned:

a. Corrosion Sensors. Proceedings are planned. Vanysek and others are leading for the Sensor Division.

b. Bioelectroanalytical Chemistry. Peter Vanysek will be the lead organizer for the Sensor Division (with some help from Dick Crooks).

c. Electrode Arrays and Combinatorial Chemistry (Buttry, Smotkin, and Stetter are the proposed organizers).

d. 8th International Symposium on Olfaction and the Electronic Nose (J. Stetter, Organizer). A symposium proceedings volume is planned. A separate fee will be assessed for this symposium to cover the cost of the proceeding volumes, registration and a banquet.

e. DNA Sensors. Cosponsors: New Technology Div. and Organic and Biological Electrochemistry. Proceedings not planned at this time.

San Francisco (Fall/01)

Chemical Sensors V, Bioanalytical symposium,, Workshop on the Analytical Chemistry of Chemical Sensors (Stetter).

Philadelphia (Spring/02) Suggestions for new symposia:

- Nanostructured Materials for Chemical Sensing
- Sensors for Semiconductor Process Monitoring
- Pressure Sensors (Automotive and Medical)

Salt Lake City (Fall/02) Suggestions for new symposia:

Acoustic Wave Sensors VII, MEMS Sensors VI, Sensors for the Agricultural Industry (water, soil, pesticides), Sensors Based on Living Materials

Paris (Spring/03) Suggestions for new symposia:

"Sensor Manufacturing: CMOS Compatibility"

7. Sensor Division Achievement Award Joe Stetter proposed formalizing the award committee. He is the chair. He will solicit nominations (a one-page justification for the award). He will put together a committee to select the awardee.

8. Travel Awards Hesketh moved that the Division provide \$1K per year for student travel grants to future meetings. \$250 max per student. Hesketh will draft rules for this. The motion was unanimously approved pending approval of the forthcoming proposal.

9. ECS Name Change Hesketh indicated that the ECS was considering changing its name in an effort to be more inclusive. Proposals for a new name are: (1) ECS; (2) ECS-electrochemistry and solid-state science; (3) a new name. Significant discussion about this ensued, but those present decided they wanted to hear more about the need for a name change before proceeding further.

10. Interface article input needed: Bruckner-Lea is going to call people up to get an idea of what challenges there are in the sensor field. This is for a special article for an upcoming volume of Interface. She seeks names of people who would be good to contact.

Adjourned 11:06 pm

Addendum

Following the meeting the officers voted to allocate \$350.00 to the Toronto Symposium on Impedance Spectroscopy. This will match \$1200.00 from Solartron and \$350.00 from the Physical Electrochemistry Division.

Toronto: May 14, 2000

Present: Henry Hughes, Peter Hesketh, Joseph Stetter, Petr Vanysek and Simon Ang.

1. Minutes approved. The minutes of the previous Executive Committee Meeting were reviewed and a correction was made to proposal for Short Course on Microfabrication at the Phoenix meeting.

2. Sensor Division Award. Hesketh read the results of the Sensor Division Award Committee. The recommendations of the committee was unanimously approved. Hesketh will inform the Society Awards Committee and once this has been approved inform the recipient (Dr. Antonio J. Ricco). The awardee will give a Keynote address at one of the sensor division symposia in Phoenix. We will also cover the registration and lunch ticket for the awardee.

3. Treasurer's report:

As of December 31, 1999 there was \$ 23,642 in the Sensor Division Custodian Fund. About \$5000.00 was added from sales of the Seattle meeting Book of Abstracts and Sensor Division Proceeding Volume. The Outstanding Achievement Award of the Sensor Division account balance was \$ 6432 on December 31, 1999, which includes an addition of \$ 364 in interest during the preceding six months.

4. Review of Phoenix Meeting (abstracts due 6/1/2000):

a. Acoustic Wave Based Sensors. Organizer Hillman update by e-mail: Hillman plans to send out a letter inviting participation in the symposium.

b. Microfabricated Systems and MEMS V. A proceedings volume is planned. 8 Invited speakers have accepted Invitations to speak. \$1K from the Sensor Division and another \$1K from the Electronics Division will be provided. Unanimously approved. (Note: co-sponsoring divisions must be contacted for approval of funding)

c. Microsensor Systems for Gas and Vapor Analysis. Stetter provided an update: speakers have been invited.

d. Solid-State Ionic Devices. Vanysek provided an update.

e. Microfabrication short course Motion to approve the short course on Microfabrication that will be taught by P. Hesketh and D. Babic was unanimously approved. Syllabus had already been forwarded to Johnna Leddy for consideration by the Education Committee.

5. Washington Meeting (abstracts due October 1, 2000):

a. Corrosion Sensors. Proceedings are planned. Vanysek and others are leading for the Sensor Division.

b. Bioelectroanalytical Chemistry. Petr Vanysek will be the lead organizer for the Sensor Division (with some help from Dick Crooks).

c. Electrode Arrays and Combinatorial Chemistry. Request for support for 1 invited speaker for the Symposium on Combinatorial Arrays was approved by the committee.

d. DNA Sensors. Cosponsors: New Technology Div. and Organic and

E-mail request for funding from Cindy Bruckner Lea was received for one speaker registration. Unanimously approved by the committee.

e. The International Meeting on Olfaction and the Electronic Nose will be held and a proceedings volume will be produced for sale at the meeting. Attendees for this meeting will pay an additional registration fee to cover the cost of the proceedings volume, special banquet and a reception. There will also be a

technical exhibit. Request for funding for support of 5 invited speaker registrations was approved.

It is important that proceedings volumes be available in time for sale at the meeting so that attendees can purchase them to enhance their participation.

6. San Francisco Meeting (abstracts due April 2, 2001)

Stetter proposed a short course on "The analytical chemistry of chemical sensors." To be offered at the San Francisco meeting Spring 2000. Discussion of contents of short course followed and the course was unanimously approved. Stetter will prepare a detailed syllabus (see Appendix 1) and forward this to the Education Committee for their consideration.

We have one large symposium on chemical sensors that will be held jointly with other divisions of the ECS. Petr will take the lead in coordinating papers and Joe will be available to meet with Petr in Chicago to finalize the program. G1 - CHEMICAL AND BIOLOGICAL SENSORS AND ANALYTICAL METHODS (Chemical Sensors; Biosensors, Biomolecular and Biomimetic Devices; Microelectrodes and Arrays in Electroanalytical Chemistry)

Cosponsors: ECS Sensor Division/ ECS Physical Electrochemistry Division/ ECS Organic and Biological Electrochemistry Division/ ISE Analytical Electrochemistry Division/ ISE Bioelectrochemistry

Sensor Division Organizers: P. Vanysek, M. Aizawa, S. Bruckenstein, M.A. Butler, E.J. Calvo, W.R. Heineman, A.R. Hillman, T. Matsue, J.W. Schultze, J.R. Stetter, N. Yamazoe Add to the call for papers a line to request the author to identify a sub-topic area: "Authors are requested to include a sub-topic area that will help identify the topic of their abstract."

7. Philadelphia Meeting:

The following symposia are proposed for Philadelphia:

a. New Materials, Structures, and Methods for Chemical Sensing (Stetter and Hesketh).

b. Sensors for Process Monitoring (Stokes and Vanysek).

c. Integration of Sensors and Electronics (Ang and Hughes).

8. Salt Lake City

Proposed symposia

a. AW sensors [Vanysek]

b. MEMS and micro VI [Hesketh]

c. IMCS [Stetter]

9. Student Travel Grants

Proposal for guidelines for the student travel grant was presented by Hesketh and was modified by Vanysek. Unanimously approved, see below.

Guidelines for Student Travel Grants

- (1) Student must be member of the ECS or become a member of the ECS at the meeting.
- (2) Student must be presenting a paper at the ECS.
- (3) Student must be in a program of study towards an advanced degree at a university.
- (4) Students must apply for funding at the time of the submission of their abstract to the ECS.

Budget set aside from the Sensor Division independent of any symposium will be up to \$300 per meeting. Note, it is not necessary to use this grant if no eligible students have applied.

Meeting adjourned at 10:30 pm

Respectfully submitted,

Peter J. Hesketh, President

Richard M. Crooks, Secretary/Treasurer

Upcoming ECS Symposia

(see www.electrochem.org for more information)

Symposium Title	Sponsoring Organization (Group or Division)	Date & Location	Contact
Microsensor Systems for Gas and Vapor Analysis	ECS/IEEE (Sensor)	Oct 22-27, 2000 Phoenix.	Zellers, Stetter, Frye-Mason
Microfabricated Systems and MEMS V	ECS (Sensor, Dielectric, Electronics)	Oct 22-27, 2000 Phoenix	Hesketh, Hughes, Bailey, Ang, Misra
Solid State Ionic Devices	ECS (High Temp Materials, Sensor, Battery, American. Ceramic Soc.)	Oct 22-27, 2000 Phoenix	Wachsmann, Weppner, Traversa, Vanysek, Yamazoe
Acoustic Sensors VI	ECS (Sensor)	Oct 22-27, 2000 Phoenix	Zellers, Hillman, Martin
Corrosion Sensors	ECS (Corrosion, Sensor)	March 25-30, 2001 Washington DC <i>Abstracts due Oct 1!</i>	P.J. Moran, P. Vanysek, R.G. Kelly
Bioelectroanalytical Chemistry	ECS (Organic, Sensor, Physical)	March 25-30, 2001 Washington DC <i>Abstracts due Oct 1!</i>	M. Gratzl, R.M. Crooks, P. Vanysek, S.R. Mikkelsen
Electrode Arrays and Combinatorial Chemistry	ECS (Physical, Sensor, Luminescence)	March 25-30, 2001 Washington DC <i>Abstracts due Oct 1!</i>	J.R. Stetter, E.S. Smotkin, D.A. Buttry, J.M. Pope
Eight International Symposium on Olfaction and the Electronic Nose "ISOEN 8"	ECS (Sensor)	March 25-30, 2001 Washington DC <i>Abstracts due Oct 1!</i>	J.R. Stetter, H. Baltes, A. D'Amico, L. Lundstrom, P. Mielle, T. Morizumi, G. Sberveglieri, D.R. Walt, J. Gardner, K. Persaud, P.J. Hesketh, U.P. Weimar, N. Barsan, M. Frank, H. Wohltjen, M.A. Butler
DNA Sensors	ECS (Sensor, Organic, New Technology)	March 25-30, 2001 Washington DC <i>Abstracts due Oct 1!</i>	C. Bruckner-Lea, W. Van Schalkwijk, F.A. Schultz, C.A. Mirkin
Chemical and Biological Sensors and Analytical Methods	ECS (Sensor, Physical, Organic and Biological, ISE Analytical Electrochem, ISE Bioelectrochem.)	Sept. 2-7, 2001 San Francisco <i>Abstracts due April 2!</i>	P. Vanysek, M. Aizawa, S. Bruckenstein, M.A. Butler, E.J. Calvo, W.R. Heineman, A.R. Hillman, T. Matsue, J.W. Schultze, J.R. Stetter, N. Yamazoe
New Materials, Structures and Methods for Chemical Sensing	ECS (Sensor)	May 12-17, 2002 Philadelphia	Stetter, Hesketh
Integration of Sensors and Electronics	ECS (Sensor)	May 12-17, 2002 Philadelphia	Ang, Hughes
Sensors for Process Monitoring Applications	ECS (Sensor)	May 12-17, 2002 Philadelphia	Stokes, Vanysek

Some Other Upcoming Sensor-Related Meetings.....

October, 2000

National SBIR Fall Conference, October 30-November 1, 2000, Seattle, Washington.

The National Science Foundation, in association with the Dept. of Defense and the Small Business Admin., are sponsoring this event. Program Managers and representatives from participating agencies will provide insight into how to work with their respective agencies and will answer your questions during the one-on-one opportunities. For more information, see www.zyn.com/sbir/cal, email Sharon DelaBarre, or call 360-683-5742.

November, 2000

Water Research Symposium '2000: Advances in Water and Land Monitoring Technologies and Research for Management of Water Resources, November 8-10, 2000, Virginia Tech, Blacksburg, VA.

This symposium is an interdisciplinary forum to present and discuss all aspects of advanced and innovative water monitoring technologies and research for natural waters and advanced land use monitoring that impact decision making in the management of water resources. It is intended for individuals involved with developing monitoring technologies, research scientists, educators, consultants, watershed managers, and policy/decision makers. For more information, call 540-231-8039 or see www.vwrrc.vt.edu/announcements/symp2000.htm.

December, 2000

Sensor Technology in European Industry, December 3-5, 2000, Elsinore, Denmark.

The Danish Agency for Trade and Industry (www.efs.dk) together with EUREKA (www.eureka.be) and the Danish Sensor Technology Center have organized a conference on sensor technology. The event is the result of several initiatives, including a program launched by the Danish government in 1999 for the advancement of developing and deploying sensors in Danish industry and a desire by the Danish Agency for Trade to help increase international collaboration on sensor technology through a partnering event with EUREKA. The conference will include workshops that focus on three major subjects: health, food and environment; industry, transportation and energy; and new materials for sensors. More information is available at www.sensortec.dk.

March, 2001

PITTCON 2001 - A Voyage of Discovery, March 5-8, 2001, New Orleans, LA.

The premier technical program and exhibition for all scientists who utilize analytical instrumentation, equipment and techniques. PITTCON@2001 will continue to provide a base from which scientists, educators, and students can explore new technologies, ideas, equipment, and instrumentation. Technical presentations, seminars, and short courses will be available. For more information, see www.pittcon.org.

Eighth International Symposium OLFACTION AND THE ELECTRONIC NOSE (ISOEN8),
March 25-30, 2001, Washington, DC, USA

This meeting will be held in conjunction with the 199th Meeting of the Electrochemical Society. Contributions are sought in the following areas of electronic nose, sensor arrays, and biological olfaction: Instrumentation and sensors, data processing and pattern classification, applications, and commercial instrumentation. Preference will be given to papers describing applications. Abstract submission, registration, and travel arrangements can be carried out by via electronic mail and the WWW. Follow instructions at www.electrochem.org for the 199th ECS Meeting. Deadline for paper submission is October 1, 2000.

May, 2001

Gordon Conference on Chemical Sensors and Interfacial Design, May 6-11, 2001, Il Ciocco, Italy.

Mark your calendar and prepare your taste buds! This should be a very exciting conference. The conference is organized into nine topical sessions: single molecule detection and microfluidics, nanostructured materials as sensors, microstructured materials as sensors, polymer and biopolymer-based sensory systems, optical systems and biosensors, self-assembly, molecular recognition and biological interfaces, novel materials and interfaces, environmental sensors and short talks. The preliminary program can be seen at: <http://www.grc.uri.edu/programs/2001/chemsens.htm>. For questions contact the conference chair, Deborah Charych (deb_charych@cc.chiron.com, 510-923-8383).

Newsletter Input

Don't be shy--send Sensor Division Newsletter articles, comments or suggestions to: Cindy Bruckner-Lea at Pacific Northwest National Laboratory, P.O Box 999, Mailstop K8-93, Richland, WA 99352, e-mail: cindy.bruckner-lea@pnl.gov, phone: (509) 376-2175, fax: (509) 376-1044. Also, please let me know if you would like to receive an annual hard copy of this electronic newsletter, and I will be happy to send you one (as long as not all of the nearly 1,000 Sensor Division members request one)!