PM-90e Series Pumps

BAS introduces the new PM-90e family of pumps. The PM-91e is a single piston pump, and the PM-92e is a dual piston model designed specifically for the most demanding microbore liquid chromatography experiments. The PM-92e is incorporated into the new BAS 200e liquid chromatography system. Both pumps are also components in a variety of additional new BAS epsilon Chromatographs.

- Ideally suited for use with the BAS Pollen-8 on-line injector, they can also be used in column switching experiments with BAS BioTrap sample prep cartridges.
- Small and lightweight, they are conveniently stacked in areas where space is limited. Applications include flow injection analysis (FIA), hydrodynamic electrochemistry, as well as LC experiments.
- Microprocessor-controlled piston drives eliminate pulses and provide a consistent stable flow regardless of changes in solvent compressibility and system back pressure.
- Sensors monitor pressure within each individual head and continuously compare 'in-head' pressure to system back pressure.
- The PM-92e dual piston pump uses feedback from the pressure sensors to independently control each piston drive in order to synchronize the crossover of delivery from one piston to the other, providing stable, continuous flow.
- The PM-91e single piston pump takes a 'snapshot' of the system pressure just prior to refilling. The pump then rapidly refills and quickly pressurizes the solvent to the 'snapshot' pressure before resuming delivery at the commanded flow rate. This procedure minimizes the interruption of solvent flow during refill. A pulse damper further minimizes pump flow fluctuations.
- Imbedded software control automatically compensates for solvent compressibility and even gas bubbles retained in the pump, to deliver pulse-free operation. This design works particularly well for high-sensitivity, low flow rate microbore and LC/MS applications.
- A high efficiency microstepping motor driven ballscrew provides precise control of piston motion.
- Floating piston design reduces side loading on seals for prolonged seal life.
- Wash ports are provided for rinsing precipitated buffers from seals and pistons. Front access provides easy detection of leaks, and removable heads retain the sapphire piston for easy maintenance of seals and pistons.
- Low system volume allows quick solvent changeover and fast equilibration for microbore applications.
- Programmable either using front panel controls, or through BAS Chromgraph-e, the new version of our popular Chromgraph software (now available for epsilon instrument systems).
- Simple front panel operation - enter flow rate, upper and lower pressure limits and go!

PM-90e Series Pump

Rapid Desalting Dialyzer for Mass Spectrometry

Researchers involved in the analysis of high molecular weight biomolecules (proteins, DNA, RNA, polysaccharides) via ESI-MS will appreciate the convenience of the new online desalting device from BAS (MD-1350). This compact cartridge incorporates a dialysis fiber which removes ions and molecules below the molecular weight cutoff of 30,000 daltons. The removal process is based on the counter-current extraction principle. Sample flows through the center of the fiber while its outer surface is washed with water or ammonium acetate buffer. The replacement or exchange of alkali metal cations with volatile ammonium ions by this dialysis process results in a more uniform sample, avoiding weak electrostatic complexes which would otherwise form. The result is a dramatic improvement in signal-to-noise for the mass spectra.

BAS Rapid Desalting Dialyzer for Mass Spectrometry

BAS Vetronics Enhances Line with Pulse Oximetry and Heart Monitoring Equipment

BAS Vetronics announces the addition of pulse oximetry to the VitalScan™ monitor system. This module measures pulse rate and blood oxygenation during anesthesia, post-operative recovery, or critical care of veterinary patients. Also new to the line of Vetronics products is a portable heart rate monitor.

VitalScan users who add the pulse/ox module will now be able to view and record ECG, temperature, respiration, blood pressure, and SpO2 simultaneously. Vetronics VitalScan and ECG monitors combine a real-time display of these parameters on a personal computer with a comprehensive, printed report which can be added to the patient's chart.

A reusable clip allows easy attachment to animals, and an optional transflectance sensor is available. The VitalScan Monitor, developed exclusively for veterinarians, also provides alarm notification of pulse/ox readings outside defined parameters.

The CardioMonitor, Vetronics' new portable heart rate monitor, offers a simple, reliable means of reporting the heart rate for veterinary patients during anesthesia, post-operative recovery, and dental cleanings. The compact and easy-to-use device mounts on the side of a cage or rests next to the animal during surgery. A sensivity adjustment permits usage with animals ranging in size from small rodents to horses.

The CardioMonitor (VT-1000) detects ECG complexes associated with normal heart function and provides a continuous digital display of the animal's heart rate. A flashing light and audible tone provide additional information. The monitor can also be set to sound an alarm according to preset high/low limits.

Equipped with an impact-resistant case and three detachable leads, the battery-powered CardioMonitor is ideal for use in the surgery suite or in the field.

For more information about BAS Vetronics products, visit www.bioanalytical.com/vetronics.

BAS Vetronics CardioMonitor

In the EC Literature

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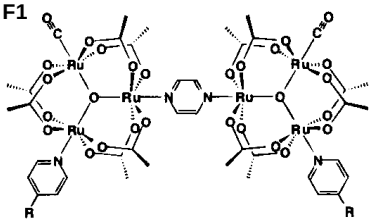
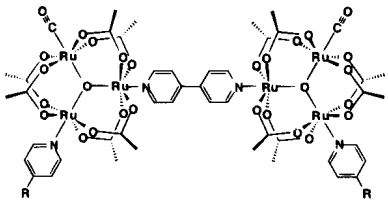
♦ Electron Transfer on the Infrared Vibrational Time Scale in the Mixed Valence State of 1,4-Pyrazine- and 4,4'-Bipyridine-Bridged Ruthenium Cluster Complexes

T. Ito, T. Hamaguchi, H. Nagion, T. Yamaguchi, H. Kido, I.S. Zavarine, T. Richmond, J. Washington, and C.P. Kubiak, J. Am. Chem. Soc. 121 (1999) 4625-4632.

F1



F2

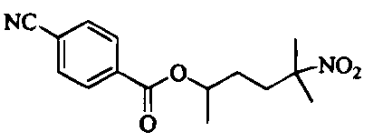


If there are two discrete identical redox sites within a molecule, then the redox behavior is determined by the degree of interaction between the sites. If there is little or no interaction (Class I), then the redox processes cannot be resolved. However, if there is significant interaction (Class II and Class III), then the redox processes can be resolved, and the intermediate species isolated, since there is a large difference in the energies of the two electron transfer reactions. In this study, two triruthenium clusters linked either by a one unit chain (1,4-pyrazine, ***F1***) or a two unit chain (4,4'-bipyridine, ***F2***) were studied by cyclic voltammetry using a CV-50W. It was found that the degree of interaction between the two redox sites varied both with the nature of the linking unit and with the substituents L attached to the triruthenium clusters. Specifically, the degree of interaction was larger for the smaller linking unit, and varied with L in the order dimethylaminopyridine > pyridine > cyanopyridine. The stronger coupling for the pyrazine linked clusters meant that the intervalence charge transfer bands were observed for these species, whereas this was not possible for the bipyridine linked derivatives. The variation in the coupling was also shown in the infrared spectra.

♦ A Bifunctional Molecule That Receives Two Electrons Sequentially Through Only One of Its Two Reducible Groups

Z.-R. Zheng and D.H. Evans, J. Am. Chem. Soc. 121 (1999) 2941-2942

F3



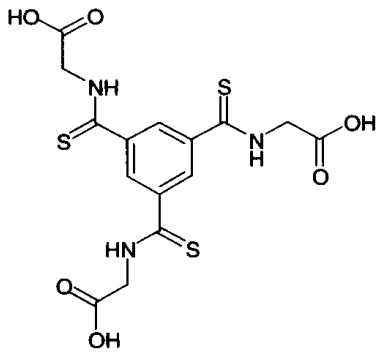
F3 has two electroactive functional groups, the benzoate group and the nitro group. Its redox properties are of particular interest, since the redox potentials of these groups are similar, but the electron transfer

kinetics are very different. The reduction of the benzoate group is reversible, whereas the electron transfer rate constant for the nitro group is about two orders of magnitude smaller. The cyclic voltammogram of ***F3*** showed a two electron process, at a potential similar to that of the benzoate group. It was inferred from the data that the first addition of an electron to the benzoate group was followed by an intramolecular electron transfer reaction between the benzoate group and the nitro group. The second electron was then added to the benzoate group; that is, both electron transfer reactions involve the unreduced benzoate group, and hence have the same redox potential. This proposed mechanism was supported by simulation studies conducted using DigiSim®.

♦ Self-Assembly of a Tricarboxylate Receptor Through Thioamide Groups and Its Use for Electrochemical Detection of Protonated Amines

H. Aoki, P. Buhlmann, and Y. Umezawa, J. Electroanal. Chem. 473 (1999) 105-112.

F4



This article reported the characterization of self-assembled monolayers (SAM) based on thioamides and their application as sensors for protonated amines. Cyclic voltammograms of the thioamide SAMs run using a CV-50W showed a one electron reduction. The peak current for this reduction increased linearly with scan rate (which is consistent with a surface-adsorbed species), and the peak potential varied with pH. Calculation of the surface density of the thioamide molecules suggested that they were well packed, in a similar manner to alkanethiol SAMs. However, the observation of oxidation and reduction peaks for a solution probe (ferro/ferricyanide) indicated the existence of pinhole defects within the film. Further studies were conducted on the SAM based on the tricarboxylate thioamide ***F4***, which showed that the interaction between this SAM and the solution probe depended upon pH through the protonation of the carboxylate groups. This behavior was used as a method for the detection of protonated amines, based on the binding of these amines to the carboxylate groups.

♦ Diels-Alder Reaction for the Selective Immobilization of Protein to Electroactive Self-Assembled Monolayers

M.N. Yousaf and M. Mrksich, J. Am. Chem. Soc. 121 (1999) 4286-4287.

The aim of the studies reported in this paper was the development of a method for attachment of the biotin-streptavidin complex using self-assembled monolayers. The basis of this method was the Diels-Alder reaction between quinone and cyclopentadiene. The initial studies were conducted on a mixed monolayer containing hydroxyl groups and hydroquinone groups. Quinone groups were generated by the reduction of the hydroquinone groups by cyclic voltammetry using a CV-50W. Consecutive cycles showed little change in the current response, indicating that this reduction was reversible. However, consecutive cycles following the addition of cyclopentdiene showed a decrease in the peak current for both the oxidation and the reduction, which is consistent with reaction of the quinone with the cyclopentadiene. Based on these initial studies, monolayers containing tetra(ethylene glycol) groups (which prevented protein adsorption) and hydroquinone were reduced chemically, and the resulting quinone group was reacted with a biotin/cyclopentadiene conjugate. This immobilized biotin was shown to bind to streptavidin.

♦ Mechanisms of Sulfoxidation Catalyzed by High-Valent Intermediates of Heme Enzymes: Electron-Transfer vs. Oxygen-Transfer Mechanism

Y. Goto, T. Matsui, S. Ozaki, Y. Watanabe, and S. Fukuzumi, J. Am. Chem. Soc. 121 (1999) 9497-9502.

Oxoferryl porphyrin π-cation radicals have been proposed as reactive intermediates in a number of catalytic cycles involving heme enzymes. These radicals are involved in either direct electron transfer reactions (e.g., for horseradish peroxidase) or in oxygen transfer reactions (e.g., for cytochromes (P450)). The aim of this study was to examine the factors that favor one reaction mechanism over the other, using the porphyrin π-cation radical from two different heme-based enzymes (horseradish peroxidase and a myoglobin mutant) and one model complex. A number of different thioanisole derivatives and dimethylaniline derivatives were used as the substrates. The rate of the reaction between each of the porphyrins and the substrates was measured and correlated with the redox potential of the substrates (measured by cyclic voltammetry using a BAS 100B). There was a linear correlation for the horseradish peroxidase and all the substrates, which is consistent with an electron transfer reaction. However, for the model complex, there was no linear correlation for all the substrates, although the correlation was linear for the individual classes

(i.e., the aniline derivatives were linearly correlated, and the sulfides were linearly correlated). This is consistent with an oxygen transfer reaction. The myoglobin mutant was also shown to undergo this reaction. However, the reaction could be changed to the electron transfer reaction by using a stronger reductant as the substrate (1,5-dithiacyclooctane). The different reactivity of the two enzymes was rationalized by considering the accessibility of the active site. The oxygen transfer reaction requires strong interaction with the substrate, and hence an active site close to the enzyme surface (such as is found in myoglobin) is required. In contrast, a electron transfer reaction can occur over a relatively large distance, and so can occur even if the active site is not close to the surface.

♦ The Role and Relevance of the Transfer Coefficient α in the Study of Dissociative Electron Transfers: Concepts and Examples from the Electroreduction of Perbenzoates

S. Antonella and F. Maran, J. Am. Chem. Soc. 121 (1999) 9668-9767

There are two possible mechanisms for the cleavage of σ bonds by electron transfer, stepwise (an electron transfer step followed a cleavage step) and concerted (both processes occur in a single step). There has been much interest in determining how various parameters (e.g., structural features) affect the relative favorability of these two mechanisms. In this study, it was shown that the value and the potential dependence of the transfer coefficient for the electron transfer (α) can be used to distinguish between the two mechanisms. α values are generally lower for concerted reactions. In addition, although the potential dependence of α for each mechanism is linear, the transition between the two mechanisms is characterized by non-linear dependence of α. These behaviors were illustrated by recording the cyclic voltammograms of a series of perbenzoates, using DigiSim* and convolution analysis to extract the required kinetic and thermodynamic parameters.

**DigiSim is a registered trademark of Bioanalytical Systems, Inc.*

In the MD Literature

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This issue of In the MD Literature focuses on recent microdialysis publications which employed analysis by mass spectrometry.

♦ Quinolinic Acid is Extruded from the Brain by a Probenecid-Sensitve Carrier System: A Quantitative Analysis

PF Morrison, GM Morishige, KE Beagles, MP Heyes. Journal of Neurochemistry, 1999, 72, 2135-2144.

Many acid metabolites, such as the monoamine metabolites HVA and 5-HIAA, are actively pumped out of the brain across the blood-brain-barrier. Probenecid inhibits this pump. Quinolinic acid (QUIN) is a neurotoxic metabolite of the L-tryptophan-kynurenine pathway that activates NMDA receptors, which results in excitotoxic lesions. Normally, QUIN concentrations are higher in blood than in brain homogenates. The literature indicates that this gradient is maintained via active transport of QUIN out of the brain. The authors describe a predictive model of microdialysis transport and transfer of acid metabolites via a probenecid-sensitive mechanism. This study was designed to determine if the transport of QUIN out of the brain is via a probenecid-sensitive pump, and to test the model. QUIN analysis was via LC/MS.

The investigators compared the effect of probenecid administered either systemically, or locally via retrodialysis, on gerbil striatal QUIN levels. Systemic probenecid increased QUIN levels in CSF, serum, striatal, kidney, and liver homogenates. Probenecid administered locally though the microdialysis probe resulted in increased brain levels of QUIN, but had no effect on systemic serum levels. The rate and magnitude of the experimental striatal QUIN increases were accurately predicted by the authors' model. From this, the group concluded that were there any local brain QUIN catabolism, it must be comparatively minor and that the primary fate of QUIN in normal brain is active transport out of the brain via a probenecid-sensitive mechanism.

♦ Dopamine Activation of Endogenous Cannabinoid Signaling in Dorsal Striatum.

A Giuffrida, LH Parsons, TM Kerr, F Rodríguez de Fonseca, M Navarro, and D Piomelli. Nature Neuroscience, 1999, 2:4, 358-363

Anandamide and other endogenous cannabinoids, such as 2-arachidonylglycerol, have been receiving increasing attention. Giuffrida et al. examined the release of such endogenous cannabinoids via microdialysis of the dorsal striatum coupled with GC/MS analysis. They were able to examine both basal and potassium- or dopamine-stimulated levels of anandamide.

2-arachidonylglycerol was consistently below the 2 pmol limit of

detection. Local administration of 60 mM KCl increased dialysate levels of anandamide more than 1.5 fold over baseline. This was a calcium-dependent, TTX-blockable response. More dramatically, 10 µM of quinpirole, a D_2-like agonist, increased anandamide 8-fold over baseline, an effect which could be blocked by the D_2 antagonist raclopride. 10 µM of the D_1 agonist SKF38393 had no effect. Quinpirole also increased motor activity, an effect which was potentiated by the cannabinoid agonist SR 141716A, which had no effect on activity when given alone. The authors suggest that anandamide may be a local autacoid-like mediator and be released from D_2 receptor-bearing striatal neurons or nigrostriatal dopaminergic terminals.

♦ Monitoring In Vitro Experiments Using Microdialysis Sampling On-line with Mass Spectrometry. EH Kerns, KJ Volk, SE Klohr, MS Lee. Journal of Pharmaceutical and Biomedical Analysis, 1999, 20, 115-128.

Utilizing either thermospray or electrospray interfaces with MS or MS/MS analyses, this group employed microdialysis to perform real-time monitoring of in vitro drug metabolism, enzymatic reactions, and ligand-protein binding experiments. Apparatus and the parameters associated with integrating microdialysis sampling with mass spectrometry was the focus of the work. The model system was the drug gepirone spiked in rat plasma. In all cases, microdialysis samples underwent no additional preparation prior to analysis.

Kerns et al. concluded that, when coupled with in vitro microdialysis, the electrospray interface offers several advantages over a thermospray interface. The advantages were that electrospray operates at a much lower back pressure than thermospray, thus allowing the probe to be on-line with the interface and thereby allowing continuous dialysate sampling compared to the discrete sampling necessitated by the thermospray interface's valve. Electrospray is also better suited for the low flow rates typically used in microdialysis. Perhaps most importantly, electrospray is very sensitive, making it compatible with the trace levels of analytes frequently found in dialysates.

Miscellany

♦ SEAC Charles N. Reilley Award Sponsored by BAS at 2000 Pittcon

Henry S. White, Professor of Chemistry at the University of Utah, will be the recipient of the 2000 Charles N. Reilley Award, sponsored by the Society for Electroanalytical Chemistry, for his work on interfacial double layer theory, electrochemical measurements at nanoscopic electrodes, transdermal drug delivery, scanning electrochemical microscopy, and magnetic field effects in electrochemistry. White is equally at home with both theory and experiment. His interests also include magnetic field focusing and confinement of electrochemically generated reactants.

Professor White received his Ph.D. from the University of Texas, Austin, in 1983, and held a postdoctoral appointment at the Massachusetts Institute of Technology, 1983-1984. His B.S. degree was earned at the University of North Carolina in 1978. He has coauthored 150 research articles and chapters, and is the Associate Editor of the Journal of Electroanalytical Chemistry. White was on the faculty of the Department of Chemical Engineering and Materials Science at the University of Minnesota between 1984 and 1993.

♦ Positions Available

At Bayer Pharmaceutic Division In West Haven, CT

The Department of Diabetes and Obesity Research at Bayer is seeking an analytical neurobiochemist at the Associate Scientist (M05) or Senior Associate Scientist (M06) level. The successful candidate will join a multidisciplinary team focused on the discovery of central and peripheral targets involved in obesity. The incumbent will provide biological support for in vivo validation of compounds to support various projects. The successful candidate should have a solid background in analytical chemistry and hands-on experience with HPLC to measure neurotransmitters and peptides in biological samples. He or she will be responsible for assay development, sample preparation, HPLC operation, data analysis and report writing. Experience with invivo microdialysis technique and animal handing is important for this position. Experience with immunoradioassays, second messenger analysis, enzymatic activity measurement, etc. would be helpful.

Position Requirements

B.S. degree in biochemistry/analytical chemistry with 2-4 years of experience, or M.S. in biochemistry/analytical chemistry with 0-2 years of experience. Good oral/writing communication and interpersonal skills are important. Computer skills in MS Word and Excel are required. In addition, the candidate must demonstrate enthusiasm, flexibility, and be an effective team player.

Please address response to Simon Li by e-mail or fax at number 203-812-2686.

♦ Botswana Symposium on the Harnessing of Science and Technology for Development

June 28-30, 2000
Gaborone, Botswana

Sponsored by the University of Botswana and the Botswana Technology Center, the conferences seeks to bring together practitioners from different S&T disciplines to solicit practical ideas for tackling developmental needs of emerging economies.

Call for Papers

Papers and poster presentations are solicited on topics including:

- Communication and information
- Economy diversification strategies
- Education and training
- Environment and Ecology
- Health
- Agriculture
- Science and technology culture
- Technology (incorporating bio-, chemical and engineering aspects)
- Industrial development, requirements and energy
- Research and development needs

The deadline for submission of abstracts is March, 2000. For further information, contact:

Dr. Nelson Torto
University of Botswana
Department of Chemistry
Private Bag 0022
Gaborone, Botswana
Tel: (267) 3552831
Fax: (267) 585097
E-mail: Torton@noka.ub.bw

♦ Upcoming Symposia and Conferences Sponsored by IUPAC

Polymer Based Technology
21-26 May 2000
9th International Conference on Polymer Based Technology (POC' 2000), Tianjin, China. Prof. Zhang Zhengpu, Institute of Polymer Chemistry, Nankai University
94 Weijin Road
Tianjin 300071, China
Tel.: +86 22 2350 1386
Fax: +86 22 2350 4853
Email: zhangzp@sun.nankai.edu.cn
http://netcenterwww.nankai.edu.cn/fen.htm

Flow Analysis
25-29 June 2000
8th International Conference on Flow Analysis, Warsaw, Poland. Prof. Marek Trojanowicz, Department of Chemistry, University of Warsaw, Pasteura 1,
02-093 Warsaw, Poland
Tel./Fax: +48 22 822 35 32
E-mail: trojan@chem.uw.edu.pl
http://www.congress.pbp.com.pl/flow/

Chemical Sensors
25-29 June 2000
EUROSENSORS XIV & International Meeting on Chemical Sensors VIII (ES-IMCS' 2000), St. Petersburg, Russia. Prof. Yuri Vlasov, Chairman; Dr. Andrey Legin, Secretary, St. Petersburg University, Universitetskaya nab. 7/9
St. Petersburg, 199034, Russia
Tel./Fax: +7 812 328 28 35
E-mail:
andrew@sensor.chem. lgu.spb.su
http://www.spb.cityline.ru/u/alex128/

Polymers in Medicine
17-20 July 2000
40th Microsymposium Polymers in Medicine, Prague, Czech Republic. Dr. Jaromir Lukas, Institute of Macromolecular Chemistry , Academy of Science of the Czech Republic, Heyrovskeho nam. 2
162 06 Praha 6, Czech Republic
Tel.: +420 2 360 341
Fax: +420 2 367 981
E-mail: sympo@imc.cas.cz
http://www.imc.cas.cz/~sympo/40micros.html

Chemical Education
5-10 August 2000
16th International Conference on Chemical Education: Chemistry for a Healthier Planet (16 ICCE), Budapest, Hungary. Prof. Alajos Kalman, Chairman; Prof. Gabor Naray-Szabo, Department of Theoretical Chemistry, Lorand Eotvos University, Pazmany Peter st. 1b
H-1117 Budapest, Hungary
Tel.: +36 1 209 0555, ext. 16-30
Fax; +36 1 209 0602
E-mail: mail2.mke@mtesz.hu

Thermal Analysis and Calorimetry
14-18 August 2000
12th International Congress on Thermal Analysis and Calorimetry, Copenhagen, Denmark. Dr. O. Toft Sorensen, Materials Research Department, Riso National Laboratory
DK-4000 Roskilde, Denmark
Tel.: +45 4677 5800
Fax: +45 4677 5758
E-mail: o.toft.sorensen@risoe.dk
http://www.risoe.dk/ictac

Biotechnology 2000
3-8 September 2000
11th International Biotechnology Symposium & Exhibition, Berlin, Germany. Prof. G. Kreysa, DECHEMA e.V. c/o 11th IBS, Theodor-Heuss-Allee 25, D-60486 Frankfurt am Main, Germany
Tel.: +49 69 7564 235/249
Fax: +49 69 7564 176/304
E-mail:
biotechnology2000@ dechema.de
http://dechema.de/biotechnology2000.htm

Analytical Chemistry
3-9 September 2000
EUROANALYSIS XI, Lisboa, Portugal. Prof. Maria Filomena Camões, Chair; Dr. Cristina Oliveira, Secretary, Departamento de Química e Bioquímica, Faculdade de Ciências, Universidade de Lisboa, Edifício C1-5º Piso
P-1700 Lisboa, Portugal
Tel.: +351-1-3906138
Fax: +351-1-3909352; 7500088
E-mail: euroanalysisxi@fc.ul.pt

http://elixir.cc.fc.ul.pt/euroanalysisxi/

Medicinal Chemistry
18-22 September 2000
XVI International Symposium on Medicinal Chemistry, Bologna, Italy. Prof. C. Melchiorre, Universitá di Bologna, Dipartimento di Scienze Farmaceutiche, Via Belmeloro 6
I-40126 Bologna, Italy
Tel.: +39 051 259 706
Fax: +39 051 259 734
E-mail: camelch@alma.inbo.it

Trace Elements in Food
9-11 October 2000
Warsaw, Poland. Prof. B. Szteke, Chairman; Dr. R. Jedrzejczak, Secretary, Institute of Agricultural and Food Biotechnology, ul. Rakowiecka 36
02-532 Warsaw, Poland
Tel.: +48 22 606 3876
Fax: +48 22 4904 28
Email: jedrzejczak@ibprs.waw.pl
http://www.ch.pw.edu.pl/~dybko/conf/food/main.html

Polymers
20-24 November, 2000
7th Latin-American Symposium on Polymers (SLAP'2000) and 5th Ibero American Congress on Polymers, Havana, Cuba. Dr. Ricardo Martínez, Dr. Waldo Argüelles-Monal, IMRE, Universidad de La Habana, La Habana 10400, Cuba
Fax: +53 7 33 42 47
E-mail: slap@imre.oc.uh.cu
http://www.fastfreewebs.com/top/slap/

♦ Sensors for Brain Mapping

Symposium, Lund, Sweden
June 8-11, 2000

This international symposium, organized by Lund University together with the Wallenberg Neuroscience Center and the Technical University of Lund, will bring together scientists from three different areas: neuroscience, sensor development and micro-machining. The interdisciplinary approach will focus on the development of future micro-tools designed to monitor molecules of key importance in brain research and contribute to the elucidation of several neurological diseases.

The conference will be held June 8-11, 2000, in the Biomedical Center of the medieval town of Lund; in the south of Sweden, yet conveniently located just minutes over the water from Copenhagen international airport. Although the university was founded in 1666, Lund, with its 40,000 students, remains ever young and is today within the fastest developing high-tech region of Sweden—an ideal setting for an event that offers the experience of history and nature alongside the latest trends.

The symposium is restricted to a maximum of 150 participants.

Scientific Program

The scientific program follows the inter-disciplinary nature of the symposium and comprises two main sessions:

- A. Basic neurobiological research and possible clinical applications in the following areas:
  ·Epilepsy
  ·Memory imprinting
  ·Dementia
  ·Acute trauma
  ·Ischemia and stroke
  ·Neurodegenerative diseases
- B. Sensors for direct and indirect monitoring of key molecules in brain research (neurotransmitters, catecholamines, free radicals, NO, etc.) including the following aspects:
  ·Sampling in brain and sampl handling
  ·Optical and electrochemical sensors
  ·Miniaturization and simultaneous monitoring

A special session will be devoted to the importance and benefits of *in-vivo* sensor technologies within the pharmaceutical industry, and will consider Phase I and partially Phase II studies and the potential of these new techniques.

Confirmed Speakers

·Jonas Bergkvist, University of Uppsala, Sweden
·Adrian Carter, Boehringer Ingelheim, Germany
·Jonathan Cooper, University of Glasgow, UK
·Jan Kehr, Karolinska Institute, Stockholm, Sweden
·Adrian C. Michael, University of Pittsburgh, USA
·Yvette Michotte, Vrije University, Brussels, Belgium
·Ove Orwar, Chalmers, Gothenburg, Sweden
·Hans Rollema, Pfizer, USA
·Ben Westering, University of Groningen, The Netherlands
·Mark Wightmann, University of North Carolina, USA
·Albert von Berg, Twente University, The Netherland

Further Details

http://hem.passagen.se/tamla/symposium

E-mail: Elisabeth.Csoregi@biotek.lu.se
Tel: +46-46-2224274
Fax: +46-46-2224713

♦ The 8th International Conference on ElectroAnalysis

(ESEAC 2000) will be organized by the Forschungszentrum Jülich and the University of Bonn in cooperation with ESEAC and SEAC, supported by the International Society of Electrochemistry, The Society of German Chemists, Working Group

"Electrochemical Analysis" and AGEF e.V. The conference will be held from 11-15 June 2000 in Bonn, Germany. The previous conferences of this series were held in Dublin (1986), Turku (1988), Gijón (1990), Nordwijkerhout (1992), Venice (1994), Durham (1996) and Coimbra (1998). Germany will host this international conference for the first time.

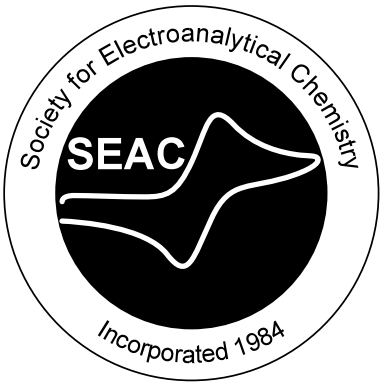
Plenary Lectures

Because of the "special year" invited plenary lectures will be dedicated to eminent scientists who contributed significantly to the progress of electroanalysis in the last 30 years. This will combine reviews of methods such as potentiometry, voltammetry, coulometry, conductometry and areas of application such as clinical, environmental, pharmaceutical and industrial analysis with perspectives in these fields.

The following colleagues have already agreed to present a lecture:

- R.M. Murray, Chapel Hill
  The I.M. Kolthoff Lecture
- K. Cammann, Münster
  The W. Simon Lecture
- R.M. Wightman, Chapel Hill
  The R. N. Adams Lecture
- J. Buffle, Geneva
  The H.-W. Nürnberg Lecture
- A.G. Ewing, University Park
  The V.G. Levich Lecture
- P.N. Bartlett, Southampton
  The G.J. Patriarche Lecture

Further information can be found on the internet: www.upb.ipc.kfa-juelich.de/eseac2000.htm



♦ Prof. Erkang Wang Visited BAS

Prof. Erkang Wang, member of Chinese Academy of Sciences, Changchun Institute of Applied Chemistry, visited BAS on December 20, 1999.

Prof. Wang is a well-known electrochemist. He headed a delegation of senior Chinese analytical chemists and visited various institutions in Canada and the USA in December 1999. Their trip to North America was funded by the National Natural Science Foundation of China (NSFC) to provide an assessment of where analytical chemistry research is heading in the next millennium and the report will guide them in establishing major initiatives for academic funding in China. Prof. Wang made a personal decision to visit BAS on December 20, 1999 during his visit to Department of Chemistry, Purdue University.

Prof. Wang and Dr. Peter T. Kissinger have known each other for more than fifteen years. They have met in the USA and China more than a dozen times. When the two old friends met this time at BAS, they discussed the developing trends of analytical chemistry in Europe, China and the USA. Both of them agreed that molecular biology and genetics are developing very rapidly. Education of analytical chemistry students in these areas is becoming very important. During their meeting, Prof. Wang told Prof. Kissinger that his lab just bought a BAS 100B/W instrument and plans to buy another one very soon. He said he is pleased to use BAS EC instruments because of their high quality. Prof. Wang told Dr. Lou Coury, editor of Current Separations, he was pleased to have the exchange relationship with the Chinese Journal, Analytical Chemistry, for which Prof. Wang is the editor-in chief.

Prof. Wang also took a tour of BAS. After he saw the new buildings, ten more LC/MS/MS instruments along with many conventional LC and 96-well SPE instruments used at BAS, he said he felt a much deeper impression of BAS than on previous visits. He was surprised by the fact that half of BAS revenue comes from contract research for global pharmaceutical companies. He wondered how BAS quickly developed from an analytical instrument maker to be a broadly based analytical chemistry company, which primarily serves the pharmaceutical and medical device industries. He said he couldn't image what BAS might do in the next twenty years. Prof. Wang said the new products BAS developed would be useful tools for the studies in life sciences and he wishes BAS could make more contributions to scientific and economic developments in China. Prof. Kissinger reminded him that the contributions of Chinese scholars both at Purdue and BAS have been very important in the bioanalytical field. Prof. Kissinger also said, "It is great to see an opportunity for China to join the World Trade Organization. That is a very welcome development just as important as the many scientific exchanges we have had over the years."