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# AES Newsletter



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Many thanks to our Sponsors for contributions funding the 2003 meeting.

**Genencor International**  
**Amersham Biosciences**  
**Bio-Rad Laboratories**  
**CombiSep**  
**Owl Scientific**  
**Dr Sheldon Engelhorn**  
**California Separation Society**

Our traditionally strong meetings, with sessions chaired by invited plenary speakers discussing state-of-the-art topics, would simply not be possible without funding from sponsors. These donations are greatly appreciated.

## Message from the Membership Recruitment Committee

"The times, they are a changing," as BD used to sing. The 2001 meeting in Reno was rather dumbfounding, 2002 in Indianapolis was much better, and the 2003 meeting in San Francisco was terrific. The key to the increasing success of these AES meetings is that they were held in conjunction with the American Institute of Chemical Engineers (AIChE). It's like being conquered by the Normans - they change us and, to some extent at least, we are changing them.

A few years ago the AES was dominated by scientists specializing in 2D electrophoresis; proteomics was the catchword. Other societies, such as the British Electrophoresis Society, moved strongly in this direction

and changed their name, as described in the article by Michael Dunn and Steve Pennington in this issue. But due to the changing times and the influence of the chemical engineers, the AES seems to be morphing in a different direction, towards being a separation science society (but the acronym for American Separation Society doesn't seem appropriate). Our 2003 San Francisco meeting had sessions on electrokinetics, on microelectrophoresis on chips, on new developments in proteomics methods including 2D, and some nice sessions on bioinformatics. The latter were co-sponsored by AIChE as steered by a chemical engineer from Northwestern University, Vassily Hatzimanikatis. The reality is that the AES is inexorably turning towards new approaches

Continued next page

to separating components of and understanding biological systems. One of the most successful sessions in San Francisco was a panel review with lead scientists from several disciplines coming together to discuss complex biological problems. AIChE has signaled interest in this trend by creating a new Division of Bioengineering, managed by Cathy Hood.

**This rising momentum signals the need for a membership drive.** Our ranks have thinned over the past few years as we struggled through transitions. The superstructure of a new diverse AES is in place, with a focus on new methods and the creation of forums for discussing their pros and cons. Scientists from a variety of disciplines are needed to fill our ranks, including 2D electrophoresis and mass spectrometry, but also from electrokinetics, microelectrophoresis, microarrays (both nucleotide and protein), and bioinformatics. So please tell your colleagues about the 2004 meeting in Austin, which promises to be better than 2003, and get them to join.

Benefits of membership include reduced cost for the journal *Electrophoresis*, reduced registration fees at the annual meeting, quarterly newsletter, and, importantly, the capability to help shape the future of the AES.

It's hard to emphasize how essential a membership drive is at this time. Because it's so critical, the name and photo of anyone recruiting 2 or more new members will be published in the next issue, and the best recruiter as of April 30 will have registration fees waived for Austin.

Best regards,

### AES Membership Committee

Pedro Arce, Tennessee Tech University  
 Alfred Gaertner, Genencor International  
 Jasmine Gray, Amersham Biosciences  
 Larry Grossman, Wayne State University  
 Nancy Kendrick, Kendrick Labs Inc  
 Scott Rodkey, University of Texas at Houston  
 Bob Stevenson, Abacus Group

### 2003 Meeting Recap

The 20<sup>th</sup> Annual Meeting of AES was held in San Francisco, CA, from November 16 through November 20, 2003. By all accounts, it was a success. Congratulations for a job well done to meeting organizers Neil Ivory, Joan Stevenson, Nancy Kendrick, Frank Witzmann, and Dave Garfin.

Thanks, too, to our sponsors and exhibitors. Old standbys Amersham and Bio-Rad participated in the workshops and had booths in the exhibit hall. Combiseq and Gradipore also

hosted booths. The technical sessions, posters, and workshops were, as always, top notch and were well attended. On the average, the eight AES technical sessions drew 65 attendees as compared to the AIChE average of 38. These attendance estimates may be low, because the room that held about 100 persons was full for most sessions. High quality presentations were followed by high quality question-and-answer sessions, demonstrating the excellence of the topics and presenters. There was praise, too, for the lively give-and-take of the open Panel Discussion and so we are planning similar events for future meetings.

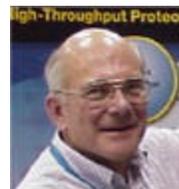
This year, AIChE inaugurated their Society for Biological Engineering (SBE). All AES sessions were listed in SBE's meeting pamphlet, which may have contributed to the interest among the engineers in electrophoresis topics. SBE has indicated that they want to work closely with AES on future meetings.

All those who attended the banquet at The Empress of China restaurant had a grand time. All, that is, except maybe Wayne Patton, who was allergic to just about everything on the menu. Nevertheless, Wayne suffered in silence and, like the others, enjoyed the camaraderie in the intimate private dining room.



### AES Banquet

Mark your Calenders! The 2004 Annual Meeting will be held in conjunction with the AIChE Annual Meeting at the Austin Convention Center, Austin, Texas, from November 7-12, 2004. The meeting chair is Dr. Annelise Barron from Northwestern University in Evanston, IL (see page 4).



Dave Garfin



Neil Ivory

### Conference Co-Chairs for 2003

## British Electrophoresis Society (BES) becomes British Society for Proteome Research (BSPR)

The British Electrophoresis Society held its inaugural meeting in Birmingham in December 1982 and the aim of the Society was to further interest in the development and application of electrophoretic technologies within the UK scientific community. Since 1982 the Society has organised a series of successful national meetings, held once or twice every year in different cities around the UK. The Society was given the opportunity to host the international meeting on electrophoresis, Electrophoresis '86, in Kensington, London in June 1986. In addition, our Society organised the international meeting on two-dimensional electrophoresis (2-D PAGE '91) which was held in the same venue in May 1991. This series of meetings on 2-DE had been held on a regular basis subsequent to the inaugural meeting, on what was then a rather new technology, hosted by the Anderson group at the Argonne National Laboratory, USA in 1979. At the time of the 1991 meeting, early results based on the development of new micro-chemical technologies that now made it possible to identify proteins separated by 2-DE on a reliable and systematic basis were presented. These largely depended on amino acid sequence analysis by chemical Edman degradation. However, by the time of the subsequent international 2-DE meeting on 2-DE, held in Siena in September 1994, we were already hearing about protein identification techniques based on the use of mass spectrometry, an area of technology which has subsequently had an enormous impact in the field of proteomics. The first Siena meeting was titled "2D Electrophoresis: From Protein Maps to Genomes" and it was during this meeting that the term proteomics, coined by Marc Wilkins and his colleagues in Sydney, first became widely used and adopted. The Siena meeting, subsequently titled "From Genome to Proteome," has continued to be held on a biannual basis and is now regarded as one of the premier proteomic events. The 6<sup>th</sup> Siena meeting will be held this year in September.

BES has always tried to be an inclusive society, embracing all forms of electrophoresis and their application in all areas of the life sciences. Its major activity has always been the organisation of an annual meeting. Nevertheless, as appears to have also been the general case for meetings organised by the other national electrophoresis societies, the majority interest has always been in the application of electrophoresis to the separation of proteins. It is perhaps therefore not surprising that since the mid-1990s the emphasis of the annual BES meeting has been on the rapidly developing field of proteomics. Some examples of these meetings are "Recent Advances in Proteome Analysis" (London, September 1997), "Proteome Symposium" (Glasgow, April 1999), "From Biology to Pathology: The Proteomics Perspective" (York, April 2001), and "Proteomic Strategies in the Post-Genomic Era" (Liverpool, September 2002). A similar pattern seems to have been followed in the meetings organised by other national societies during this time. The other electrophoretic technology that came to prominence during this period was capillary electrophoresis (CE). It is interesting to note that CE tech-

niques were largely developed by the chromatographic community, often focussed on applications in the study of small molecules and DNA, in contrast to the electrophoretic community that was mostly addressing the analysis of proteins. This dichotomy was particularly apparent at the ICES meeting held in Verona, Italy in June 2001, where the two topics of CE and proteomics comprised the bulk of the scientific programme and was attended by two largely distinct and non-overlapping groups of scientists. For these reasons, when the BES was considering the programme for the subsequent ICES meeting, it was decided that the meeting held in Glasgow in May 2003 would focus on proteomic technologies and their application. The meeting titled "ICES 2003 Proteomics: Current Perspectives and Future Challenges" was considered to be a great success by all who attended, with a stimulating programme of lectures, poster displays, workshops and large commercial exhibit (see photograph in the AES Newsletter, August 2003). Despite the success of the Glasgow meeting, it was clear at the ICES Council meeting (see report in the AES Newsletter, August 2003) that some national representatives considered that it was essential that future ICES meetings should retain a general format that emphasizes the role of electrophoresis in the biological sciences. The next meeting, ICES 2005, is scheduled to be held in Australia, possibly in combination with COMBIO 2005, with the possibility of a subsequent meeting in China in 2007.

With BES meetings being largely focussed on proteomics over the last few years, it was perhaps inevitable that the thoughts of the Committee turned towards transforming the Society's aims and name to reflect this. Thus, at the BES AGM held during the meeting in September 2002, the Committee proposed these changes and agreed that the Society should be called the British Society for Proteome Research. These changes were supported by a large majority of the membership at the AGM and in a subsequent postal ballot. It is clear that, while the development of new technologies continues to be important to support different proteomic workflows, the application of these technologies to generate new insights into biological function is becoming increasingly important as is apparent both from the papers being published in the proteomics journals and from the main funding initiatives in the UK where the emphasis is on "functional proteomics".

The British Society for Proteome Research is now constitutionally established and the launch meeting for the Society, co-hosted by the European Bioinformatics Institute, will take place on 12<sup>th</sup> and 13<sup>th</sup> July at Hinxton Hall Conference Centre, Wellcome Trust Genome Campus, Cambridge. Further details of this meeting and news of our activities will soon be available via our web site, <http://www.bspr.org>, which is currently under redevelopment.

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past, present  
and future

### Useful Web Sites:

If you haven't yet tried Highwire for searching research literature, check it out!

<http://highwire.stanford.edu/cgi/search>

BES article cont.

It is clear that many national electrophoresis societies have undertaken similar reviews of their activities with the result that the names of several of these have been changed to reflect this. New journals in the field of proteomics continue to appear and flourish, proteomics meetings proliferate and HUPO is attempting to coordinate international activities in this area. However, many of us remain electrophoretic practitioners at heart, some of us even date from the era of the "Blue Fingers Society", and we certainly respect those national societies that have decided to continue to represent the broader church of electrophoresis.

**Mike Dunn (BSPR President) and Steve Pennington (BSPR Secretary), January 2004**



### Trea\$urer'\$ Report — Fiscal Year 2003

The recovery the Society made in 2002, which put us back on the right side of the ledger, has continued, despite an economic downturn that notably affected support from sponsors. Our balance sheet (below), presented at the business meeting in San Francisco, shows a lower balance compared to last year, resulting from this reduced support, but also from the positive factors that we have now fully repaid our debt to Caltech and 20% of our debt to CaSSS. Furthermore, our meeting profit, in excess of \$8,000, was the highest of the joint meetings with AICHe.

Balance sheet - 2003			
<b>Current assets</b>			<b>\$ 15,583</b>
	Cash	\$ 15,583	
	Accounts receivable		
<b>Liabilities</b>			<b>\$ 10,116</b>
	Long-term	\$ -	Caltech (loan)
		\$ 8,000	CaSS (loan)
	Short-term	\$ 1,816	
		\$ 300	
<b>BALANCE</b>			<b>\$ 5,467</b>



Larry Grossman,  
Treasurer

### Report from Meeting Organizer for 2004 in Austin, TX

#### **Mon Nov. 8**

**Proteomics**  
Session 1 Emerging Technologies  
Session 2 State of the Art  
Session 3 Biomedical Applications

#### **Session Chair(s)**

Tom Kodadek  
Ken Reardon  
Alex Kurosky

#### **Tues, Nov. 8**

**Bioinformatics (AES/AICHe)**  
Session 1 AES Plenary Speaker  
Session 2 TBD  
Session 3 TBD

#### **Session Chair(s)**

TBD  
Vassily Hatzimanikatis/Kelvin Lee  
Vassily Hatzimanikatis/Kelvin Lee

#### **Wed, Nov. 9**

**Medical Microdevices**  
Session 1 Microfluidic Chips Biomed Ap.  
Session 2 Protein Chips  
Session 3 DNA Microchannel Electrophor.

#### **Session Chair(s)**

Adrienne Minerick  
Andrea Chow  
Victor Ugaz/Annelise Barron

#### **Thurs, Nov. 10**

**Electrokinetics**  
Session 1 Emerging Technologies  
Session 2 Electrokinetics and Microfluidics

#### **Session Chair(s)**

Steve Soper  
Jim Baygents

The AES 2004 Meeting Session Planning is going well! Chairs are in place for all sessions but one as shown in the table to the left. The Plenary speaker for Tuesday is in progress.

Hope to see you in Austin!

Annelise Barron,  
Northwestern  
University



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