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Publisher *Taylor & Francis*

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Separation Science and Technology

Publication details, including instructions for authors and subscription information:

<http://www.informaworld.com/smpp/title~content=t713708471>

Foreword

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Online publication date: 24 November 2010

To cite this Article Van Alstine, James M. and Lester, Philip M.(2010) 'Foreword', Separation Science and Technology, 45: 15, 2141

To link to this Article: DOI: 10.1080/01496395.2010.507692

URL: <http://dx.doi.org/10.1080/01496395.2010.507692>

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Foreword

Four important separation methods which form the basis for much the present state and future promise of biotechnology were significantly advanced in Uppsala, Sweden during the last century. These include centrifugation, packed bed resin chromatography, gel electrophoresis, and aqueous polymer based phase partitioning. The least commercially exploited of these methods has been Per-Åke Albertsson's development of partitioning of biological substances between aqueous polymer liquid phases. There are several reasons for this including the ease with which the other three methods were combined with advances in chemistry, materials science, and electronics. The ability of partitioning to handle complex feed streams, not denature fragile biological substances, and fractionate mixtures containing macromolecules and relatively large targets such as mammalian cells on the basis of physicochemical features remains unmatched. Partitioning between the phases of aqueous polymer two-phase systems is a technically simple bulk phase process whose resolution comes from selectivity. However, the molecular mechanisms which govern selectivity, and the fluid phenomena related to phase formation and separation, are still at the cutting edge of separation science. These unique characteristics lie behind renewed interest in the use of partitioning for biotechnical separations.

This issue of Separation Science and Technology contains papers presented at the Biopartitioning and Purification 2009 (BPP 2009) Meeting held in Uxbridge, UK, June 15 to 19. The meeting was organized by Professors Ian Sutherland and Derek Fisher of Brunel University. BPP meetings have been held biannually for the past 30 years. They are organized without a dominant

commercial supporter, standing committee, or organization. At each meeting the attendees decide where they will next meet, and which attendees will organize the future meeting. This ensures that the meetings maintain a focus on cutting edge and multidisciplinary technologies together with a unique emphasis on work by young investigators. The meeting forum is always five days of morning and evening sessions, with one or two afternoons free for informal meetings and group sightseeing. Typically 100 to 200 people attend the meetings of which at least half are students. Of the non-student attendees a significant number are from industry. BPP2009 included senior members of top international academic research groups and representatives from many companies including Bayer, Genentech, GE Healthcare, Lonza, Pfizer, Roche, and Wyeth. Many of the papers presented were related to partitioning in aqueous polymer systems but there were also papers devoted to other partition phenomena related to bioseparations. This issue bears evidence of the breadth and quality of the papers presented.

BPP 2011 will be held 18–23 September in Puerto Vallarta, Mexico, and is being jointly organized by Professors Juan Asenjo (Universidad de Chile) Todd Przybycien (Carnegie Mellon University), and Marco Rito Palomeres (Tec de Monterrey); See www.bpp2011.org for details. Ian and Derek also organized the successful 1987 meeting at Oxford and we believe they are already planning the 2019 meeting.

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