Chiral Europe '95

International scientists gathered at *Chiral Europe '95*, held in London in late September, to hear the very latest developments in the field of chiral technology. A wide range of speakers from industry and academia discussed the very latest advances in the production of new chiral compounds and in the 'scale up' of important syntheses to industrial production scale.

A strong theme was the increasingly important role of biological enzymes in the production of chiral intermediates. The value of lipases has been acknowledged for some time, but it is increasingly apparent that nature has supplied many similar enzymes that can prove invaluable in overcoming complex problems in chemical synthesis. Dr D.R. Dodds (Schering-Plough Research Institute, Union, NJ, USA) described the benefits of systematic screening of the hundreds of known enzymes, and Dr A.R.StG. Bowen (Celgene Corporation, Warren, NJ, USA) demonstrated how manipulation of the DNA encoding enzymes can change their properties in a controlled manner to achieve a required activity.

Enzyme stability in large-scale biotransformations is a recognized problem. Two very different approaches to overcome stability problems were discussed. The first strategy, described by Dr G.N. Sheldrake (The Queens University of Belfast, UK) involves the screening of whole microorganisms for the ability to carry out a particular biotransformation; such approaches overcome the need for complex and expensive enzyme purification. Dr R.A. Holt (Zeneca Bioproducts, Billingham, UK) highlighted the benefit of using whole organisms, which enables the *in vivo* regeneration of expensive cofactors, such as nicotinamides, that may be involved in the biotransformation. The second strategy, outlined by Dr A.L. Margolin (Altus Biologics Inc., Cambridge, MA, USA), involves the use of stable cross-linked enzyme crystals; these are reusable, stable in organic solvents and easily disposed of, unlike many inorganic catalysts. The increasing variety of enzymes that can be stabilized in this form suggests considerable potential for this type of technology.

Different chemical approaches to chiral intermediates were discussed, including the impressive work of Dr J. Brown (Oxford University, UK) on catalytic asymmetric addition to alkenes. The problem of separating chiral compounds on a large scale was addressed by Dr E. Küsters (Sandoz Pharma, Basel, Switzerland) who provided examples of method development, on a pilot scale, of preparative chromatographic separations. Dr J.N. Kinkel (E. Merck, Darmstadt, Germany) described how the new technique of simulated moving-bed chromatography provides a useful tool in the large-scale separation of enantiomers. Other presenters discussed the latest developments in the field of chiral stationary phases, including the application of modified cellulose and amylose materials (Dr K. Tachibana, Chiral Technologies Inc., Exton, PA, USA) and immobilized α1-acid glycoprotein and cellobiohydrolase as chiral selectors (Prof. J. Hermansson, ChromTech AB, Hägersten, Sweden).

Chiral Europe '95 delivered presentations of a high standard and provided an opportunity for attendees to exchange new and innovative ideas in the fields of chiral synthesis and separations. *Chiral Europe '96* will be held next autumn; details are available from Spring Innovations Ltd, 185A Moss Lane, Bramhall, Stockport, UK SK7 1BA. tel: +44 (0)161 440 0082.

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ISLAR '95 'More for less'

There was a record attendance of some 500 scientists at the 13th International Symposium on Laboratory Automation and Robotics (*ISLAR '95*), held in Boston, USA, last October. In contrast, there were 33 attendees at the inaugural meeting. This year, a considerable portion of the program was dedicated to applications in drug discovery, and included oral presentations, posters and a discussion group.

Speakers addressed both technical issues and the philosophy and strategy behind the adoption of such new systems, and the recurrent theme was the pressure to achieve 'more for less'. In the opening plenary session, Dr P.B. Fernandes (Bristol-Myers Squibb, Princeton, NJ, USA) spoke on the new face of drug discovery in the light of rapid technological advances and changing external pressures. She highlighted the enabling contributions of biotechnology and genomics to high-throughput screening in drug discovery and emphasized the urgency of unlocking the great diversity of molecules, both natural and synthetic, available for new lead generation. Applications for automation continue to grow, and some of the repetitive tasks in molecular biology, such as colony picking, purification of DNA or RNA, centrifugation and incubation, and some aspects of isolation chemistry are candidates for future consideration.

Pioneer awards

Each year, awards are made to those who are considered to be 'Pioneers in Laboratory Automation' through the development of an important new application or the design of a novel solution to a technical problem. There were nine winners this year: Dr M.E. Dodds (Environmental Research Institute of Michigan, Ann Arbor, MI, USA), Dr W. Haller (Ortho McNeil, Raritan, NJ, USA), Dr S.H. DeWitt (Parke-Davis, Ann Arbor, MI, USA), Dr S.W. Swieck, Jr (Bristol-Myers Squibb, Syracuse, NY, USA), Drs D.J. Hook, J. Guss and J. Yacobucci (Bristol-Myers Squibb, Wallingford, CT, USA), Dr M. Rountree (Alcon Laboratories, Fort Worth, TX, USA) and Dr J. Sigeura (Applied Biosystems, Foster City, CA, USA).