

Building the bio business

half-day seminar

Presented by IChemE in Australia and the
Chemical and Biomolecular Engineering Foundation of the University of Sydney
Sponsored by Industry & Investment NSW

Industry and Investment NSW
The Parkes Room
Level 47, MLC Centre
19 Martin Place
Sydney NSW 2000

12.45 pm, October 2, 2009



The University of Sydney

Speakers

- Professor O’Kane – NSW Chief Scientist and Scientific Engineer
- Ian Shott – President, Institution of Chemical Engineers
- Emeritus Professor Peter Rogers, School of Biotechnology and Biomolecular Sciences, UNSW
- Dr Susan M Pond AM – former Chairman and Managing Director, Johnson & Johnson Research Pty Limited
- Dr David Lewis – School of Chemical Engineering, University of Adelaide
- Professor Hans Coster FTSE – Director, Biophysics and Bioengineering, School of Chemical and Biomolecular Engineering, The University of Sydney



Opening of Seminar:

Professor Mary O'Kane

With a distinguished career spanning science, academia, engineering, policy development and business, Professor O'Kane brings well-rounded and high-level skills and experience to the position.

Professor O'Kane is a former Vice-Chancellor of the University of Adelaide. She has also served on a range of high level committees including the Australian Research Council and the CSIRO Board. Professor O'Kane was chair of the recent Review of the Co-operative Research Centres Program, and a member of the panel for the Federal Government's recent Review of the National Innovation System. She also chairs two Co-operative Research Centres – the CRC for Spatial Information and the Australasian CRC for Interaction Design.

Professor O'Kane is also a businessperson who runs a consultancy advising governments, universities and the private sector on innovation, research, education and development.



Ian Shott

Ian Shott, founder, majority owner and CEO of Excelsyn, pharmaceutical services company, is the 68th President of IChemE. Ian was the Royal Society of Chemistry 2006 Chemistry World Entrepreneur of the Year and Chairman of a major UK Government inquiry into industrial biotechnology as a source of innovation and growth (the report was released in May 2009).

Ian Shott will be visiting Australia for events including the Chemeca conference and Fellow and Member dinner in Melbourne and will be presenting a half day seminar in October 2009 on 'Building the bio business' in Sydney, (as well as in Brisbane and Singapore).

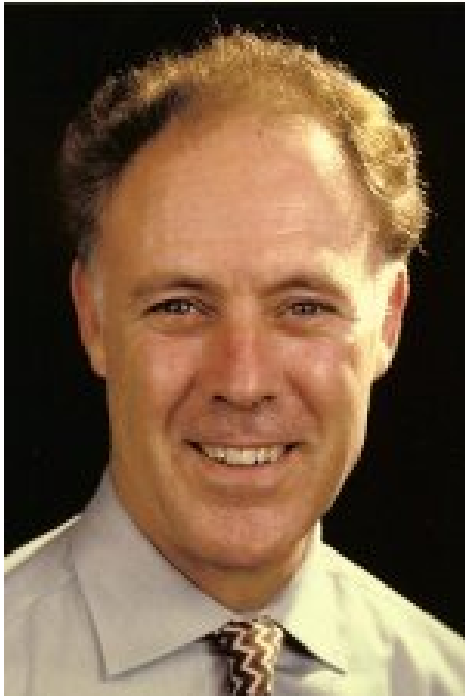
Building the bio business

New bio-based industries and bioprocesses will be a key force in the 21st century business landscape, with wide implications for investors, employers, Governments and citizens. IChemE (the Institution of Chemical Engineers), the professional body

for those who will build the bio industries of the future, set out some of these implications in its Roadmap for 21st Century Chemical Engineering, and now has a unique opportunity to generate interest and debate about biotechnology with a visit to Australia by its President, Ian Shott.

Mr Shott, President and CEO of the Excelsyn Group, has recently chaired a major inquiry for the UK Government on Industrial Biotechnology. Ian's team worked to identify barriers to growth for the market of industrial biotechnology-produced products, processes and technologies. The team released a strategy in May outlining the steps necessary in order for the UK to overcome these. This seminar will present some of the latest thinking on the issues and how the engineering and science community can help the world deal with them.

Ian will present the main findings for the UK inquiry on Industrial Biotechnology, May 2009, as well as drawing on his own successful experience in creating sustainable wealth from a blend of chemical engineering excellence and application of the life sciences.



Professor Peter Rogers

Peter Rogers is an Emeritus Professor in the School of Biotechnology and Biomolecular Sciences at UNSW and holds a B Chem Eng Hons (Adel), an MBA (UNSW) and DPhil, DSc Degrees from Oxford University where he studied as an Australian Rhodes Scholar. He has been a Visiting Scientist at the Canadian NRC Labs in Ottawa, held Visiting Professorships at MIT (Boston) and ETH (Zurich) and published widely in the scientific/engineering literature (more than 250 publications and 6 international patents in biotechnology). He has consulted extensively in SE/NE Asia to government and international agencies including the World Bank, UNESCO, UNIDO and AusAid, as well as to BASF (Germany), Dupont and Grain Processing Corporation (US) and ICI/Orica, CSR and Manildra Starch (Australia). His main research interests are in industrial and environmental biotechnology/biochemical engineering with application to high productivity processes for renewable energy production (fuel ethanol) and optimization of enzymatic processes for fine chemicals and pharmaceuticals. In 2004 he received the Exxon-Mobil Award for 'Excellence in Innovation in Chemical Engineering' and the Hanson Medal from IChemE (UK) in 2009 for a paper on 'Second Generation Biofuels'. He is a former Director of the AusBiotech and a Fellow of the Institute of Engineers Australia (FIEAust).

Future Opportunities for Second Generation Biofuels

Synopsis - There is an increasing global interest in the production of biofuels with current production of fuel ethanol in the US and Brazil of 27-28 bn litres/a being mainly from corn and sugar cane molasses respectively. However the longer term focus is on the development of second generation processes which use cellulosic biomass from agricultural/forestry residues and specific energy crops and avoid the use of food based raw materials. Recent global initiatives in the production of these 2nd Gen processes will be discussed as well as government programs in Australia designed to enhance biofuels R&D and enhance industry participation. Research data on cellulosic biomass pretreatment and fermentations using a recombinant strain of the bacterium *Zymomonas mobilis* will be presented.



Dr Susan M Pond AM

Dr Susan Pond AM, until recently Chairman and Managing Director of Johnson & Johnson Research Pty Limited (2003-2009), has a very strong scientific and commercial background having held executive positions in the biotechnology and pharmaceutical industry for twelve years. She has an extensive publication and patent filing record. Before joining industry, Dr Pond obtained specialist clinical credentials in internal medicine and therapeutics and was a faculty member of the Department of Medicine at the University of California San Francisco and then the University of Queensland.

The Life Sciences Biotechnology Industry after the Global Financial Meltdown – Building for the Future in this “New World”

The Australian life sciences biotechnology industry has not escaped the profound impact of the global financial crisis. Companies with little cash in reserve are struggling to survive. All companies have been forced to deal with reduced valuations and availability of capital. Concurrently, given that it is a global industry, they must address the sweeping healthcare reform initiatives of many Governments around the world. All of these changing realities present unprecedented challenges. They also present opportunities for the Australian industry to play an important role in delivering modern, effective healthcare based on scientific advances and innovation.



Dr David Lewis

Dr David Lewis is a Senior Lecturer in the School of Chemical Engineering at the University of Adelaide.

Synopsis – to follow



Discussion Panel Chair:

Professor Hans Coster, FTSE

Professor Hans Coster is the Director of Biophysics and Bioengineering in the School of Chemical and Biomolecular Engineering, University of Sydney. He pioneered research in Australia on bimolecular lipid membranes. He developed a method for manipulating cells using radio frequency electric fields, and published the first direct demonstration of electrical breakdown (electroporation) in cell membranes that is now commonly used for gene insertion and in animal cloning.

Hans developed a method of electro-fusion of cells on a one-on-one basis. He pioneered the method of impedance spectroscopy for research on bio-membrane and synthetic separation membranes. This patented technology has now been commercialised and is manufactured by INPHAZE Pty Ltd in Australia.

Hans founded the Centre for Membrane Science and Technology at the University of New South Wales and this Centre became an ARC Centre of Excellence in 1989 and he was a Co-Director of this Centre until 2004 when he moved to the University of Sydney. He served as President of the Australian Institute for Nuclear Science and Engineering (2002-2004) and is a Fellow of the Academy of Technological Sciences and Engineering.

He was awarded the UNESCO Medal for outstanding contributions to Science in 1998 and the Sir Rutherford Robertson Medal for Biophysics in 2002.