

8th AUSTRALASIAN POLYMER SUMMER SCHOOL 6th-9th February 2007



Book your place now for this outstanding opportunity to learn from the experts in their field

Venue:

The Mercure Hotel,
Geelong, Victoria

Registration costs:
(prices include GST)

Undergraduates \$250

Postgraduates \$400

Postdoctoral/Other \$500

Visa/MasterCard accepted

A comprehensive programme is scheduled with planned topics:

- Introduction to polymer science and engineering, Professor Don Napper
- A quantum chemical approach to polymer science, Dr Michelle Coote
- Protein polymer conjugates and application to human health and nanotechnology, Professor Heather Maynard
- Radical polymerisation and its kinetics, A/Prof. Greg Russell
- Block copolymer synthesis, characterisation and phase behaviour, Professor Tony Ryan
- Biomanufacturing applications of polymer science, A/Prof. Justin Cooper-White

8APSS Convenor, Associate Professor Wayne Cook

To obtain a registration form, program and brochure, download from www.crcp.com.au/summer school link or email Sue Beck at: beck@crcp.com.au or phone CRC for Polymers: 03 9518 0408

The summer school registration fees include airport bus transfers, all meals and accommodation from lunch 6th February to lunch 9th February, tuition and a sunset trip to Mt Rothwell wildlife sanctuary.

PhD SCHOLARSHIPS NOW AVAILABLE

For more information visit:
www.crcp.com.au/education

CRC for Polymers Prize competition

The competition is open to all students who have completed a research project as part of the requirement for a Bachelors or Honours degree in a relevant area of engineering, materials science or chemistry during the year 2006. For more information visit: www.crcp.com.au/education/ Closing date 15th December 2006.

CRC-P research leader wins Victoria Prize

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by the Lieutenant-Governor of Victoria, the Honourable Justice Marilyn Warren.

Commenting on the award, the Minister for Innovation, John Brumby, said the new plastic banknote put Australia at the forefront of secure and environmentally friendly currency production. The technology has been exported to more than 20 countries around the world.

"While Prof. Solomon is best known in Australia for his work on polymer banknotes, internationally he is acclaimed for developing a process that controls the structure and formation of polymer chains, enabling plastics to be applied to wider range of uses," Mr Brumby said.

Prof. Solomon's expertise with polymers is now being applied within the CRC-P in a

project aimed at developing polymer films spread over the surface of dams to prevent water evaporation (see story on page 2).

Prof. Solomon began his career working for Dulux Paints and is now an Honorary Professorial Fellow at the University of Melbourne's Department of Chemical and Biomolecular Engineering.

He is also one of an elite group of Australian scientists admitted to the Royal Society, whose 1300 members include Isaac Newton, Albert Einstein and Stephen Hawking.

He was awarded the Member of the Order of Australia in 1990 for contributions to science, particularly in the field of polymer chemistry.



Cooperative Research Centre for
Polymers

The Cooperative Research Centre for Polymers

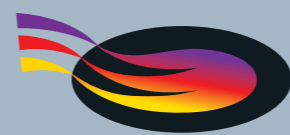
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Cooperative Research Centre for
Polymers

polymernews
News from the CRC for Polymers

November 2006

Welcome

"The Centre is also a model of building bridges between public sector researchers and industry."

in this issue

- CRCs collaborate to reduce water evaporation
- New Deputy CEO paves a smooth path to market for Centre research



Established and supported under the Australian Government's Cooperative Research Centres Programme



Mr Matt Viney, the Victorian Parliamentary Secretary for Innovation and Industry, launches the Centre

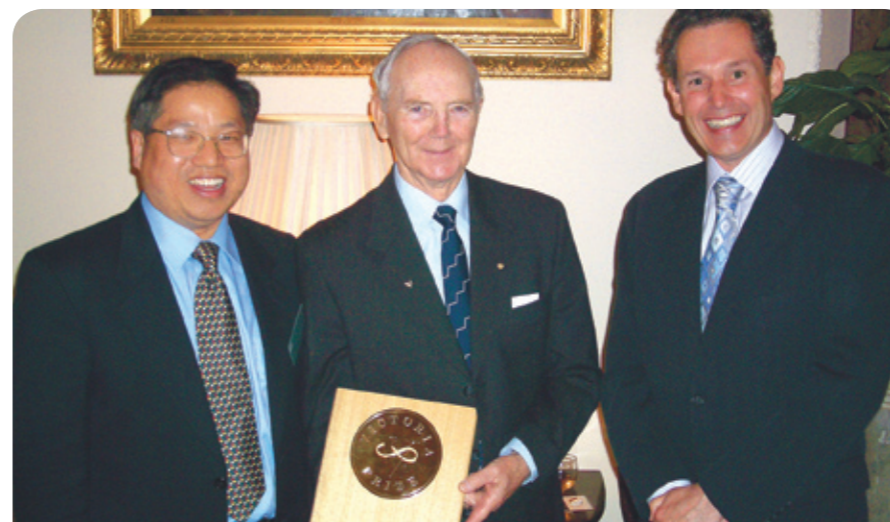
New CRC-P officially launched

The new CRC for Polymers was officially launched on September 28 by Mr Matt Viney, the Victorian Parliamentary Secretary for Innovation and Industry, and Dr Peter Jonson, Chair of the Cooperative Research Centres Committee. Around 150 people attended the launch, comprising CRC-P industry partners, research collaborators from universities and other research institutions, CRC-P staff, and representatives from industry, government and the academe.

Mr Viney re-affirmed the Victorian Government's continuing support for the Centre, through its \$1.5 million funding over three years for the Centre's Biomanufacturing project. This is the largest research project undertaken within the CRC-P, and brings together top Australian scientists to develop 'smart' polymer surfaces to control cell function in biomanufacturing processes.

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CRC-P research leader wins Victoria Prize



Prof. David Solomon, leader of the Centre's research on polymer additives for improving nickel extraction, has been awarded the prestigious Victoria Prize for his work on developing the world's first plastic banknote.

The Prize recognises leadership and creativity in science, engineering or technology innovation which significantly advances Victoria's knowledge base and future economic growth. The \$50,000 award was presented to Prof. Solomon

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Prof. Solomon with the Victoria Prize plaque, with Dr Greg Qiao left, (University of Melbourne) and Geoff Senior (BHP Billiton)

CRCs collaborate to reduce water evaporation



Representatives from the three CRCs collaborating on controlling evaporation losses (from left).
Back row: Professor Graeme George (CRC-P, QUT), Dr Geoff Barnes (QUT retired), Dr Ian Dagley (CRC-P),
Professor David Solomon (CRC-P, UniMelb) and Dr Graham Harris (Cotton and Irrigation Futures CRCs).
Front row: Mr Erik Schmidt (Irrigation Futures CRC) and Dr Guy Roth (CEO Cotton Catchment Communities CRC)

The Cotton Catchment Communities CRC, the CRC for Irrigation Futures and the CRC for Polymers have agreed to combine their skills to try and find cost-effective solutions for control of evaporation losses from storage dams.

A number of possible solutions have been proposed such as floating covers, shade cloth and liquid monolayers that float on the water. All these have various technical problems such as life of the polymer, application techniques and the prohibitive costs, Guy Roth Chief Executive Officer Cotton CRC said.

Mr Erik Schmidt, CRC Irrigation Futures, said: "It is estimated that there are 22,000

enterprises with on-farm storages in Australia with a surface area of around 278,000 hectares, holding some 12,500,000 ML. Annual evaporation losses from these on-farm storages can potentially exceed 40% of the storage volume."

A recent review and analysis of evaporation mitigation technologies conducted by the National Centre for Engineering in Agriculture has demonstrated good performance from commercially available "structural" evaporation control products (e.g. suspended shadecloth and floating plastic covers) for storages less than 5 ha in area.

However, for storages exceeding 10 ha, options are more limited. Chemical monolayers have been trialed, but have exhibited wide variability in evaporation reduction (0%-40%). Reasons for variable performance of monolayers could include break down by ultraviolet light, consumption by algae or bacteria, or poor distribution across the water due to application methodology, water quality, physical barriers, wind or wave action.

Monolayers offer huge potential if performance can be improved since capital costs are negligible and costs of effecting water savings with monolayers can be less

than \$150/ML, substantially lower than other structural options (\$300-\$400/ML).

Ian Dagley, CEO of the Polymers CRC, highlighted the opportunities to improve the performance of current monolayers by development of new formulations that enhance the resistance of the monolayer to wind stress, reduce frequency (and cost) of application, and substantially improve evaporation saving potential. The next step is to gain further industry support and funding for the research and development.

New Deputy CEO paves a smooth path to market for Centre research

After working with a number of multinational pharmaceutical firms in Europe, such as Wyeth and MSD, Dr. Julie-Anne White, together with other medical researcher colleagues, established Cerebrus Pty. Ltd. It was one of the very first start-up biotech companies in the UK, and after just a few years it merged with another start-up to become Vernalis. Recently Vernalis merged with British Biotech to become one of the biggest biotech companies in the UK. It was a merger that Dr White watched from her position in Australia as Managing Director of ASX listed Biotech, giving her renewed confidence in nurturing research projects into successful commercial ventures.

Indeed, after Cerebrus, Dr White has presided over a number of successful start-up companies in the pharmaceutical and biotechnology sectors, overseeing their capital raisings and public listings in the Australian stock exchange.

In September this year, she joined the CRC-P as Deputy CEO, and according to the Centre's CEO, Dr Ian Dagley, this formidable commercialisation experience will help pave a smooth path to market for the new Centre's entire research portfolio.

"In addition to Dr White's expertise in commercialisation and intellectual property, her academic and research background in pharmacology will be valuable in managing the new Centre's substantial biotechnology research," Dr Dagley said.

Dr White said that her commercialisation mandate would be greatly helped by the CRC-P's group of strong and committed commercial partners.

Before joining the CRC-P, Dr White was CEO for Avipep Pty Ltd, a start-up company whose shareholders are CSIRO and SciVentures. She was also previously CEO of the CRC for Chronic Inflammatory



Dr White combines commercialisation expertise with biotechnology training

Diseases, and Managing Director for Inflammac Pty. Ltd.

She has a Bachelor of Science in Pharmacology from Adelaide University, a Master of Science in Neuroscience and a PhD in Psychopharmacology, both from the Institute of Psychiatry at the University of London.

New CRC-P officially launched

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"Our Government has provided this backing for the Centre and the Biomanufacturing project as part of our vision to make Victoria a top five global biotech hub over the next four years," Mr Viney said.

He added that biotechnology was one industry with the potential to tackle all the challenges to ensure the long-term prosperity of Victoria and of Australia as a whole.

The new CRC is investing more than \$100 million in research over a seven year period, with \$32 million of this funding coming directly from the CRC programme.

Dr Jonson also acknowledged that the addition of new areas to the Centre's suite of research, including biotechnology and sustainability, demonstrated the Centre's responsiveness to emerging challenges to the Australian economy.

He noted that the Centre's research partners included many of the major Universities across Australia, the country's leading national science bodies, global



Dr Peter Jonson, Chair CRC Committee and Dr Peter Coldrey, Chair CRCP Board

industry leaders and some of Australia's most innovative companies.

"The CRC-P's achievements over the last 13 years and those that we expect in the next seven years, indicate a successful linkage of its research capability to Australia's industrial development. The Centre is also a model of building bridges between public sector researchers and industry," Dr Jonson said.

The CRC-P's CEO, Dr Ian Dagley, said the Centre was committed to delivering the

technically advanced polymer materials required to transform Australian industries, and establish and expand companies in emerging high growth areas of the economy.

"Our industrial participants are both large and small enterprises, and each has identified opportunities to develop and commercialise breakthrough technologies, and the CRC Programme has provided the mechanism to develop these technologies in this country," Dr Dagley said.