

Welcome

"The products developed will improve productivity, grow the manufacturing sector, create high-skill high-value manufacturing jobs, and reduce carbon dioxide emissions."

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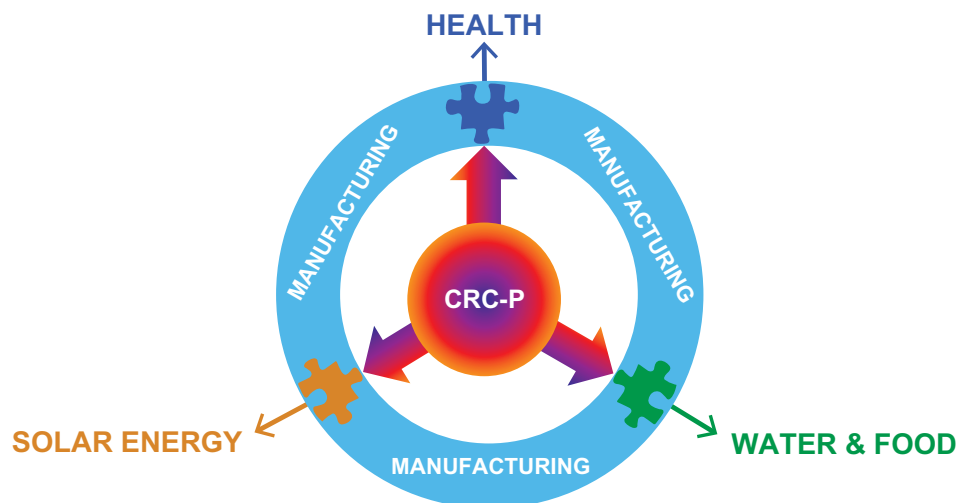


An Australian Government Initiative



CRC for Polymers successful in application for extension funding

The CRC for Polymers (CRC-P) was one of 6 applicants offered Cooperative Research Centres (CRC) program funding as an outcome of the 14th CRC program selection round. The selection round was held during 2011 and attracted 26 applications. The Minister, Senator Kim Carr, announced the outcome of the round in late November 2011. The additional funding offer is a grant of \$14.5 million over 5 years, with the new activities commencing in July 2012.



The CRC-P brings together the range of polymer expertise required to develop the enabling polymer technology needed by Australian manufacturers to provide high technology products to meet emerging global needs in the areas of health therapies, water & food security and solar energy.

The CRC-P extension will address the challenge of establishing Australian manufacturing as a leading provider and exporter of products that meet emerging global needs in three areas – health therapies, water & food security, and low-cost solar energy – by developing enabling and sustainable advanced polymer technology.

The polymer technologies being developed by the CRC-P are frequently the missing piece in the portfolio of technologies required to develop the targeted products.

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End user participants for this next five year period include: Mesoblast Ltd, Virbac (Australia) Pty Ltd, BASF Australia Ltd, Alcoa of Australia Ltd, Coliban Regional Water Corporation, State Water, Integrated Packaging Australia Pty Ltd, Greening Australia Ltd, Rice Research Australia Pty Ltd, Rural Industries Research and

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Polymer scientists win Prime Minister's Prize for Science



Polymer scientists Professors Ezio Rizzardo and David Solomon were jointly awarded the Prime Minister's Science Prize for 2011 for their research at CSIRO which reinvented polymer science, providing chemistry for precisely controlling the structure and hence the properties of polymers.

In their acceptance speeches, both recipients thanked the CRC for Polymers which has provided them with funding

support to apply their expertise in polymer science to develop other technologies to benefit Australia.

Professor Solomon joined the CRC-P in 2005 and is leading its research based at the University of Melbourne on applying polymer science to reduce evaporation from water storages.

Professor Rizzardo was the Inaugural/Interim Director of the CRC for Polymer Blends from 1992-94 and has been

Awarding of the Prime Minister's Prize for Science for 2011 (from left): Prof. David Solomon, Prof. Ezio Rizzardo, Prime Minister the Hon Julia Gillard MP and The Hon Senator Kim Carr.

a Research Program Leader in the continuing entity, the CRC for Polymers, since 1994. His research in the CRC-P has resulted in many licensed technologies, most recently polymer technology for reducing the biofouling of membranes.

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Development Corporation, and BlueScope Steel Ltd. The research providers include: ANSTO, CSIRO, University of Melbourne, Monash University, Swinburne University of Technology, University of New South Wales, University of Wollongong, University of Newcastle, University of New England, University of Queensland, Queensland University of Technology, University of Western Australia and Griffith University. The State of Victoria is also a participant.

Targeted outcomes during the next five years include:

- an improved process for producing cellular therapies based on polymer surface technology;
- a new polymer-based delivery technology for developing and manufacturing a series of novel animal health products that will significantly impact the competitiveness of Australian livestock production;
- a new range of polymers to help Australian farmers achieve greater productivity and farm profitability and, at the same time, reduce the environmental footprint of farming;
- new polymer-based evaporation control technology for reducing water losses from storages, and
- encapsulating polymer technologies for ensuring the longevity of roof-integrated solar cells.

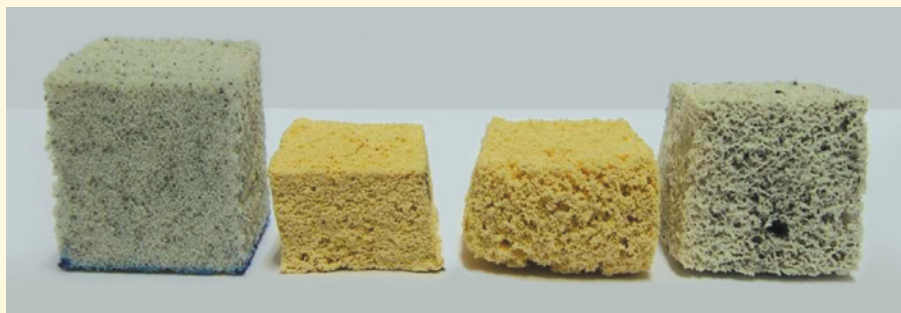
Ceram Polymerik licenses ceramifying foam technology

Ceram Polymerik and the CRC for Polymers (CRC-P) have collaborated to develop a technology for producing polyurethane foamed building products which are converted into a non-collapsing ceramic fire barrier. This remarkable technology makes it possible to design new fire performance products with superior fire barrier and thermal insulation properties while maintaining good physical properties to enhance the resistance to the passage of a fire. Recently Ceram Polymerik licensed the technology from the CRC-P for use in Australia and is working with two other innovative small Australian companies to apply it to other building and construction products. The first of these products is currently under development and testing, and other follow on products have been identified. The CRC-P research partners that contributed to the development of the technology were Monash University, CSIRO and RMIT University.

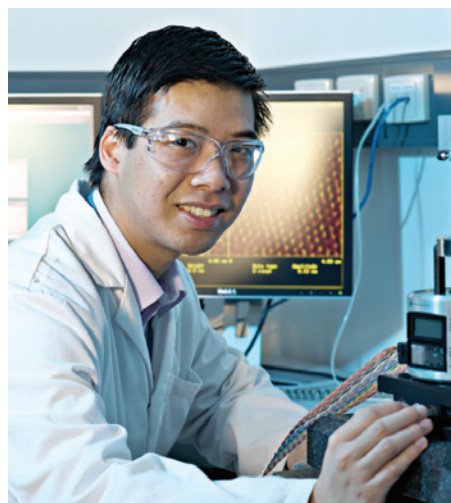
The CRC-P CEO, Dr Ian Dagley, notes "The CRC for Polymers first developed ceramifying polymer technology for use in cable applications and created Ceram Polymerik as a spin-off company to commercialise the technology in other applications. It is very pleasing to see the technology finding use in such a demanding application. Designing a foamed material that retains shape and mechanical integrity when exposed to a fire is particularly difficult because of the voids throughout the foam and the decomposition of the polyurethane that occurs in parallel with its transformation to a ceramic fire barrier."



Indrani Tharmanason (CFO, Ceram Polymerik) and Ian Dagley (CEO, CRC-P) at the signing of the ceramifying foams licence agreement



A flexible ceramifying polyurethane foam (left) and several different ceramifying foams after exposure to fire. The technology eliminates complete collapse of the foam structure and can control or eliminate shrinkage of the foam during fire exposure.



Kelly Tsang, Fulbright Scholar

Congratulations to CRC-P PhD student Kelly Tsang who was awarded the 2011 Fulbright Postgraduate Scholarship in Science and Engineering at a presentation ceremony in Adelaide during March. The prestigious educational exchange program between the USA and Australia will enable Kelly to spend 12 months as a visiting scientist at two leading US institutes - namely MIT and the Wellman Centre of Photomedicine at

the Massachusetts General Hospital. Co-supervised by A/Prof John Forsythe, (Monash), Dr Helmut Thissen and A/Prof Richard Evans (CSIRO), Kelly plans to use the exchange opportunity to undertake research related to his PhD in developing photodegradable hydrogel materials for tissue engineering applications.

13th Australasian Polymer Summer School



Attendees at the 13th Australasian Polymer School held at the University of Queensland

The 13th Australasian Polymer Summer School (APSS) was held at the University of Queensland's Women's College from December 6th to 9th 2011. This annual event in the CRC-P's calendar is jointly funded by the CRC for Polymers and the Royal Australian Chemical Institute (RACI) Polymer Division. The aims of the APSS are to broaden polymer education, increase the level of cross-fertilisation in Australian polymer science and engineering, and to

provide a strong theoretical introduction for new researchers.

The summer school was well attended by 48 delegates drawn from the various universities and industry groups from around Australia. Representatives attended from: Duplex Industries, Nuplex Industries, Flinders University, IP Australia, the universities of Queensland, Melbourne, New England and Wollongong, QUT, Monash, ANSTO, UNSW, ANU and CSIRO.

Delegates attended presentations from six lecturers on the latest in innovations and research in polymer science. The topics covered included: mechanisms and kinetics of polymerisation, nanomaterials from block copolymer self-assembly, polymers in lithography, polymer surface modification, conducting polymers, and NMR spectroscopy of polymeric systems. The presenters were: Dr Chris Fellows (The University of New England), Professor Ulrich Weissner (Cornell University), A/Prof Jadranka Travas-Sedjic (Auckland University), A/Prof Idriss Blakey (The University of Queensland), A/Prof Amanda Ellis (Flinders University) and Professor Andrew Whittaker (The University of Queensland).



Polymer summer school presenter, A/Prof Jadranka Travas-Sedjic.



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