



## APRIL 2007

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## NEWS



*The new safety installation at Shell's refinery at Clyde in Sydney will replace several existing fire protection systems.*

## New fire protection system for refinery

A Yokogawa ProSafe-RS system (SIS) will be the nucleus of a new fire and gas safety system at Shell's Clyde refinery in Sydney, in a contract that includes the control system, system engineering and installation and supervision.

The new safety installation will replace a number of fire protection systems that have monitored the refinery for 12 years.

Problems with sourcing spares and maintenance led Shell to replace the existing fire protection and integrate the new system into the plant's existing distributed control system (DCS).

In line with Shell's requirements, the Yokogawa system will be configured to meet a SIL3 rating. The design of ProSafe-RS will see this requirement achieved using single I/O modules only.

### Revised standard for pressure vessel steel

Standards Australia is revising AS1548 steel plates for pressure equipment. This standard sets out requirements for the production of high quality steel plates for the boiler and pressure vessel industries, including alloy chemistry, tensile and yield strengths within a range of temperatures, impact strengths, and heat treatment procedures.

The revision proposes, among other

improvements, to update the material strength requirements to reflect international practice. Standards Australia said this will allow Australian manufacturers to take better advantage of the strength of AS1548 steel grades.

Standards Australia technical committee ME-001-14 plans to publish a draft for public comment in mid-2007.

### CONTENTS

News	1
Chemeca 07	6
IChemE	7
Calendar	8
New products	9



## NEWS

### Valuable contribution appreciated

Emeritus Professor Rolf Prince was presented with a plaque of appreciation for his contribution to the Australia and New Zealand Federation of Chemical Engineers (ANZChE) at a function in Newcastle on 29 March.

John Waanders, chair of the ANZChE and Engineers Australia's Chemical College Board, said: "Rolf Prince is an eminent engineering educator who has contributed to the field of teaching, research and consulting both in Australia and overseas.

"Among the many highlights of his career was his presidency of the IChemE in Britain in 1986-87. At that time no other British engineering institution had ever invited a president from overseas.

"His many awards include the Peter Nicol Russell Memorial Medal, which is Engineers Australia's highest individual annual award, and the Chemeca Medal, the highest individual award for an Australian or NZ chemical engineer presented each year at Chemeca by the ANZChE."

Prince is an Officer of the Order of Australia (AO), and a Fellow of the Academy of Technological Sciences and Engineering and the Royal Academy of Engineering (UK).

He was a founding member of the Asia Pacific Confederation of Chemical Engineers (APCCHE) in 1975, its president from 1990 to 1993 and a director representing the ANZChE until 2006. He continues as an honorary member.

He was the chair of the ANZChE's Awards Selection Committee from 1990 until 2005. "His contribution to this program has secured sponsorship of the awards from the highest levels in industry and given them a very high profile in Australasia," Waanders said. There are currently nine chemical awards, with eight of them being sponsored by industry.

Prince retired from his professorship at Sydney University's



*Emeritus Professor Rolf Prince (l) receiving his plaque from John Waanders.*

Chemical Engineering Department in 1998, after 28 years in that position.

"His contribution to the chemical industry has been huge not only because of his scientific and engineering work but also because of strong industry links and networks and his love of communicating and sharing his knowledge," Waanders said.

### Industry invited

At the function John Waanders invited industry to participate in Chemeca 2008, which will be held in Newcastle.

The function signified the official start of the preparations for the conference.

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## NEWS

### Getting more hydrogen from biomass

A research team from the Laboratory for Sustainable Technology, at the University of Sydney's School of Chemical and Biomolecular Engineering, has been working on a method to enhance the production of hydrogen from the gasification of biomass with steam.

To increase the concentration of hydrogen in the ensuing mixture of gases, calcium oxide is commonly used.

The team has developed CaO sorbent specifically tailored for biomass gasification. A member of the team, Andrew Harris, said the team has demonstrated a biomass-to-H<sub>2</sub> conversion of 86% using the tailored CaO sorbent, compared to a 68% conversion achieved using a commercial CaO sorbent.

The team has developed a precipitation technique that uses a slurry bubble col-

umn to make CaCO<sub>3</sub> with tailored morphological properties.

This follows previous work by several workers who used a precipitation technique to synthesise CaCO<sub>3</sub> for the separation of SO<sub>2</sub> and CO<sub>2</sub>.

Harris believes his team's work investigates, for the first time, the synthesis of a tailored CaO sorbent designed for the in situ capture of CO<sub>2</sub> during gasification.

The team is now testing the process on a small scale (2kg/h) biomass gasifier, using cellulose and the sorbent to see how it performs in a full-scale system. If this is successful the team will commercialise the sorbent manufacturing process.

The next step will be to build a pilot scale system (about 25kg/h) to obtain data for developing a full-scale design and determine costs for a commercial process.

The pilot plant will be located at the Sydney University campus and will use nonrecyclable wastes (such as plastic and garden wastes from the campus as feed).

The team aims to couple the pilot plant directly to a commercial fuel cell to demonstrate the direct production of electricity from biomass gasification coupled with CO<sub>2</sub> capture, without expensive gas cleaning systems.

It hopes to start this stage by the middle of next year.

**The team has developed a CaO sorbent specifically tailored for biomass gasification.**

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## NEWS

### Treating wastewater from wineries

A team from the Department of Chemical Engineering at Curtin University of Technology in Perth believes it has developed a promising alternative method for treating winery wastewater.

There is, as yet, no general agreement on the best way to treat winery wastewater, which typically has a pH of 3 to 4, with chemical oxygen demand (COD) of 800mg/L to 12,800mg/L depending on the vintage cycle. It is often discarded with little or no treatment. In general, regulatory authorities dictate that treated wastewater should have a pH of 5.5 to 7.5 and COD should not exceed 75mg/L before discharge into the environment.

Sugars, organic acids and alcohols dominate the organic carbon composition of winery wastewater. The sugars are measured in the effluent as biochemical oxygen demand (BOD). The BOD levels associated with grape crushing, barrel washing and bottling may be as high as 5000mg/L. Wastewater with high levels of BOD combined with chlorine from chlorinated water sources can produce a carcinogenic byproduct, trihalomethanes, which can contaminate the groundwater.

There are three techniques used by wineries to reduce the BOD level: septic tank leach field, ponding, and bioreactor systems. The septic tank quickly plugs with

the high solid loading rate. The ponding system usually requires several hectares of land. Bioreactors may require long retention times, and may involve high capital and operating costs.

The university team, led by Assoc Prof H Ming Ang, is using advanced oxidation processes driven by UV-A radiation. It has been looking at the photodegradation of winery wastewater by using a variable number of UV lamps at different initial solution pH values. It has found that the highest conversion of the pollutants occurred under alkaline conditions. The average reaction rate increased with increasing the number of lamps.

The main mechanism of advanced oxidation processes is the generation of highly reactive free radicals. Free radicals initiate a sequence of oxidative degradation reactions that may lead to complete mineralisation of the contaminant.

The team has designed a photochemical reactor in cylindrical configuration. The outer chamber, made of stainless steel, has the commercial UV-A lamps suspended inside. The team used a medium pressure arc UV-A lamp emitting the wavelength range 310-435nm, with a maximum emission at 365nm.

Winery wastewater was collected from a commercial wine company located in the Swan Valley. Ambient compressed air was used as the feed gas for the reactor.

Experiments were carried out in batch operation by an annular type reactor. Reactor capacity was 60L with an irradiated volume of 38.5L.

The wastewater was diluted with water while adding sulfuric acid or sodium hydroxide to adjust the pH in the supply tank.

The team found that the treatment of the wastewater using UV-A radiation was pH dependent. Inhibition of the rate was observed at lower pH. The average reaction rate and pollutant removal, in terms of total organic carbon (TOC) conversion, increased with increasing the number of lamps.



### The Synfuel Alternative

GTL/CTL International Advanced Technology Symposium

The Shine Dome, Canberra, Australia  
17-19 July 2007

*Bringing together local and international research experts to review the latest technologies in Gas/Coal-to-Liquids research and development*

#### Days one and two:

- Alternative GTL/CTL processes
- Syngas generation technologies
- Syngas to synfuel
- Gasification of coal
- CO<sub>2</sub> separation and sequestration

#### Day three:

- Industry challenges
- Technology frontiers
- Cutting edge research opportunities

**Speakers:** Enrique Iglesia, University of California; Jens Rostrup-Nielsen, Haldor Topsoe, Denmark; Karl F Gerdes, Chevron, USA; Theo Fleisch, BP, USA; Geoff Stevens, University of Melbourne; David Trimm, CSIRO; Lincoln Paterson, CSIRO.

**To be confirmed:** Sasol Chevron, South Africa: USA.

For further information

Email [james.pullar@csiro.au](mailto:james.pullar@csiro.au)

Phone +61 3 9545 8386

Web [www.csiro.au/events/SynfuelAlternative](http://www.csiro.au/events/SynfuelAlternative)

[www.csiro.au](http://www.csiro.au)



## NEWS

### Organisational failings led to disaster

By John O'Meara

On 23 March 2005, an explosion and fire at an oil refinery in Texas City killed 15 people, injured 180 and caused financial losses exceeding US\$1.5 billion. This was the worst industrial accident in the US since 1990.

The accident rocked the oil industry worldwide. Not only are industrial accidents with such a high casualty figure rare in the United States, but also the refinery was owned and run by a subsidiary of UK-based oil giant BP, a world leader in process safety.

The explosion occurred during the startup of a distillation tower. An estimated 25,500L of liquid gasoline was released into the atmosphere. The resultant vapour cloud ignited, causing massive blast damage to nearby moveable trailers. The ignition source is thought to have been a running vehicle engine.

All of the 15 people killed were located in or near the trailers which were being used as site offices. The personnel were not associated with the distillation tower startup.

On 21 March 2007, just two days short of the accident's second anniversary, the official government investigation report was presented to the Texas City community at a public meeting by

the Chemical Safety Board. The CSB is the federal body charged with investigating the causes of chemical accidents.

The CSB found a wide range of technical failures.

The weight of CSB's criticisms fell squarely on the company's organisational capacities to deliver process safety.

The CSB made many recommendations to BP, the Occupational Safety and Health Authority, industry associations and the relevant union. While its recommendations are not enforceable, they are tracked to determine if they are satisfactorily acted on.

The recommendations emphasise the need to improve operational staffing during startups and abnormal situations. One specific recommendation is that BP should appoint someone with process safety expertise to its board.

The CSB report called upon the federal safety regulator, OSHA, to increase its inspection activity of process plants. Testifying before a House of Representatives Committee, CSB chair Carolyn Merritt said: "Rules already on the books would likely have prevented the tragedy in Texas City. But if a company is not following those rules, year-in and year-out, it is the ultimate responsibility of the federal government to enforce good safety practices before more lives are lost."

The CSB's report was the third on the accident. It confirmed the technical explanation of the accident as previously described in BP's own internal report released in December 2005 (the Mogford report).

The second report was the result of an earlier CSB recommendation. Concerned that systemic organisational failings lay behind the accident, it asked that BP establish an independent panel to examine its safety management systems, safety culture and corporate safety oversight of its refineries.

BP followed that recommendation and an 11-member panel was established. It was headed by James Baker III, former US secretary of state.


The Baker Panel reviewed BP's management of process safety from the board down. It found that "BP has not provided effective leadership in making certain its management and US refining workforce understand what is expected of them regarding process safety performance", and that "BP mistakenly interpreted improving personal injury rates as an indication of acceptable process safety performance".

BP released the 347-page Baker Report last January. The report includes 10 recommendations, which could be applied more widely for assessing process safety management performance at major hazard facilities.

To view the CSB report, click here

[http://www.csb.gov/completed\\_investigations/docs/BP%20Final%20Report%203.23.07.pdf](http://www.csb.gov/completed_investigations/docs/BP%20Final%20Report%203.23.07.pdf)

This is an abridged version of an article that will appear in the May issue of Engineers Australia magazine.



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## AWARDS

### Nominations sought for awards

Nominations for the 2007 chemical engineering awards are being sought by the Awards of Excellence Committee of the Australia and New Zealand Federation of Chemical Engineers. Nominations can now be made online at the federation's new website [www.anzfche.org](http://www.anzfche.org).

The awards on offer include:

#### The Chemeca Medal

This is the most prestigious individual award in the chemical engineering profession in Australia and New Zealand.

#### The Fonterra Award (NZ\$4500 and Certificate)

Recognises outstanding contributions in the industrial application of novel technology in the bioprocessing field from an individual or group of chemical engineers in Australia or New Zealand. The candidate must be a member of Engineers Australia, IChemE, SCENZ or RACI and under 50 years of age.

#### The Alstom Award (\$3000 and Certificate)

Recognises outstanding contributions in the industrial field from a chemical engineer under 30 years of age. The candidate must be a member of Engineers Australia, IChemE, SCENZ or RACI.

#### The ExxonMobil Award (\$5,000 and Certificate)

Recognises significant ongoing contributions to chemical engineering through innovations or a series of related publications over a number of years.

#### The Rio Tinto Award (\$5000 and Certificate)

Recognises outstanding applied chemical engineering.

#### The Shedd Uhde Medal and Prize (\$4000)

Recognises practical services to the profession and chemical engineering in

Australia or New Zealand. A candidate must be a member of Engineers Australia, IChemE, SCENZ or RACI and must be under 40 years of age.

#### The Fluor Award (\$5000 and Certificate)

Recognises exceptional management and leadership talent that has directly resulted in a sustained corporate success over a significant period.

#### The WorleyParsons Award (\$5000 and Certificate)

Recognises personal commitment and leadership by a chemical engineer in the area of safety and/or the environment.

#### Caltex Teaching Award (\$5000 and Certificate)

Recognises outstanding achievements in the teaching of chemical engineers.

Nominations close on the 31 May. Please contact Julie Armstrong ([jarmstrong@engineersaustralia.org.au](mailto:jarmstrong@engineersaustralia.org.au)) for more information.

# CHEMECA

Academia and Industry Strengthening the Profession

Sofitel Melbourne, Victoria, Australia 23-26 September 2007

## Conference Theme

### Academia and Industry - Strengthening the Profession

The value of knowledge lies in its power to generate social benefit. Our success in this endeavour is dependent on industry's ability to apply that knowledge to fulfil the community's needs. Academia, in turn, has the responsibility to generate new knowledge to address the current deficiency. Together, academia and industry promote growth and advancement ... and hence strengthen our profession.

The Chemeca 2007 Committee invite papers and presentations on the following broad topic areas:

- **Biotechnology and Nanotechnology** ■ **Energy and the Environment**
- **Education and Engineering Resource Development** ■ **Particle Technology**
- **Food Engineering** ■ **Industrial Best Practice and Innovation**

In the Industrial Best Practice and Innovation topic area, we are particularly keen to receive contributions from practising engineers in the following industries:

- **Fuels** (Clean coal, Synthetic Liquid Fuels, Biofuels) ■ **Oil & Gas** Productions and Processing
- **Chemicals** ■ **Minerals** ■ **Manufacturing Best Practice Systems** ■ **Engineering Contracting & Design**
- **Equipment Suppliers** ■ **Wood Chemicals, Pulp & Paper** ■ **Food** ■ **Pharmaceuticals**
- **Power Generation** ■ **Water**

## Conference Office

ICMS Pty Ltd 84 Queensbridge Street, Southbank VIC 3006 AUSTRALIA  
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## Call for Abstracts

Abstracts submissions are now invited for oral and poster presentations. Only online submission is acceptable. For more information, please visit [www.chemeca2007.com](http://www.chemeca2007.com). If you experience technical difficulties, please email [program@icms.com.au](mailto:program@icms.com.au) or telephone +61 3 9682 0244.

### Mark these dates in your diary now!

Abstract submission close: Thursday, 1 February 2007  
Paper submission deadline: Wednesday, 9 May 2007  
Early bird registration deadline: Friday, 29 June 2007

## Sponsorship and Exhibition Opportunities

Please email [sponsorship@icms.com.au](mailto:sponsorship@icms.com.au) or telephone +61 3 9682 0244 for information on Sponsorship and Exhibition.

[www.chemeca2007.com](http://www.chemeca2007.com)



## ICHEME

### How maths underpins engineering

Students and teachers gathered on 13 March at the Manchester Conference for the Institution of Chemical Engineers' third Frank Morton lecture. Associate Professor David Shallcross, from the University of Melbourne, delivered the lecture entitled "Fingerprinting dolphins and other adventures in maths" as part of the UK's National Science and Engineering Week program.

Shallcross used examples from history and modern times to show how maths underpins some of the world's greatest engineering feats. He revealed how the ancient Egyptians erected obelisks with a precision of just 1cm by calculating the distances and angles involved in transporting an obelisk to its destination. He also showed how engineers created an interlocking design for the construction of the Bell Rock Lighthouse in the 19th century.

Shallcross also demonstrated how to carry out a HAZOP analysis by making a cup of tea. He identified hazards in the tea-making process and their possible conse-



Associate Professor David Shallcross (l) receiving the Frank Morton Medal from IChemE CEO Dr David Brown.

quences in a systematic way.

Another demonstration involved 15 inflatable dolphins to illustrate how scientists identify dolphins by measuring their dorsal fins.

Shallcross concluded his lecture with an explanation of why geometry is essential to the design of the Thames Barrier, and how engineers might design greenhouses for use on the planet Mars to support future human space missions.

IChemE's director of policy and communications Andrew Furlong expressed his satisfaction at the success of the event.

"We wanted to put on a show that brought science and engineering to life and we succeeded," he said. "By showing young people in an entertaining way how engineering feats were achieved, we can inspire school students to pursue careers in chemical engineering. This will enable our profession to continue delivering solutions to challenges facing humankind in the future."

Following the lecture, IChemE's CEO Dr David Brown presented Shallcross with the Frank Morton Medal, which was established in memory of the Institution's past president who died in 1999.

Shallcross is recognised internationally for his substantial contribution to chemical engineering education. In 2006 he played a major role in the establishment of Education for Chemical Engineers, the fourth and latest addition to IChemE's series of learned journals.

### Online connection to global forum

The IChemE is planning to provide webcast facilities for this year's Global Forum to enable participation by its members worldwide.

Held in London on 16-17 May, the event will include:

- keynote speech by Professor Sir David King, chief scientific adviser to the UK government
- a comprehensive technical program built around the launch of the Institution's Technical Roadmap position statements
- the launch of the Institution's Jubilee Report which will include key conclusions from its technical strategy review and ideas for action
- presidential address given by Dr Ramesh Mashelkar followed by a reception.
- the Global Forum debate on "Is the

chemical engineering profession ready to meet the challenges of the next 50 years?"

- the Institution's AGM and medals presentation.

A full event program can be viewed at [www.icheme.org/global\\_forum](http://www.icheme.org/global_forum).

The forum will provide a platform for IChemE members worldwide to discuss and debate solutions to the challenges facing people around the world.

It will also play a key role in celebrations to mark the 50th anniversary of the Institution being granted its Royal Charter.

Members interested in taking part in the webcast can register at [www.icheme.org/global\\_forum/webcast.htm](http://www.icheme.org/global_forum/webcast.htm). Webcasting is free of charge to members and non-members outside the UK.



### CONFERENCES SEMINARS EXHIBITIONS

For a comprehensive list of upcoming engineering events, visit Engineers Media's fully searchable, continuously updated events database.

[CLICK HERE TO VISIT THE DATABASE](#)

#### AUSTRALIA

##### Chemical Engineering

**Conference: 21st international congress for heterocyclic chemistry** (6 days) Sydney 15 Jul. *Inquiries:* 02 9280 0577, fax 02 9280 0533, email [ichc21@pharmaevents.com.au](mailto:ichc21@pharmaevents.com.au), web [www.ichc21.com.au](http://www.ichc21.com.au)

**Conference: 30th international conference on solution chemistry** (5 days) Perth 16 Jul. *Inquiries:* Prof Glenn Hefter, Murdoch University 08 9360 2226, fax 08 9360 1711, email [g.hefter@murdoch.edu.au](mailto:g.hefter@murdoch.edu.au)

**Conference: Chemeca 2007** (4 days) Melbourne 23 Sep. *Inquiries:* ICMS 03 9682 0244, fax 03 9682 0288, email [chemeca2007@icms.com.au](mailto:chemeca2007@icms.com.au), web [www.chemeca2007.com](http://www.chemeca2007.com)

**Conference: 12th IUPAC international congress of pesticide chemistry** (5 days) Melbourne 4 Jul, 2010. *Inquiries:* Dr Elizabeth Gibson, RACI 03 9328 2033, fax 03 9328 2670, email [elizabeth@raci.org.au](mailto:elizabeth@raci.org.au), web [www.raci.org.au/iupacipc2010](http://www.raci.org.au/iupacipc2010)

##### Energy

**Conference: Australia's uranium conference 2007** (2 days) Darwin 15 May. *Inquiries:* Mark Chalmers 08 8110 0700, web [www.ausimm.com/uranium2007](http://www.ausimm.com/uranium2007)

**Conference: National energy from waste conference 2007** (3 days) Sydney 18 Jul. *Inquiries:* 02 8746 5000, fax 02 9701 0199, email [enquiries@wmaa.asn.au](mailto:enquiries@wmaa.asn.au), web [www.wmaa.asn.au](http://www.wmaa.asn.au)

**Conference: 17th world hydrogen energy conference** (5 days) Brisbane 15 Jun, 2008. *Inquiries:* ICMS 07 3307 4000, fax 07 3844 0909, email [whc2008@icms.com.au](mailto:whc2008@icms.com.au), web [www.whc2008.com](http://www.whc2008.com)

##### Management

**Course: Project appraisal & valuation** (2 days) Melbourne 3 May. *Inquiries:* Applied Technology Group of Companies 1300 651 052, fax 1300 651 072, email [register@apptechgroups.com](mailto:register@apptechgroups.com), web [www.apptechgroups.com](http://www.apptechgroups.com)

**Conference: ICOMS 2007 asset management conference** (5 days) Melbourne 21 May. *Inquiries:* MESA secretariat, Maintenance Engineering Society of Australia, email [icoms@amcouncil.com.au](mailto:icoms@amcouncil.com.au)

**Course: Public infrastructure liability** (2 days) Adelaide 23 Jul. *Inquiries:* ARRB Group 03 9881 1680, email [training@arrb.com.au](mailto:training@arrb.com.au), web [www.arrb.com.au](http://www.arrb.com.au)

**Conference: Project management conference 2007** (4 days) Gold Coast 28 Aug. *Inquiries:* email [pmoz@eventcorp.com.au](mailto:pmoz@eventcorp.com.au),

web [www.pmoz.com.au](http://www.pmoz.com.au)

##### Mining

**Conference: MinSands 2007 - mineral sands conference** (2 days) Perth 30 May. *Inquiries:* web [www.informa.com.au/minsands2007](http://www.informa.com.au/minsands2007)

**Course: Design & operation of floating production storage & offloading** (3 days) Perth 16 Jul; **Subsea systems** (2 days) Perth 19 Jul; **Floating LNG – production storage offloading & regasification** (2 days) Perth 23 Jul. *Inquiries:* Julie Scholey, ESD Simulations 08 9367 1844, fax 08 9367 3886, email [julie.scholey@esd-simulation.com](mailto:julie.scholey@esd-simulation.com), web [www.esd-simulation.com](http://www.esd-simulation.com)

**Conference: Discrete element methods 2007** (3 days) Brisbane 27 Aug. *Inquiries:* email [amanda@min-eng.com](mailto:amanda@min-eng.com), web [www.min-eng.com/dem07/index.html](http://www.min-eng.com/dem07/index.html)

**Conference: Precious metals 07** (2 days) Brisbane 30 Aug. *Inquiries:* email [amanda@min-eng.com](mailto:amanda@min-eng.com), web [www.min-eng.com/preciousmetals07/index.html](http://www.min-eng.com/preciousmetals07/index.html)

**Conference: Automated mineralogy 07** (2 days) Brisbane 1 Sep. *Inquiries:* email [amanda@min-eng.com](mailto:amanda@min-eng.com)

min-eng.com, web [www.min-eng.com/automatedmineralogy07/index.html](http://www.min-eng.com/automatedmineralogy07/index.html)

##### Miscellaneous

**Conference: Warren Centre innovation lecture** (1 day) Melbourne 5 Jun, Sydney 6 Jun. *Inquiries:* Fiona Hearne, The Warren Centre for Advanced Engineering 02 9351 7205, email [fionah@eng.usyd.edu.au](mailto:fionah@eng.usyd.edu.au), web [www.warren.usyd.edu.au](http://www.warren.usyd.edu.au)

**Conference: 8th Asia-Pacific complex systems conference** (4 days) Surfers Paradise 2 Jul. *Inquiries:* 07 3210 1646, fax 07 3210 1606, email [complex07@hievents.com.au](mailto:complex07@hievents.com.au), web [www.complex07.org](http://www.complex07.org)

##### Systems Engineering

**Conference: 6th annual national SCADA conference** (2 days) Melbourne 20 Jun. *Inquiries:* Informa Australia 02 9080 4307, fax 02 9290 3844, email [registration@informa.com.au](mailto:registration@informa.com.au), web [www.informa.com.au](http://www.informa.com.au)

**Courses: Practical tuning of industrial control loops** (2 days) Perth 11 Jun, Melbourne 14 Jun, Sydney 18 Jun, Brisbane 21 Jun; **Practical HAZOPs for engineers & technicians** (2 days) Melbourne 18 Jun, Sydney 21 Jun, Perth 28 Jun. *Inquiries:* IDC Technologies 02 9957 2706, fax 02 9955 4468, email [register@idc-online.com](mailto:register@idc-online.com), web [www.idc-online.com](http://www.idc-online.com)

#### IChemE/ EA Joint Chemical Engineering Committee events

##### Victoria:

- 23 May – Women in Engineering
- 20 Jun – Barry Hooper, Geosequestration
- 12 Jul – Carl Jacobson, Chemical Engineering of Beer Brewing, Emerald Hill Brewery
- 29 Aug – Pratt Prize presentations and Student Night

For information in Victorian events contact [Karen.Hapgood@eng.monash.edu.au](mailto:Karen.Hapgood@eng.monash.edu.au).

##### Western Australia:

- 21 May – Adriatic LNG Project by Torbjorn Prestegard Aker Kvaerner (Oil + Gas Facilities Kupa Technical Session)
- June – Fallright Site Visit
- 16 July – Mega Project Management Technical Presentation
- Aug – Rheology Workshop
- 20 Sept – Biofuels Technical Presentation
- Oct – Women in Engineering Event TBC
- Nov – Annual General Meeting

For information about events in WA contact [rkelson@skm.com.au](mailto:rkelson@skm.com.au).

##### Queensland:

- 4 May – Water Forum Dinner, Policy and Technology for Level 5 and Industry

- 16 May – Web linkup for Robin Batterham's address to the IChemE Roadmap Forum

- 1 Dec – Education Forum

For information about events in Qld contact [matth@cheque.uq.edu.au](mailto:matth@cheque.uq.edu.au).

##### South Australia:

- 7 Mar – Roger Smart, Developments in Acid Mine Drainage Prediction: Short- and Long-Term
  - 4 Apr – Plant visit, Australian Renewable Fuels
  - 2 May – Renewable Energy
  - 6 Jun – Karl Walter, Fertiliser Industry
  - 4 Jul – Plant visit Owens-Illinois or Amcor (glass manufacture)
  - 22 Aug – John Weir, BHP Billiton Olympic Dam Expansion
  - 5 Sep – Peter Schembri, Mayne Pharma International
  - 3 Oct – Plant visit Wingfield TPI
  - 14 Nov – Annual General Meeting and dinner
- For information in SA events contact [pashman@chemeng.adelaide.edu.au](mailto:pashman@chemeng.adelaide.edu.au).

##### New South Wales:

- 24 May – Energy event
- For information on NSW events contact: [vik.kortian@au.unisys.com](mailto:vik.kortian@au.unisys.com).



## NEW PRODUCTS

### Processing machine for polymers

The Poly4 processing machine has been launched in Australia by Oz Seals Pty Ltd.

It is built in Europe to help enhance and streamline the production of specialised polymers. It is a four-component processing plant, which produces bubble-free, high performance polymer stock.

It is a fully-enclosed process using controlled atmosphere, with inert gases to prevent contamination.

The company said the Poly4 offers improved accuracy and a wider heat range than its predecessor, the Poly3. The vacuum chambers are also larger than those of the Poly3.

The company said the new machine allows developing polyurethanes that are tougher and possess better abrasion resistance than existing polyurethane stock.

• *More information? Qikreply 16*



*The Poly4 machine offers improved accuracy and a wider heat range than its predecessor.*

### Teflon probe

Hart Scientific, a division of Fluke Australia, has announced the addition of the 5611T Teflon probe to its line of secondary reference thermistors. The probe has been designed with laboratory technicians in mind.

It is 6m long and 3mm in diameter. The company said the probe's flexibility, length and chemical resistance makes it a practical solution to the problems experienced in biopharmaceutical and other industries with harsh chemical environments.

• *More information? Qikreply 17*

### Heat exchanger

Teralba Industries is marketing the Dimpleflo double tube sheet heat exchanger, suitable for the food, beverage, pharmaceutical, chemical, wastewater and sewerage processing industries.

The company said Dimpleflo monotube and multitube high efficiency heat ex-

changers are already used extensively in Australia and New Zealand. It said users can now benefit from the increased protection of the double tube sheet heat exchangers.

The company produces the heat exchangers in most grades of stainless steel, duplex alloys and titanium.

• *More information? Qikreply 18*

### Welder

BOC, a member of the Linde Group, has launched two portable Manual Metal Arc (MMA) welding machines, the Smootharc MMA 130 and the Smootharc MMA 170.

The company said the welders are suitable for a range of applications, from light manufacturing to maintenance and from small workshops to DIY applications.

Neither model requires gas. The MMA 130 weighs 5.5kg and can be plugged into domestic 10A power points. The MMA 170 weighs 8kg.

• *More information? Qikreply 19*

### Process control

Honeywell has released Profit Suite R300, the latest version of its process control technology that enhances the capabilities of a facility's distributed control system (DCS).

The company said while DCS maintains individual controller set point, Profit Suite continuously analyses a range of process information and determines how to improve a plant's overall economics. Profit Suite then adjusts DCS set points within operator-specified ranges to achieve economic goals.

The R300 features an improved human-machine interface display which shows all Profit Suite components. Also new is the interface Web APC Shape / library, which features customisable shapes and scripts that allow greater flexibility in designing operator displays.

R300 also features several algorithmic enhancements.

• *More information? Qikreply 20*



## NEW PRODUCTS

### Foam for furnace lining

Unifrax Australia has introduced Foamfrax insulation to the Australian market, offering an alternative to brick, block and blanket furnace linings.

The company said Foamfrax insulation's foam/fibre mixture forms an interlocking network of fibres that creates a monolithic structure with good thermal insulating properties, low heat storage and high resistance to thermal shock and chemical attack.

It said the product can be sprayed directly onto metal, refractory or fibre surfaces at rates higher than 1000 board feet per hour.

The composite lining system of Foamfrax allows different fibre grades to be used throughout the lining cross section and in different areas of a furnace.

The installation equipment has features designed to control the release of airborne fibre.

A dust collection hood is located on top



*The Foamfrax insulation offers an alternative to brick, block and blanket furnace linings.*

of the fibre hopper to reduce airborne fibre release from the bulk fibre feedstock. A vacuum is drawn on the fibre hopper hood which keeps the bulk fibre chamber under negative pressure during operation.

Limit switches have been installed on the binding mixer chamber to prevent discharge of fibre prior to complete mixing with the foaming binder. The foam matrix completely encapsulates the fibre in the mixing chamber.

Typical applications of Foamfrax are kiln cars, kiln linings and repairs, vessel linings (incinerators, flues, ducts and stacks), kiln refractory upgrades and backup for high-density refractories.

• *More information? Qikreply 21*

### Flexible small pump

Viking Pump, a unit of IDEX Corporation, has released the RTP20 (1L/revolution) series, built with all the features of the RTP30 (1.28L/revolution).

The series is a trilobe design and is customisable. It is compact and lightweight and features removable feet and multiple mountings for easy vertical or horizontal adaptation. It is also available with ACME threaded or triclamp ports as well as other connection types.

The RTP20 offers a capacity to 60m<sup>3</sup>/h, pressure to 10 bar, viscosity to 55,000cSt (cSt stands for centistokes: 100 centistokes = 1cm<sup>2</sup>/s) and operates in temperatures to 110°C.

The RTP30 offers a capacity to 77m<sup>3</sup>/h, pressure to 12 bar, viscosity to 55,000cSt and operates in temperatures to 150°C.

• *More information? Qikreply 22*



*The RP20 series.*

For more information on any of these products, send an email to [kharrison@engineersmedia.com.au](mailto:kharrison@engineersmedia.com.au) with the subject headline "CEA Qikreply".

Your contact details and the Qikreply number of the product should be included in the body of the email.