

CHEMICAL ENGINEERING

JUNE 2008

IN AUSTRALIA

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EDITOR: Dietrich Georg – dgeorg@engineersmedia.com.au

NEWS



Kathryn Fagg

Peter Farrell

James Graham

Ray Horsburgh

Colin Isaac

Des King

Marius Kloppers



Greg Lewin

Andrew Liveris

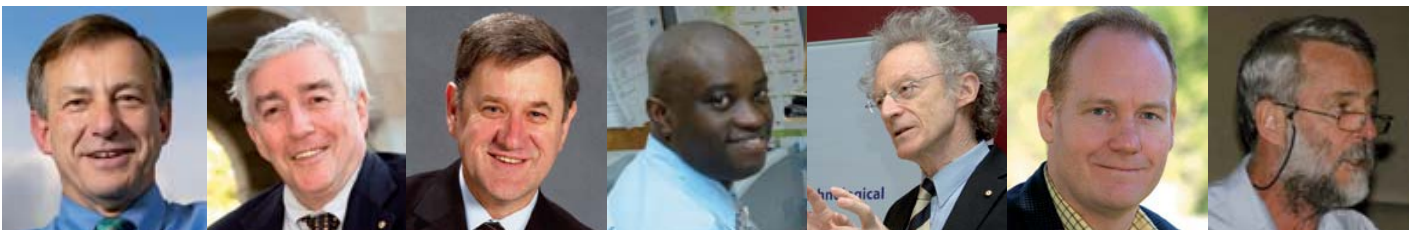
Andrew Michelmore

Douglas Rathbone

Christopher Roberts

John Schubert

Julian Segal



Paul Douglas

Paul Greenfield

Peter Lee

Moses Tadé

Robin Batterham

Anton Middelberg

Philip Venton

Influential chemical engineers

A record number of chemical engineers appear in the 2008 list of Australia's Top 100 Most Influential Engineers, published in the June issue of *Engineers Australia* magazine. Chemical engineers account for 23 of the names on the list, four more than last year.

This is more than twice the number that would be expected from the overall proportion of chemical engineers in the profession.

The list is divided into seven categories – Industry, Consulting, Academia/Research, Associations, Engineering Expertise, Public Service and Other. The last category includes politicians. Chemical engineers appear in six of the seven categories.

The chemical engineers on the list are:

Industry

- Kathryn Fagg, president of Bluescope Steel Asia and Chair of Tata Bluescope Steel, Singapore

- Dr Peter Farrell, chair and CEO, ResMed, San Diego, US
- James Graham, managing director, Gresham Partners, Sydney
- Ray Horsburgh, chair, Toll Holdings, Melbourne
- Colin Isaac, CEO, BOC South Pacific, Sydney
- Desmond King, managing director, Caltex Australia, Sydney
- Dr Marius Kloppers, CEO, BHP Billiton, Melbourne
- Greg Lewin, CEO, Shell Global Solutions, The Hague, Netherlands
- Andrew Liveris, chair, president and CEO, Dow Chemical Company, Michigan, US
- Andrew Michelmore, CEO, Zinifex, Melbourne
- Douglas Rathbone, managing director, Nufarm, Melbourne

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Michael Dureau

Frank Sartor

- Christopher Roberts, president and CEO, Cochlear, Sydney
- John Schubert, chair, Commonwealth Bank of Australia, Sydney

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NEWS

- Julian Segal, managing director and CEO, Incitec Pivot, Melbourne.

Consulting

- Paul Dougas, CEO and managing director of Sinclair Knight Merz, Sydney

Academia/Research

- Prof Paul Greenfield, vice-chancellor, University of Queensland, Brisbane
- Prof Peter Lee, deputy vice-chancellor, University of South Australia, Adelaide
- Prof Moses Tadó, dean of Engineering, Curtin University of Technology, Perth.

Associations

- Dr Robin Batterham, president of the Australian Academy of Technological Sciences and Engineering, Melbourne

Engineering expertise

- Prof Anton Middelberg, director of the Biomolecular Centre at the Australian Institute for Bioengineering and Nanotechnology, University of Queensland, Brisbane
- Philip Venton, principal of Venton & Associates, Bundanoon NSW.

Other

- Prof Michael Dureau, chairman of RedR Australia and RedR International, chairman and executive director of the Warren Centre for Advanced Engineering
- Frank Sartor, minister for planning, minister for the arts, minister for Redfern Waterloo, member for Rockdale, NSW Government, Sydney.

Predicting gas hydrates in pipelines

A gas hydrates flow loop unveiled in Perth on 30 May will be used to study the formation, growth and transport of gas hydrates.

The project is an international collaboration between the CSIRO's Wealth from Oceans National Research Flagship, the

Australian Nuclear Science and Technology Organisation, Curtin University of Technology, Institut Francais du Pétrole, the Western Australian Energy Research Alliance and industry.

"Our first objective is to develop a model to enable operators to predict the formation and flow of hydrates in gas pipelines and therefore anticipate potential gas hydrates problems. This will lead to improvements in the design and operation of pipelines," the flagship's leader, petroleum engineer Dr Edson Nakagawa said.

He added that the flow loop could test different types of inhibitors and analyse how they affect the formation of hydrates under different conditions.



Researcher Affonso Lourenco demonstrates the gas hydrates flow loop.

PHOTO: CSIRO

IChemE
in Australia

Board

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Max Lu (deputy chair)
Lindsay Mallen
(chair Nominations Committee)
Ainslie Just
(honorary treasurer)
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Peter Ashman (South Australia)
Ming Ang
(Western Australia)
Hendrik Tait (Queensland)
Vik Kortian
(New South Wales)
Matt Hardin (Roadmap Project)

Executive Director
Jan Althorp

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phone 03 9642 4494 fax 03 9642 4495
jalthorp@icheme.org



ENGINEERS AUSTRALIA

College of Chemical Engineers Board

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Zvonko Pregelj (Queensland)
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Ian Ackland (Sydney)

Lindsay Wheeler (Victoria)
Roger Kelson (Western Australia
and NCO&G chair)
Andre Jemison (Young Engineers)
Maree Lang (Council nominee)
Georgina Wright (Women in
Engineering)
Iven Mareels (Corresponding)

College contact
Bill Chaffey

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bchaffey@engineersaustralia.org.au

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NEWS

Repairs under way after gas plant fire

Restoring production at Apache Energy's gas processing facility on Western Australia's Varanus Island could take months, the company's managing director Tim Wall said.

"Partial sales will occur in a couple of months, after we repair two sales pipelines to the mainland," he said.

A gas explosion and fire on the island on 3 June crippled the supply of natural gas to the domestic market, reducing it by about 30%.

The gas shortage has affected production at many companies. "In some instances gas is an integral part of the process and they're the ones that are really suffering at the moment because it impacts on their ability to produce," WA Chamber of Minerals and Energy chief executive Reg Howard-Smith said.

Newcrest Mining said the gas shortage could reduce gold production at its Telfer plant by around 30,000 ounces.

The gas supply crisis is expected to have a wide impact on the Western Australian economy.

The WA Chamber of Commerce and Industry surveyed 83 companies about what effect the gas crisis has on their business. More than half (55%) indicated their busi-



Fire damage at Apache Energy's Varanus Island facility.

ness will be directly or indirectly impacted by the gas outage, with production decreasing by 64% on average. In addition, 14% of companies reported they have shut down or will be shutting down completely.

The state government is working with industry to mitigate gas shortages. It has fast-tracked the maintenance of the 110MW Kwinana coal-fired powerstation and told people not to waste energy.

Energy minister Francis Logan instructed

Verve Energy to recommission the coal-fired Muja AB power station as a possible back-up for Western Australia's electricity supply. The power station was closed last year. The minister said the first 60MW unit would take six weeks to come online and the restoration is expected to cost \$1.3million.

Other measures include using gas from other suppliers, replacing gas with diesel and shifting industry demand to off-peak times.

HAZOP COURSES

Orica – 2008 Course Schedule

	Brisbane	Sydney	Melbourne	Adelaide	Perth
Basic HAZOP	4 & 5 Nov	10 & 11 Sept	5 & 6 Aug	18 & 19 Nov	—
HAZOP Leader	6 & 7 Nov	17 & 18 Sept	7 & 8 Aug	20 & 21 Nov	—

These popular and highly respected 2 day courses are now in their 18th year. If desired, courses can be run in-house and customised to meet your requirements. For further information please contact:

Brisbane/Perth: Dean Shewring (02) 9913 7284, Sydney: Karin Nilsson (02) 9985 1056
Melbourne/Adelaide: Myrna Hepburn (03) 9527 1037

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NEWS

Construction starts on helium plant in Darwin

Construction started this month on Australia's first helium plant, which will be operated by BOC in Darwin.

Costing \$41.3 million, the plant will supply about 3% of the world's helium, said Colin Isaac, BOC South Pacific managing director. BOC is a member of the Linde Group, which is a world leader in the production of helium.

"Australia's helium requirements are currently met by importing the gas from overseas, typically from the USA and the Middle East. The opportunity to extract helium from the Darwin LNG plant will see Australia self-sufficient in helium supply instead of having to rely on imported product. There will be additional capacity available for export to other markets from Darwin," Isaac said.

"There is significant growth in demand for helium around the world, particularly for medical, industrial and electronic use. When the purification and liquefaction plant starts operating in July 2009 Darwin will be one of only 15 helium production sites in the world.

"While much of the plant machinery and equipment is highly specialised, we will be maximising local content," Isaac said.

Better mixing with new feedwell

The CSIRO has carried out computational fluid dynamics analysis of Outotec's new thickener feedwells. Computational fluid dynamics showed how feedwell design affected solid distribution, fluid flows and flocculation. As a result, the feedwell's final design extended the shelf and added a fourth dilution port.

"Vaness on the angle act as baffles to enhance mixing and dissipate the energy of the incoming flows. The bottom half of the feedwell is less turbulent and ideal for aggregate growth prior to exiting the feedwell," Outotec's global manager of thickening technology Richard Triglavcanin said.

The new feedwells are already operational at a Queensland alumina refinery and a Western Australian mineral sands site. Outotec will deliver nine thickeners equipped with the new feedwells to First Quantum Minerals' Kolwezi cobalt and copper tailings project in the Democratic Republic of Congo early next year.



Roadmap consultation events – energy & water

IChemE Roadmap for 21st century chemical engineering

Visit www.icheme.org to download the green papers on Energy & Water and to register to attend.

South Australia – Wednesday 2 July
Western Australia – Monday 7 July
Victoria – Wednesday 16 July
Queensland – Tuesday 29 July

The Roadmap is available to download at www.icheme.org/roadmap2007.pdf or please contact austmembers@icheme.org to request a hard copy.

IChemE
in Australia

ESD Simulation Training
Dynamic Simulation Training Specialists

2008 TRAINING COURSES

Design and Operation of FPSO's
30th June - 2nd July 2008 Perth

Subsea Systems
3rd - 4th July 2008 Perth

The Oil and Gas Industry - A Non-Technical Overview
7th July 2008 Melbourne
24th September 2008 Perth

Mechanical Aspects of Centrifugal Gas Compressors
8th-9th July 2008 Melbourne

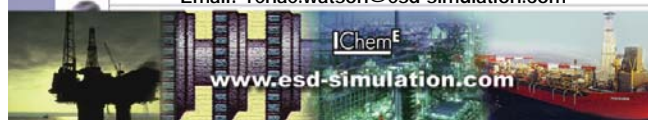
Control & Operation of Industrial Gas Turbines
11th-12th August 2008 Adelaide

Control Operation & Design of Reciprocating Gas Compressors
15th-16th September 2008 Perth

Control & Operation of Centrifugal Gas Compressors
17th-19th September 2008 Perth

Floating LNG - Production Storage Offloading & Regasification
22nd-23rd September 2008 Perth

For more information contact:
Renaë Watson, ESD Simulation Training Pty Ltd
Tel: (08) 9355 5599
Email: renaë.watson@esd-simulation.com



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ICHEME

New president urges innovation for sustainability

The new president of the Institution of Chemical Engineers (ICChemE), Dr Richard Darton has pledged to lead ICChemE for the good of its members and for society in general, inspired by the example of his predecessors. Darton is the head of the University of Oxford's Department of Engineering Science.

Delivering his presidential address, he outlined his plans to take an active role as ICChemE's 67th president, building on the successes of his immediate predecessor Ramesh Mashelkar.

"There are a number of challenges that face the chemical engineering community. We must promote inclusive growth through efficiency and equity – a challenge for educators, professional standards, practising engineers and leaders of the profession.

"We must challenge universities to broaden course provision



Dr Richard Darton.

and objectives, and we must rethink our ideas on the boundaries of the profession and what our members need by way of support and services.

"And ICChemE must increasingly focus on its status as a robust international membership organisation, develop new methods to safeguard standards of competence and ethical commitment, and broker better long-term relationships between universities and the wider community of technology users," said Darton.

He also highlighted the contribution chemical engineers have made and continue to make towards the growth of wealth, for people all over the world.

"The great question is how do we go on producing wealth in the way that we do now in the Western world, consuming resources and producing waste, without causing trouble for future generations?

"The probable answer is that we cannot – there has to be changes to the way we consume and produce. So the drive towards sustainability requires a simultaneous drive to innovate.

"What I have in mind here are better methods of manufacturing, such as might result from more selective catalysis, more efficient distillation, better process integration and so on. And of course, there is a need for new materials and products, offering improved performance. These are traditional areas of strength for chemical engineers, where we have a huge amount to contribute," he added.

Darton graduated as a chemical engineer from the University of Birmingham in 1970 and went to Downing College, Cambridge, to complete his PhD. Before joining the University of Oxford, he held a range of posts with Shell and has experience academically not only in Britain but also in Russia, Australia and New Zealand.

Darton's full presidential address, "To increase wealth, to improve well-being", can be downloaded at www.icheme.org/IncreaseWealth.pdf. It can also be viewed at www.icheme.org/PresidentialAddress2008b.wmv using Windows Media Player.

New training coordinator

The national office of ICChemE in Australia has a new staff member. Training coordinator Victoria Reznikov is involved with researching training needs and coordinating delivery of training events. To discuss your company's training needs or provide feedback, contact her on 03 9642 4494 or vreznikov@icheme.org.



ESD Simulation Training
Dynamic Simulation Training Specialists

Have the following vacancies:

TECHNICAL TRAINERS (full time, part time or casual)

Due to the award of several new contracts, we are looking to increase our technical team. Applicants must be either an experienced engineer or senior operations person with experience in one of the following:-

- Operation and control of Centrifugal and Reciprocating Compressors
- Operation and control of Gas Turbines
- Floating Production facilities (FPSO's, FPO'S) and/or fixed installations
- Training Operators using Control Room Simulator

These are very exciting and highly rewarding positions which will involve the training of both engineers and operators. Candidates should be living in Canada, USA, UK or Australia and be prepared to travel to deliver training courses.

These positions may well appeal to those who are no longer involved in the day to day aspects of engineering but wish to remain an integral part of the industry.

Electronic applications only please to:
Fae Milne, PA to CEO fae@esd-simulation.com

www.esd-simulation.com

Aberdeen Perth Kelowna Calgary Kuala Lumpur Houston



Chemeca2008

28 September - 1 October 2008, City Hall, Newcastle, NSW
Towards a Sustainable Australasia

Online registration is now open on the Conference website www.chemeca2008.com

If you are unable to register on-line, please contact Conference Office to be sent a copy of the registration form.

Conference Theme

Towards a Sustainable Australasia

Chemeca 2008 will showcase the latest knowledge in process engineering specifically covering the areas of: Energy, Particle Technology & Mineral Processing, Water, Safety & Risk, Food & Bio, Education, Fundamental Principles and other topics.

Invited Speakers

Mr Jeff Cohen, USA

Mr Jeff Cohen is a Senior Manager for US EPA's Office of Atmospheric Programs, responsible for Agency initiatives addressing both ozone protection and climate change.



Prof Richard Darton

Richard Darton is Professor of Engineering Science at the University of Oxford, and currently President of the Institution of Chemical Engineers.



Prof Max Lu, Australia

Prof Max Lu is a Federation Fellow and Professor of Nanotechnology in Chemical Engineering at the University of Queensland.



Prof Roe-Hoan Yoon, USA

Prof Roe-Hoan Yoon is Professor in Mining and Mineral Processing at the Virginia Polytechnic Institute, USA. He was recently elected a Member of the US Academy of Engineering.



Registration Fees

	Early Fee Deadline 1 August	Late Fee From 2 August
Members	\$850.00	\$950.00
Non-Members	\$950.00	\$1,050.00
Students	\$500.00	\$550.00
Day Registrations	\$500.00	\$550.00

Accommodation

Crowne Plaza Newcastle

Wharf Road, Newcastle

★★★★★

Queens City Side Suite	AUD235.00
Queen Harbour Side Suite	AUD265.00
Twin Harbour Side Suite	AUD265.00

Travelodge Newcastle City

Cnr King & Steel Streets, Newcastle

★★★★★

Standard Single	AUD135.00
Standard Double	AUD135.00
Standard Twin	AUD135.00

Quest Apartments Newcastle

575 Hunter Street, Newcastle

★★★★★

One Bedroom Suite	AUD280.00
Two Bedroom Suite	AUD345.00

The Clarendon Hotel

347 Hunter Street, Newcastle

★★★★★

Standard Room	AUD140.00
Deluxe Room	AUD150.00
Standard Suite	AUD160.00
Deluxe Suite	AUD170.00

Social Program

Welcome Reception

Date: Sunday, 28 September 2008

Time: 18:00 - 19:30

Venue: Newcastle Region Art Gallery
A three minute walk through Civic Gardens opposite the City Hall

Dress: Smart Casual

Cost: Included in registration fee

Additional Tickets: AUD50.00

Conference Dinner

Sponsored by



Date: Tuesday, 30 September 2008

Time: 19:30 - 23:00

Venue: Newcastle City Hall

Dress: Smart Casual

Cost: Included in registration fee

Additional Tickets: AUD105.00

IChemE



Conference Office

ICMS Pty Ltd 84 Queensbridge Street

Southbank VIC 3006 AUSTRALIA

E: chemeca2008@icms.com.au

T: + 61 3 9682 0244 F: + 61 3 9682 0288

www.chemeca2008.com

ROADMAP

Green Papers launched on energy and water

by Gordon Weiss

In response to the challenges raised by the IChemE's Roadmap for 21st Century Chemical Engineering, the board of IChemE in Australia commissioned two Green Papers, one on energy and the other on water. These papers were launched by NSW minister for climate change and the environment Verity Firth at a symposium in Sydney on 4 June. Firth acknowledged the central role chemical engineers will play in meeting society's demands for energy and water.

The symposium, titled "Shared challenges, shared solutions – Sustainable energy and water", brought together a range of speakers who explored the challenges faced in supplying energy and water in the future. Professor Brian Haynes from the University of Sydney provided an overview of the energy problem, how the industrialised world has reaped the benefit of extensive energy use and how, by all measures of equity, it is the industrialised world which must take the lead in the evolution to a low-carbon economy. Haynes outlined his own research work on process intensification, designed to break the "tyranny of scale" and open up a range of possibilities for the distributed generation of energy. He noted that energy is still relatively cheap, although recent rises in fuel prices will drive energy expenditure as a percentage of GDP back to the levels last seen during the oil crisis in the 1970s.

Jim McIlvenny, president Asia Pacific and greater China for the Dow Chemical Company, flagged the importance of energy efficiency in driving improvements in the short term. Rising energy costs now mean that Dow spent as much on energy in the first quarter of 2008 as it did in all of 2002. And this is despite a 2.5% annual improvement in energy intensity since 1990. He provided some valuable insights into the situation in China, and noted that tougher efficiency standards on household appliances there would eliminate the need to build the equivalent of two Three Gorges Dams by 2030. In asking how will we provide the necessary energy for the world to continue to grow, he noted that the world has changed, but the fundamentals of success have not. It's still about science and technology, and progress cannot be made without engineers, he said.

Options for future low carbon energy supply were discussed by

“The world has changed, but the fundamentals of success have not. It's still about science and technology, and progress cannot be made without engineers.”



Verity Firth.



Jim McIlvenny

Dr Tony Vassallo, director of Invenergy. They include centralised options such as nuclear, coal with carbon capture and storage (CCS) and solar thermal, and decentralised options such as wind, photovoltaics and cogeneration. Vassallo noted that all the centralised options have problems. Nuclear power faces financial and environmental risks. CCS has financial risk as well as the uncertainty around long-term storage of CO₂, and the high levels of parasitic power needed to operate a power plant with CCS. Solar thermal is still an emerging, expensive technology. Vassallo expects economies of scale will drive the adoption of decentralised power generation, particularly photovoltaic use. Wind power is seen as a major contributor to future energy mixes, with the US DOE suggesting that wind could supply 20% of US electricity needs in 2030. Energy storage will be the enabler of decentralised energy generation. Vassallo concluded by observing that the need for deep, urgent cuts in carbon emissions leaves little time for new technology development.

Dr Bill Peirson, director of the UNSW Water Research Laboratory, described the strong link between water supply and energy use. Traditional options for urban water supply have been the low energy options – local capture and storage of rainwater. Addressing the emerging global urban water problems may come at the price of higher energy demand, where future options include recycling, desalination and remote storage. Conventional treatment of rain water from a dam requires 0.014kWh/kL. However, potable reuse of wastewater may require 1kWh/kL and seawater desalination needs 4kWh/kL. Better management of water systems will have a major impact and must address appropriate sources/ treatment, catchment-wide water budgets, a clear perspective on energy consumption and a clear perspective on total implementation cost.

In the final presentation of the symposium, Peter Holt from Energetics called for a systems-engineering approach to the management of water and that a balance between centralised and decentralised options will provide the necessary flexibility to meet future demands.

The symposium discussed some of the issues that will frame the economic, technological and political debate on sustainable energy and water. The Green Papers aim to provide a framework for chemical engineers to contribute to the debate. The Roadmap is available at www.icheme.org/roadmap. Contributions to the Roadmap are welcome.

Dr Gordon Weiss is a principal consultant with Energetics and a past chair of IChemE in Australia.

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EVENTS

AUSTRALIA

Conference: 1st international sprayed ceiling conference (3 days) Adelaide 27 Jul. *Inquiries:* Christina Chin 03 9881 1669, fax 03 9887 8104, email ss08@arrb.com.au, web www.arrb.com.au/conferences

Conference: 17th international conference on photochemical conversion and storage of solar energy (6 days) Sydney 27 Jul. *Inquiries:* 02 9290 3366, fax 02 9290 2444, email ips17@icms.com.au, web www.ips17.com

Workshop: Process control and PAS alarm management workshop (5 days) Melbourne Aug 11, Brisbane Aug 18, Perth Sep 1. *Inquiries:* web www.prosengineering.com/index.php?id=12

Conference: Chemeca 2008 (4 days) Newcastle 28 Sep. *Inquiries:* web www.chemeca2008.com

Seminars: Pump fundamentals (2 days) Brisbane 17 Nov, Melbourne 25 Nov, Perth 2 Dec, Adelaide 9 Dec, Darwin 15 Dec; **Liquid piping systems fundamentals** (2 days) Brisbane 19 Nov, Melbourne 27 Nov, Perth 4 Dec, Adelaide 11 Dec. *Inquiries:* Kasa Redberg 02 9868 1111, fax 02 8246 6387, email info@kasa.com.au, web www.kasa.com.au

Courses: Subsea systems (2 days) Perth 3 Jul; **Floating LNG** (2 days) Perth 17 Sep; **The oil and gas industry – a nontechnical overview** (1 day) Perth 19 Sep; **Production processing and emergency systems on offshore oil**

and gas installations (3 days) Perth 7 Nov. *Inquiries:* Renae Watson 08 9355 5599, fax 08 9355 3899, email renae.watson@esd-simulation.com, web www.esd-simulation.com

Conference: Australasian oil and gas exhibition and conference (3 days) Perth 17 Feb, 2009. *Inquiries:* 03 9261 4500, fax 03 9261 4545, email aog@divexhibitions.com.au, web www.aogexpo.com.au

Conference: Radical polymerisation (3 days) Melbourne 15 Feb 2009. *Inquiries:* Dr Graeme Moad, CSIRO Molecular Science 03 9545 2509, fax 03 9545 2446, email graeme.moad@csiro.au, web www.csiro.au/events/RAFT.html

Conference: 12th IUPAC international congress of pesticide chemistry (5 days) Melbourne 4 Jul, 2010. *Inquiries:* Royal Australian Chemical Institute 03 9328 2033, fax 03 9328 2670, email iupacipc2010@raci.org.au, web www.raci.org.au/iupacipc2010

OVERSEAS

Conference: ICCE 2008 – fifth international conference on chemical engineering (3 days) Paris, France July 4. *Inquiries:* web www.waset.org/icce08

Conference: 20th international conference on chemical thermodynamics (6 days) Warsaw, Poland 3 Aug. *Inquiries:* email info@icct.2008.org, web www.icct2008.org

Conference: XVth international congress on rheology (6 days) Monterey, California 3 Aug. *Inquiries:* email pbailey@stanford.edu, web www.rheology.org/ICR2008

Conference: 7th international conference on nuclear and radiochemistry (6 days) Budapest, Hungary 24 Aug. *Inquiries:* Prof László Wojnárovits +36 1 392 2531, email nrc7@mke.org.hu, web www.nrc7.mke.org.hu

Seminars: Pump fundamentals (2 days) Manchester, UK 29 Sep, Aberdeen, Scotland 6 Oct, London 13 Oct; **Liquid piping systems fundamentals** (2 days) Manchester, UK 1 Oct, Aberdeen, Scotland 8 Oct, London 15 Oct. *Inquiries:* Kasa Redberg 02 9868 1111, fax 02 8246 6387, email info@kasa.com.au, web www.kasa.com.au

Conference: 53rd annual safety in ammonia plants and related facilities symposium (5 days) Texas, US 7 Sep. *Inquiries:* email xpress@aiiche.org, web www.aiiche.org/Conferences/Specialty/Ammonia.aspx

Conference: 10th international chemical and biological engineering conference (3 days) Braga, Portugal 4 Sep. *Inquiries:* +351 253 604 401, fax +351 253 678 986, email chempor@deb.uminho.pt, web www.deb.uminho.pt/chempor2008

Conference: 14th meeting of the international humic substances society (7 days) Moscow, Russia 14 Sep. *Inquiries:* Prof Irina Perminova, Department of Chemistry, Moscow State University +7 495 939 5546, fax +7 495 932 8846, email iperm@org.chem.msu.ru

Conference: 24th international mineral processing conference 2008 (5 days) Beijing, China 24 Sep. *Inquiries:* email impc2008@impc2008.org, web www.impc2008.org

Conference: 13th international biotechnology symposium and exhibition (6 days) Dalian, China 12 Oct. *Inquiries:* Cui-Ling Lan +8610 68597751, fax +8610 68597753, email cllan@cashq.ac.cn, web www.ibs2008.org

Conference: 16th Pacific basin nuclear conference (6 days) Aomori, Japan 13 Oct. *Inquiries:* email info@pbnc2008.org, web www.pbnc2008.org

Conference: ChemEng 08 (3 days) Birmingham, UK 28 Oct. *Inquiries:* email chemeng08@icheme.org, web www.chemeng08.com

Seminar: Front loading CFD in the design process (1 day) Coventry, UK 26 Nov. *Inquiries:* web www.nafems.org/events/nafe/2008/upfrontcf



National Fellows & Members lunch

IChemE members and their guests are invited to attend the National Fellow & Members Lunch.

Monday 28 July, 12:00 – 15:00, Parliament House, NSW

Guest speaker: Professor Sir Harry Kroto, Nobel Laureate, Florida State University:
"Science, society & sustainability"

Hosted by: Hon Verity Firth MP, NSW
Minister for climate change and the environment

RSVP by 10 July (early notice will be helpful)

IChemE in Australia, Tel: +61 (0) 3 9642 4494,
Email: austmembers@icheme.org

www.icheme.org

IChemE
in Australia

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NEW PRODUCTS

Managing power in processing plants

Siemens has added the power management function to its PCS 7 control and WinCC visualisation systems for production and process industries. The power management add-on gathers power information from switching, protection and measuring devices. Users can obtain information about the status of the plant, analyse the behaviour of different operating units and find ways to save power.

The add-on comes with ready-made S7 modules, faceplates and Excel macros.

More Info? Qikreply 17

Suppressing fires

The Fogtec fire suppression system is now available in Australia. Pressures ranging from 8000kPa to 20,000kPa turn water into a fine mist which extinguishes the flames. The water nozzles can be configured to the site's requirements.

The system has been tested in accordance with NFPA750 and IMO standards.

More Info? Qikreply 23

Cooling labs

The Thermo Haake EZ Cool 80 circulator is designed to control laboratory temperatures in pharmaceutical, biotechnological, food and beverage, chemical and petrochemical industries. Temperature settings range from -10°C to 80°C.

The device is CFC-free and its bathless design minimises the evaporation of temperature fluid.

More Info? Qikreply 19



The Haake EZ Cool 80 circulator controls temperatures in laboratories.



The power management add-on allows users to analyse the behaviour of different units and find ways to save power.

Sensing and control using radio

The SureCross wireless systems are designed for a wide range of sensing and control applications such as monitoring temperature, humidity and liquid levels.

The SureCross network nodes, spread around the facility, use radio waves to send information to a gateway system controller. Each gateway can support up to 15 nodes and each node can accommodate up to 12 I/O points, depending on configuration.

Multiple SureCross networks can coexist in close proximity, working together with existing process and control networks such as Modbus RTU RS-485 and RS-232 protocols.

The network's bidirectional Rx/Tx communications protect information by reverting to a configured default output condition in case of interruption or failure. The network automatically returns to normal operational status when the

radio link is re-established.

SureCross is available as 900MHz and 2.4GHz models, using mains, solar or battery power. The instruments have an IP67/NEMA6 rating.

More Info? Qikreply 18



Nodes (right) send information to the gateway (left).

CHEMICAL ENGINEERING

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IN AUSTRALIA

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NEW PRODUCTS

Measuring levels

The Vibration Smart Switch can measure the levels of a wide range of liquids and solids, including slurries and pellets.

Its level-sensing element consists of two prongs or vanes. These vibrate at their resonant frequency, driven by piezo ceramic elements. As the level of the material to be sensed rises, it blocks the movement of the fork. The electronics in the unit register this change, producing an output which can be used for indication or control.

A high temperature extension allows the unit to handle process temperatures of up to 150°C.

This type of switch is suitable for a variety of applications such as pump control, high or low-level alarms, and detection of an interface between two different materials. Typical industrial uses would include pharmaceuticals, food and beverage, mining, metals, water and wastewater treatment, chemical processing, and refining.

More Info? Qikreply 21



The Vibration Smart Switch is suitable for a range of materials.



Mixquip agitators are now fitted with a mechanical seal.

Mixing at high pressures

Mixquip Side Entry Agitators are now fitted with a mechanical seal to mix products in high-pressure vessels, deaerators and vacuum tanks.

More info? Qikreply 22

Safety reference for oil distillation

Hazards of Oil Refining Distillation Units is a reference book for operators, engineers and technicians working on crude and vacuum distillation units.

The newest title in BP's *Process Safety* series, the book outlines the main hazards associated with these units and discusses ways to prevent accidents. It is divided into five sections: chemical hazards, physical hazards, equipment failure hazards, safe operating practices and procedures, and serious incidents that have occurred in the past.

The book also includes a test questionnaire for readers.

More Info? Qikreply 16

Testing ore reduction

XRF has released an automated iron ore reduction index furnace. It measures the loss of oxygen in an ore sample, allowing calculations of weight variation as a function of temperature.

The apparatus simulates the conditions in the shaft zone of the blast furnace at a temperature of 900°C and automatically logs information at intervals selected by a technician.

Automated control of the carbon monoxide gas used during the test makes for a safer procedure.

More Info? Qikreply 20

For more information on any of these products, send an email to lralph@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.