



### FEBRUARY 2007

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## NEWS

### Engineers Australia/IChemE agreement

The presidents of both IChemE and Engineers Australia, Greg Lewin and Rolfe Hartley, have signed an agreement that sets out the ways in which the organisations will work collaboratively.

The agreement covers areas such as dual membership, degree accreditation, cooperation in technical activities and professional hospitality.

It is intended to promote, facilitate and extend professional, social and, where appropriate, commercial links between Engineers Australia and the IChemE, to the benefit of members of both organisations and to assist in advancing the mobility of engineering practitioners and the quality of engineering practice world-wide.

The agreement states that each organisation agrees to admit to membership existing chartered members of the other organisation, without further examination or interview, where the member holds a chemical engineering degree accredited by either organisation.

Also covered in the agreement is the ongoing collaboration to jointly produce the bimonthly *Chemical Engineering in Australia* newsletter, to operate Joint Chemical Engineering Committees in each of the states, and to host the annual Chemeca conference together with RACI and SCENZ.

The agreement brings together the work undertaken to trial joint accreditation visits by IChemE and Engineers Australia. It concludes that “within Australia



*At the signing of the agreement were (sitting l-r) Engineers Australia national president Rolfe Hartley, IChemE president Greg Lewin, (standing l-r) Engineers Australia’s Chemical College Board representative Lindsay Wheeler, Engineers Australia director for engineering practice Martin Dwyer, IChemE in Australia chairman Prof Don Nicklin and IChemE in Australia executive director Jan Althorp.*

the organisations agree to conduct on a collaborative basis their accreditation of education programs leading to the professional engineering degree, and to continually improve such arrangements as appropriate”.

At the signing Lewin said: “This is an important agreement between IChemE and Engineers Australia and affirms the cooperative and collaborative approach developed by the two institutions in recent years.

Hartley noted that “this agreement builds on our cooperation and collaboration, particularly in accreditation, to ensure the con-

tinued high standing and recognition for Australian chemical engineers”.

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NEWS



After nearly a year of operation Burrup Fertilisers' ammonia plant in the Pilbara is expected to achieve forecasted production levels.

## Maintenance contract for ammonia plant

Burrup Fertilisers on the Burrup Peninsula in Western Australia's Pilbara region has awarded a 12 month maintenance contract to Furmanite, to supply maintenance and repair services to its new \$700 million ammonia plant.

Services provided by Furmanite under this contract include online pressure leak sealing, hot tapping and Trevitest (online

testing of pressure relief valves).

With a production capacity of 760,000 t/a of liquid ammonia, Burrup Fertilisers wants to avoid any unscheduled shutdown or disruption to production at the plant.

Burrup Fertilisers is a private company, majority owned by Pankaj Oswal. The ammonia plant has been developed over the past four years and represents the largest Indian-based investment in Aus-

tralia. It uses natural gas as feedstock to produce liquid ammonia, primarily for the production of fertiliser and industrial products. Total output is piped from the plant to the Port of Dampier for export markets.

Production began in April 2006 and current indications are that the company will achieve its forecasted production levels in the first year of plant operations.

**IChem<sup>E</sup>**  
IN AUSTRALIA

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(Women in Engineering)

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NEWS

## Large flotation cells for New Zealand gold mine

Three of the world's largest mechanical flotation cells will be installed at Oceanagold's Macraes operation in New Zealand. The Macraes mine is the country's largest producer of gold, with the capacity to process 6Mt/a.

The cells were designed by Outokumpu Technology, which is now also responsible for their supply, installation and commissioning. It will be the first time these cells have been installed at a mine site.

The first cell has been built in Perth and is currently undergoing predelivery testing there.

The second and third cells will be fabricated in New Zealand. Delivery of all cells to the client is scheduled for the end of August.

The cells' design has been a global effort, drawing on Outokumpu's international experience but with a strong Australasian content, according to Peter Bourke, Outokumpu Technology's global technology manager for flotation processes.

Based in Perth, he coordinated input to the cell development from engineering staff around Australasia and internationally.

Known as TankCell-300, each cell will have an active capacity of over 300m<sup>3</sup>.

A single train configuration of 1/1/1 TankCell-300s, combined with two existing



Rendering of the new large mechanical flotation cells to be installed at Oceanagold's Macraes mine in New Zealand.

TankCell-150s, will replace the site's original three trains of column flotation, representing a significant reduction not only in footprint, but also in operational costs such as maintenance and spare parts, Bourke said.

The larger cell design also offers optimised froth stability for low-grade ores, as well as ongoing savings from lower air and power consumption, he said.

The cells will feature the latest mixing technologies developed by Outokumpu Technology. FloatForce, the company's new mechanism, will optimise primary pumping and air dispersion, while a secondary impeller will enhance the mixing and flow patterns in the upper region of the cell, thus increasing the cell's overall efficiency, Bourke said.

### HAZOP Courses - Orica - 2007 Course Schedule

	Brisbane	Sydney	Melbourne	Adelaide	Perth
Basic HAZOP	1, 2 May	8, 9 May	19, 20 June	8, 9 May	29, 30 May
	6, 7 Nov	23, 24 Oct	17, 18 Sept	23, 24 Oct	-
HAZOP Leader	3, 4 May	15, 16 May	21, 22 June	10, 11 May	31 May, 1 June
	8, 9 Nov	30, 31 Oct	19, 20 Sept	25, 26 Oct	-

These popular and highly respected 2 day courses are now in their 17th year. If desired, courses can be run in-house and customised to meet your requirements. For further information, please contact:

**Sydney: Dean Shewring (02) 9913 7284 or Karin Nilsson (02) 9985 1056**

**Melbourne: Myrna Hepburn (03) 9527 1037**



## NEWS

### Oil & gas industry supplier expands in Brisbane

Engineering, construction and maintenance group Enerflex Global officially opened its Brisbane office on 1 February. East coast manager Andy Rankine will lead the Queensland team that encompasses the business units hps Technology (Oil & Gas/Power), hps Environmental and Gas Drive Systems.

Enerflex Global has already been involved in Queensland projects including the construction of Queensland Gas Company's Berwyndale CBM Plant and the design and documentation works for the QCESA Live Fire Campus project.

Enerflex Global's head office is in Perth. The company also has offices in Sydney, Brisbane, Adelaide, Jakarta and Kuala Lumpur.

The company is part of the Enerflex Group of Companies, which last year reported over A\$800 million in revenue worldwide.

Enerflex is a supplier of products and services to the oil and gas production industry. It provides natural gas compression,

power generation and process equipment, hydrocarbon production and processing facilities, electrical, instrumentation and controls services, as well as field maintenance and contracting.

Headquartered in Calgary, Canada, Enerflex has 2800 employees.


### Massive acquisition

WorleyParsons has announced the A\$1.13 billion acquisition of the Colt Companies, a Canadian design and project services business with wide-ranging upstream and downstream hydrocarbons capabilities, particularly in the oil sands sector.

Colt employs about 4600 people through its offices in Calgary, Edmonton, Sarnia, Toronto and Anchorage.

WorleyParsons CEO John Grill said: "This is a unique opportunity for WorleyParsons to secure a leading position in one of the world's largest and fastest growing hydrocarbon markets."

Canada boasts the world's second largest volume of oil reserves at 179 billion barrels, of which 98% are within the oil sands. The country is currently the largest supplier of crude oil and petroleum products to the US. It is forecast to grow from its position as the eighth largest producer of crude oil globally to become the fourth largest by 2015.



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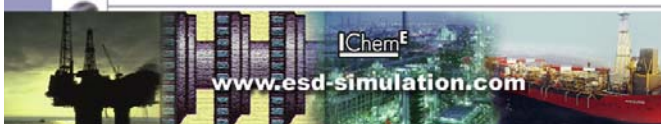
**Practical Aspects of Process Control & Instrumentation;**  
7-9 March '07 Perth

**The Oil & Gas Industry - a Non Technical Overview;**  
13 March '07 Perth

**Control Operation & Design of Reciprocating Gas Compressors;**  
19 - 20 March '07 Perth  
30 April - 1 May '07 Brisbane

**Control & Operation of Centrifugal Gas Compressors;**  
21 - 23 March '07 Perth  
2 - 4 May '07 Brisbane

For more information contact:  
**Renae Watson, ESD Simulation Training Pty Ltd**  
Tel: (08) 9367 1844  
Email: [renae.watson@esd-simulation.com](mailto:renae.watson@esd-simulation.com)



### Revamped journal

The *Development in chemical engineering and mineral processing* journal, published by Curtin University of Technology in Perth, has been transformed into the *Asia-Pacific journal of chemical engineering*. It will be published by John Wiley & Sons, UK, in a partnership agreement with the university.

The journal has been published for 14 years as the only archival journal of chemical engineering in Australia.

Professor Moses O Tadé will continue as the editor-in-chief and Associate Professor Martyn S Ray becomes the senior editor. The editorial assistant is Hongmei Yao. The journal will have an expanded worldwide editorial board.

Both online and print versions will be published and manuscript submissions, reviews, etc are fully online. Free online subscription is available for 2007 at [www.apjChemEng.com](http://www.apjChemEng.com).



## NEWS



At the official opening of IChemE in Australia's new office in Melbourne were (l-r): Jan Althorp (executive director, IChemE in Australia), Greg Lewin (president, IChemE), Mizette Meighan (office manager, IChemE in Australia), Don Nicklin (chair of the IChemE in Australia Board), Melanie Whiteside (membership development officer, IChemE in Australia), Tam Sridhar (past chair of the IChemE in Australia Board), Euan McMinn (past Victoria representative of the IChemE in Australia

Board), Ming Ang (WA representative of the IChemE in Australia Board), Christine Torrance (membership administrator, IChemE in Australia), Hendrik Tait standing in for Matt Hardin (Qld representative of the IChemE in Australia Board), Ainslie Just (honorary treasurer, IChemE in Australia).

PHOTO TAKEN BY PETER MULLINGER STANDING IN FOR PETER ASHMAN (SA REPRESENTATIVE OF THE IChemE IN AUSTRALIA BOARD)

## Call for action on climate change

On Monday 18 December at the Park Hyatt in Melbourne, 60 IChemE Fellows and industry guests joined Greg Lewin, president of IChemE and president of Shell Global Solutions, for an IChemE industry cocktail reception, hosted by Shell.

Speaking about the challenging times that lie ahead in recruiting skilled professionals Lewin said: "40% of employers worldwide report difficulties in filling positions. We have experienced demand swings before, but never a supply side constraint like now."

He also urged his audience to take seriously their potential to impact upon the world's energy challenges. "There is still time to avoid the worst impacts of climate

change, if we act now and act internationally. Governments, businesses and individuals all need to work together to respond to the challenge."

Lewin warned that for too long chemical engineers have been seen by some as contributing to the problem. "We need to reposition ourselves as genuine contributors at the heart of shared solutions for the world's needs.

"Repositioning makes sense because it will help us to attract to the profession more people who want to make a difference. It will also enable us to engage in responsible debate with society – debate that is based on science rather than fear, misunderstanding or vested

interest," he said.

Earlier that day Lewin officially opened the IChemE's new Melbourne office, in the company of the board and staff of IChemE in Australia.

The new office, located at Level 11, 488 Bourke Street, Melbourne, provides a more professional space to service the growing membership in Australia.

At the opening Lewin conveyed a message of best wishes to the board and staff. IChemE CEO Dr David Brown said: "I see the move as a great step forward for IChemE in Australia and in my new role look forward to engaging with the Australian chemical engineering and business community."



## CHEMECA 2007

### New award for teaching

by Gordon Weiss

A new award has been added to the annual awards of excellence in chemical engineering. The Caltex Award specifically acknowledges the essential role teaching and mentoring play in developing our profession by recognising outstanding achievements in the training of chemical engineers.

The new award will be announced during the 2007 Chemeca Conference in Melbourne in September.

The other awards are:

- the Chemeca Medal, the highest individual award for a chemical engineer in Australia and New Zealand
- the Alstom Award, which recognises outstanding contributions in the industrial field for candidates under 30 years of age
- the ExxonMobil Award, which recognises significant ongoing contributions to

chemical engineering through innovations or a series of related publications over a number of years

- the Fluor Award, which recognises exceptional management and leadership talent that has directly resulted in a sustained corporate success over a significant period
- the Rio Tinto Award, which recognises outstanding applied chemical engineering
- the Shedden Uhde Medal and Prize, which recognises practical services to the profession and to the practice of chemical engineering; candidates must be under 40 years of age
- the Fonterra Award, which 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 WorleyParsons Award, which acknowledges personal commitment and leadership by a chemical engineer in the area of safety and/or the environment; applicants will have demonstrated outstanding leadership and/or commitment to safety or the environment during design, construction or operation of process plant.

I would like to thank all award sponsors for the generous support of the Chemical Engineering Awards of Excellence.

Over the next few months, nominations for all these awards will be sought. Please contact Julie Armstrong ([JArmstrong@engineersaustralia.org.au](mailto:JArmstrong@engineersaustralia.org.au)) for more information.

*Dr Gordon Weiss is the chair of the Awards of Excellence Selection Committee.*

# CHEMECA

2007

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

### 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.

### Conference Office

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



## NOTICES

### Eminent speaker tour

Professor John Chen, president of the American Institute of Chemical Engineers (AIChE), will be touring the east coast of Australia from 27 March to 3 April.

Chen recently retired as the Carl R Anderson Professor of Chemical Engineering at Lehigh University in Bethlehem, Pennsylvania, USA. At Lehigh, he chaired the Department of Chemical Engineering, and founded and directed the university's Institute of Thermo-Fluid Engineering and Science. He has served as dean of the PC Rossin College of Engineering and Applied Science and has been a consultant to dozens of companies and national laboratories.

Chen has been a pioneer and world leader on boiling heat transfer and other



Prof John Chen

areas involving two-phase flow and heat transfer. The Chen Method has become the universal standard for designing vapor-liquid boiling systems used in various industries.

Chen has been the winner of the Max Jakob Memorial Award, the top inter-

national prize for achievements in heat transfer, and two top honors from Germany – the Alexander von Humboldt Senior Research Award and the Max Planck Research Prize. From AIChE, he has received the D Q Kern Award for research with practical impact, the Heat Transfer and Energy Conversion Division Award, and the Particle Technology Forum's

Thomas Baron Award. From ASME, he has received the Melville Medal for archival literature.

Chen will speak on one of the following topics in each state:

- "Chemical engineering: today and tomorrow – some observations and thoughts"
- "Engineered surfaces for enhanced condensation."

The dates and the registration contact are:

Sydney: Tuesday 27 March – contact Nimali on 02 9410 5600

Brisbane: Wednesday 28 March – contact Daniel 07 3832 3749

Adelaide: Thursday 29 March – contact Lisa on 08 8267 1783

Melbourne: Monday 2 April – contact Elizabeth on 03 9329 8188

Newcastle: Tuesday 3 April – contact Katrina on 02 4921 6103

### Nominations invited for science prizes

Nominations are now being called for the 2007:

- Prime Minister's Prize for Science
- Science Minister's Prize for Life Scientist of the Year
- Malcolm McIntosh Prize for Physical Scientist of the Year
- Prime Minister's Prize for Excellence in Science Teaching in Primary Schools
- Prime Minister's Prize for Excellence in Science Teaching in Secondary Schools

The prizes will be restricted to Australian citizens or to those who hold permanent residence status in Australia.

The Prime Minister's Prize for Science is the highest prize. It comprises an embossed gold medallion and a grant of \$300,000 and may be awarded to an individual or jointly to up to four individuals, if the achievement is a collaborative or team effort.

Nominations for the 2007 prizes for science should be made by nominators

who are personally knowledgeable of the nominated achievement and who can offer expert opinions on its worth. Self nominations will not be considered.

The closing date for receipt of nominations is Friday 27 April 2007. For more information go to <http://www.dest.gov.au/scienceprize>.

### Award for wastewater treatment

Nominations are invited for the international Lettinga Award for a project stimulating innovation in anaerobic technology for wastewater treatment aimed at cleaner production, recycling, sustainable development and/or resource conservation.

Valued at 25,000 Euros (about A\$43,000), it is financed by the Dutch environmental engineering companies Paques Natural Solutions, Royal Haskoning and Biothane Systems International.

The focus of this year's award is on the chemical industry.

The award will be given to a project, and the project participants should indicate their knowledge and experience with anaerobic processes (via curriculum vitae or publications list). Projects may be submitted from anywhere in the world.

The proposal form can be downloaded from [www.leaf-water.org](http://www.leaf-water.org) and should be submitted by 1 April. For more information contact Darja Kragic at [Darja.Kragic@wur.nl](mailto:Darja.Kragic@wur.nl).



## 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)

#### Energy

Conference: **Clean coal conference 2007** (2 days) Brisbane 29 Mar. Inquiries: web [www.iir.com.au/resources](http://www.iir.com.au/resources)

Conference: **17th world hydrogen energy conference** (5 days) Brisbane 15 Jun, 2008. Inquiries: ICMS 07 3307 4000, fax 07 3844 0909, email [whec2008@icms.com.au](mailto:whec2008@icms.com.au), web [www.whec2008.com](http://www.whec2008.com)

#### Minerals processing

Course: **The oil & gas industry: A nontechnical overview** (1 day) Perth 13 Mar. 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: **9th mill operators' conference 2007** (3 days) Fremantle 19 Mar. Inquiries: Alison M McKenzie, 03 9662 3166, fax 03 9662 3662,

email [conference@ausimm.com.au](mailto:conference@ausimm.com.au), web [www.ausimm.com/mill\\_operators2007](http://www.ausimm.com/mill_operators2007)

Courses: **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; **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: **Wines, mines & community – engineering the future for regional Australia conference** (3 days) Hunter Valley 23 Mar. Inquiries: Engineers Australia Newcastle Division 02 4926 4440, fax 02 4929 7121, email [newcastle@engineersaustralia.org.au](mailto:newcastle@engineersaustralia.org.au), web [www.newcastle.engineersaustralia.org.au](http://www.newcastle.engineersaustralia.org.au)

Conference: **2nd annual engineering Australia 2007** (1 day) Melbourne 27 Mar. 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)

#### Systems engineering

Course: **Practical aspects of process control & instrumentation** (3 days) Perth 7 Mar. 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)

### OVERSEAS

#### Chemical engineering

Conference: **MICS2007: 3rd Mitsui Chemicals international symposium on catalysis science** (2 days) Kisarazu, Japan 14 Mar.

Inquiries: email [MICS2007@mitsui-chem.co.jp](mailto:MICS2007@mitsui-chem.co.jp), web [www.mitsui-chem.co.jp/e/index.htm](http://www.mitsui-chem.co.jp/e/index.htm)

Conference: **23rd American Chemical Society national meeting** (5 days) Chicago, US 25 Mar. Inquiries: Kathleen Thompson, +202 872 4396, fax +202 872 6128, email [k\\_thompson@acs.org](mailto:k_thompson@acs.org), web [www.chemistry.org/portal/a/c/s/1/home.html](http://www.chemistry.org/portal/a/c/s/1/home.html)

Conference: **The art of catalysis in process chemistry** (2 days) Barcelona, Spain 12 Apr. Inquiries: Scientific Update +44 1435 873062, fax +44 1435 872734, email [sciup@scientificupdate.co.uk](mailto:sciup@scientificupdate.co.uk), web [www.scientificupdate.co.uk/conferences/conferences.php](http://www.scientificupdate.co.uk/conferences/conferences.php)

Conference: **Design syntheses, develop processes** (2 days) Barcelona, Spain 12 Apr. Inquiries: Scientific Update +44 1435 873062, fax +44 1435 872734, email [sciup@scientificupdate.co.uk](mailto:sciup@scientificupdate.co.uk), web [www.scientificupdate.co.uk/conferences/conferences.php](http://www.scientificupdate.co.uk/conferences/conferences.php)

Conference: **EuroCombiCat 2007: European conference on combinatorial catalysis research & high-throughput technologies** (4 days) Bari, Italy 22 Apr. Inquiries: Monika Locherer, Dechema e.V. +49 69 7564 239, email [locherer@dechema.de](mailto:locherer@dechema.de), web [www.eurocombiat.org](http://www.eurocombiat.org)

Conference: **Petrosafe 2007: Conference on hydrocarbon safety** (3 days) Kochi, India 23 Apr. Inquiries: Sri.R.Venugopal, +91 484 24227296, email [rv@petrosafe2007.com](mailto:rv@petrosafe2007.com), web [www.petrosafe2007.com](http://www.petrosafe2007.com)

Conference/Expo: **AchemAsia 2007** (5 days) Beijing, China 14 May. Inquiries: Dechema e.V. +49 69 7564 230, email [achemasia@dechema.de](mailto:achemasia@dechema.de), web [www.achemasia.de](http://www.achemasia.de)

Conference: **3rd international symposium of Federation of European Societies on trace elements & minerals** (4 days) Santiago de Compostela, Spain 16 May. Inquiries: email [secre@seqc.es](mailto:secre@seqc.es), web [www.seqc.es/festemmeting](http://www.seqc.es/festemmeting)

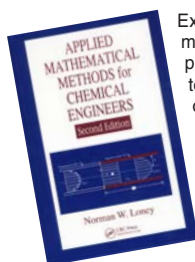
Conference: **12th international symposium loss prevention & safety promotion in the process industries** (3 days) Edinburgh, Scotland 22 May. Inquiries: Rosemary Cragg, +44 1788 578214, fax +44 1788 534407, email [rcragg@icheme.org](mailto:rcragg@icheme.org), web [www.icheme.org/LossPrevention2007](http://www.icheme.org/LossPrevention2007)

Conference: **10th international symposium on solid oxide fuel cells** (6 days) Nara, Japan 3 Jun. Inquiries: Prof K Eguchi, Kyoto University +81 75 383 2519, fax +81 75 383 2520, email [sofc-x@q52551.sakura.kudpc.kyoto-u.ac.jp](mailto:sofc-x@q52551.sakura.kudpc.kyoto-u.ac.jp), web [sofc.electrochem.jp/sofc-x](http://sofc.electrochem.jp/sofc-x)

Conference: **Chemtech 2007** (3 days) Colombo, Sri Lanka 21 Jun. Inquiries: Institute of Chemistry, Ceylon +94 11 714264812, fax +94 11 2861231, email [info@ichemc.com](mailto:info@ichemc.com), web [www.ichemc.com](http://www.ichemc.com)

## Applied Mathematical Methods for Chemical Engineers, 2E

Ed: Norman W Loney



Expanded and updated, this new edition uses worked examples to illustrate several mathematical methods that are essential in successfully solving process engineering problems. The book first provides an introduction to differential equations that are common to chemical engineering, followed by examples of first-order and linear second-order ordinary differential equations (ODEs). Later chapters examine Sturm-Liouville problems, Fourier series, integrals, linear partial differential equations (PDEs), and regular perturbation. The author also focuses on examples of PDE applications as they relate to the various conservation laws practised in chemical engineering. New Features # Two popular approaches to model development: shell balance and conservation law balance # Numerical method of lines, using MATLAB and Mathematica where appropriate # Systems of first-order ODEs.

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## NEW PRODUCTS

### Peristaltic pump

Larox Flowsys, a supplier of flow control technology, has launched its product range expansion, the Larox LPP80 peristaltic pump.

The company said the purpose of the LPP80 product development was to meet demands for a high-volume pump designed for heavy industrial duties as required in most mineral processing and metallurgical applications.

It said its LPP pumps incorporate a rolling design, which eliminates friction, maximises hose life and lowers energy consumption. The roller is mounted on a crankshaft creating eccentric rotation during the 360 degree operating cycle. Compared to conventional peristaltic pumps, the LPP pumps generate 100% more flow per compression, the company said.

The LPP80 pump has a flow capacity of up to 40 m<sup>3</sup>/h and a maximum operating pressure of 7.5 bar. Standard drive unit is a helical bevel geared motor.

Larox LPP peristaltic pumps are equipped with in-line pipe connections, an



*The Larox LPP80 peristaltic pump*

optional hose leak detection unit and an adjustment mechanism that senses hose

wear when compression is readjusted.

• *More information? Qikreply 17*

### Gauge protector

German thermoplastic valve manufacturer ASV Stübbe has redesigned its range of corrosion resistant gauge protectors. With the body and bonnet now being connected by a special thread, the need for metal fixings has been eliminated.

The company said type MDM 902 gauge protectors feature a liquid filled cavity together with a durable and flexible diaphragm to transmit process pressure to an instrument, thus offering an economical method of protecting instruments such as pressure gauges and pressure switches from corrosion and clogging, while maintaining high accuracy.

Body materials of PVC, PP and PVDF, together with a PTFE coated diaphragm, make these units suitable for use in systems controlling a variety of media rang-



*Corrosion resistant gauge protector*

ing from water to the harshest chemical, with the PTFE coated diaphragm safely protecting the pressure measuring device from corrosive attack.

• *More information? Qikreply 21*

### Ultrasonic sensor for flotation cells

Endress+Hauser is marketing an ultrasonic sensor to help optimise flotation cells, the two-channel, four-wire device Prosonic S system.

One of the system's ultrasonic sensors measures the distance to the froth, the other – complete with float, rod and reflecting disk – measures the distance to the interface since the float drifts on the slurry interface with the disk protruding through the foam.

The company said when the Prosonic S measures the distance to the disk, it is in fact measuring the actual interface level. It can therefore determine if operating conditions are optimised or if further adjustments to the chemical dosing, slurry or bubbles need to be made.

• *More information? Qikreply 18*

## NEW PRODUCTS



*Diversified Technologies' pulsed electric field wastewater treatment system*

### Wastewater treatment

A pulsed electric field (PEF) wastewater treatment system is being introduced by Diversified Technologies of Bedford, Massachusetts, US.

The system operates through a process of electroporation in cells to accelerate predigestion.

The company said this results in up to 80% less solid waste output. It said the system destroys cell membranes by applying 1 microsecond to 20

microseconds, 35kV/cm to 50kV/cm high voltage pulses at frequencies up to 2kHz across the wastewater stream.

Featuring a treatment chamber and separate rack housing a power supply, pulse modulator, the controls and data loggers, the system can easily be integrated into existing facilities, the company said.

• *More information? Qikreply 20*

### Chemistry calculation software

Outokumpu Technology has released a new version of the HSC Chemistry process calculation software. Called the HSC Chemistry 6.0, it contains 21 calculation modules and 11 databases for reaction, equilibrium, heat balance, heat transfer, petrological and simulation applications.

The company said most of the modules automatically utilise the same extensive thermochemical database which contains enthalpy (H), entropy (S) and heat capacity (C) data, hence the name HSC. This database has been expanded to include more than 20,000 species.

• *More information? Qikreply 19*

### Portable filter

The Fumex LF70 portable filter for the extraction of gases, fumes and atmospheric dust is available from Flextraction Ltd.

The company said the LF70 has been designed to meet the requirements for the extraction of all airborne pollutants in laboratories, hospitals, pharmaceutical and electronic equipment manufacturers. It can also be used for TIG welding, soldering, laser marking as well as conservation work.

Weighing 25kg with a noise level of 56dB(A) at 100%, it has a 315W, 230V 50/60Hz motor producing an infinitely adjustable airflow of maximum 252m<sup>3</sup>/h. It has an operator friendly control panel showing the kind of pollutant the filter is set for, while a cycle counter shows the airflow speed.

For dust particles, the 3-stage filter separates 99.7% of all particles >0.3µm, starts at 0 hours, being automatically reset when the filter is changed and shows the number of hours the filter has been running. As an option a differential pressure manometer is available to indicate when the filter needs changing. For gases a carbon filter is used for maximum gas absorption.

• *More information? Qikreply 16*

**For more information on any of these products, send an email to [tmarsden@engineersmedia.com.au](mailto:tmarsden@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.**