

3rd AWA Water Reuse and Recycling Conference: REUSE07

The University of New South Wales, Sydney
July 16 – 18, 2007

Time	Mon 16 th July		Tues 17 th July		Wed 18 th July	
9:00 – 10:30	1: Opening Address & Keynotes		5: Workshop		9A	9B
10:30 – 11:00	Morning tea & Poster Presentation					
11:00 – 12:30	2A	2B	6: Workshop		10A	10B
12:30 – 1:30	Lunch					
1:30 – 3:00	3A	3B	7A	7B	Field Trips	
3:00 – 3:30	Afternoon tea & Poster Presentation					
3:30 – 5:00	4A	4B	8A	8B		

Session 1: Opening Address & Keynote Presentations

- Opening Address
- Keynote Presentation: Milestones in the Reuse of Municipal Wastewater
Takashi Asano, University of California. (Sponsored by National Water Commission)
- Keynote Presentation: The State of Indirect Potable Reuse in the United States
Jorg Drewes, Colorado School of Mines. (Sponsored by Water Services Association of Australia)

Session 2A: Development and Application of Guidelines

- Drinking Recycled Water – National Guidelines and Regulatory Oversight
David Cunliffe - Department of Health, South Australia.
- The New 'Class A' for Water Recycling: Opportunity or Obstacle?
Hamish Reid - South East Water
- Recycling Industrial Wastewater for Irrigation of Agriculture and Horticulture – What are the Major Risks?
Anne-Maree Boland - RM Consulting Group
- Application of National Guidelines for Water Recycling 2006 to Existing Class C Recycling Schemes – Health Risk Management
Michelle Carsen - South East Water

Session 2B: Water Reuse Infrastructure and Development

- Western Corridor Recycled Water Scheme - The largest Recycled Water Scheme in the Southern Hemisphere
Eric Owens - Veolia Water
- Water Reuse for Golf Course Irrigation – A Case Study Within the Ku-ring-gai Local Government Area
Peter Davies - Ku-ring-gai Council / Michael Muston - Muston & Associates
- A Review of Agricultural and Municipal Reuse (Dual-Reticulation) Schemes and Innovation in South Australia
Stephanie Rinck-Pfeiffer - United Water International
- Staying Ahead of the (Recycling) Game
Stephanie Gillespie - Western Water

Session 3A: Integrated Water Management Initiatives

- Sydney Water Gold Sponsor Address
Kerry Schott - Sydney Water Corporation
- Recycled Water and Sustainable Urban Water Management.
Peter Dennis - Hunter Water Australia
- Comparison of Risk of Unplanned Versus Planned Water Reuse Based on the National Reuse Guidelines.
Greg Leslie - University of New South Wales
- How Public Information and Outreach before Consultation Can Help Improve Understanding
Rod Lehmann - CH2M HILL

Session 3B: Governance and Policy Leadership

1. Australia a Leader or Laggard in Water Laws for Recycled Water?
Jennifer McKay - University of South Australia
2. Communication Strategy of the Queensland Water Commission
Gerald Tooth - Queensland Water Commission
3. Diversity and Decentralisation for Water Cycle Management: Reflections from the Hawkesbury Water Recycling Scheme.
Roger Attwater - University of Western Sydney
4. Recycled Water for Drinking - What are the Necessary Pre-requisites?
Peter Donlon - Water Services Association of Australia

Session 4A: Understanding our Communities

1. Indirect Potable Reuse: Identifying Factors that are of Public Concern
June Marks - Flinders University Adelaide
2. The Important Role of Stakeholder Communication when Delivering Recycled Water to Pimpama Coomera
Darren Hayman - Gold Coast Water
3. Additional Behavioural Change Methods for Building Community Acceptance for Recycled Drinking Water
Janet A Saunders - Janet Saunders Consulting
4. Religious, Philosophical and Environmentalist Perspectives on Potable Wastewater Reuse in South Africa
Zoë Wilson - University of KwaZulu Natal (South Africa)

Session 4B: Contaminants of Concern

1. Chemical Contaminants in Water: Can we Measure Everything?
Frederic DL Leusch - CRC for Water Quality and Treatment
2. Virus Removal – A Pivotal Element of the New Australian Guidelines for Water Recycling
Tony MacCormick - Memcor Australia
3. Effect of Antioestrogenic Compounds on the Total Oestrogenicity of Treated Effluents
Anu Kumar - CSIRO Land and Water
4. Application of Results of Endocrine Disruptor Research to the Western Sydney Recycled Water Initiative
Adam Lovell - Sydney Water Corporation

Session 7A: A National Perspective

1. Advances in Water Recycling in Australia 2004-2007
John C Radcliffe - National Water Commission
2. The R&D Challenges of Water Recycling – Technical and Environmental Horizons
Jeff Foley - University of Queensland
3. Water Recycled in Australia: A Bench Mark for 2006
Bridget Wetherall - Earth Tech
4. Adapting to Climate Change with Water Savings and Water Reuse
John Anderson - Afton Water Solutions

Session 7B: Delivering Water Recycling Solutions

1. Multiple Uses of Wastewater: A Methodology for Cost-Effective Recycling
Gayathri Mekala - University of Melbourne
2. The Challenges of Recycling Schemes for Non-Potable Use
Anthony Davey - Earth Tech
3. Risk Management of Alternative Water Sources – A Key Element for Sustainable Cities
Peter Holt - Ecological Engineering
4. The Reuse Dilemma-Changing the Accepted Paradigm for Reuse
Ian Reimers - North East Water (Vic).

Session 8A: Managed Aquifer Recharge

1. Towards Australian Guidelines for Water Recycling Via Managed Aquifer Recharge
Peter Dillon - CSIRO Water for a Healthy Country
2. Managed Aquifer Recharge in the Botany Sand Aquifer – Part of the Treatment Train for Water Reuse?
Wendy Timms - University of New South Wales
3. Overview of 265 MLD Water Recycling Facility at Orange County California, USA
Dale Rohe - MWH Americas (USA)
4. Groundwater Replenishment of Very Highly Treated Wastewater to Deliver a Major Drinking Water Source for Perth
Nick Turner - Water Corporation of Western Australia

Session 8B: Economics and Energy of Water Reuse

1. Water, Wastewater, Energy and Greenhouse Gasses in Australia's Major Urban Systems
Steven Kenway - CSIRO Land and Water
2. Asset and Business Management Challenges in Implementing Urban Water Reuse
Warren Adams - MWH Australia
3. Critical Success Factors for Private Sector Participation: Reflections from Willunga Water Reuse Scheme, Adelaide
Ganesh Keremane - University of South Australia
4. Industrial Effluent – A Valuable Resource: Effluent Recycling Case Study
Chris Conway - GHD Consultants

Session 9A: Managing Risks with Recycled Water

1. Security Through Diversity - Deciding on potable use in the ACT
Gary Bickford - ACTEW Corporation
2. Adopting a Multiple Barrier Approach to Aquifer Recharge – An Example of Indirect Potable Reuse.
Chandra Mysore - Metcalf and Eddy (USA).
3. Operational Application of Quantitative Microbial and Chemical Risk Assessment in the Field of Water Reuse
David Roser - University of New South Wales
4. Quantifying Microbial Health Risks for Non-Potable Reuse of Stormwater
Susan Petterson - University of New South Wales

Session 9B: Advanced Treatment Technology #1

1. Hold the Salt: Innovative Treatment of RO Concentrate
Jacqueline Kepke - CH2M HILL
2. Risk Management and Cross-Connection Detection of a Dual Reticulation System
Michael Storey - Sydney Water Corporation
3. Diagnostic Analysis of the Technical Feasibility of RO Desalting of Treated Wastewater
Adva Zach-Maor - Victoria University
4. UV/H₂O₂ as a Barrier to NDMA and other Micropollutants at Bundamba and other Water Reuse Facilities – Application and Case Studies
Christian Williamson - Trojan Technologies

Session 10A: Meeting the Needs of a New Water Management Paradigm

1. Why has SEQ decided to drink purified recycled water?
Ted Gardner – Queensland Natural Resources & Water
2. Fast-Tracking the Development of Recycled Water Schemes
Cameron Evans - Veolia Water
3. Assessing the Feasibility of Integrated Water Cycle Management in Coolum Ridges
Phil Selmes - Parsons Brinckerhoff
4. AWA Water Recycling Forum Position Paper: Water Recycling to Meet Our Water Needs
John Anderson – AWA Water Recycling Forum

Session 10B: Advanced Treatment Technology #2

1. Treatment of Highly Polluted Paper and Pulp Effluent using Combined Treatment Processes including a Continuous Ion Exchange Process
Thomas Dahlke - Orica Watercare
2. Challenge Testing of Medium Pressure UV Disinfection at a Recycled Water Plant
Mark Angles - Sydney Water Corporation
3. Effects of Organic Fouling on the Removal of Trace Organic Contaminants by Nanofiltration Processes
Long Nghiem - University of Wollongong
4. Advanced Oxidation Technologies for Removal of Micropollutants in Indirect Potable Reuse Schemes
Heather Coleman - University of New South Wales

POSTER PRESENTATIONS

1. Assessment Tools for a Sustainability Framework for the Australian Water Industry
Greg Peters – University of New South Wales
 2. Class A+ Effluent from a Single House AWTS – Miniaturized MBR Technology
Craig Timms – Econova
 3. Mass Spectrometric Identification of Organic Chemicals Comprising Fouling on used Reverse Osmosis Membranes
James McDonald – University of New South Wales
 4. Membrane Bioreactors in Australia: Forecast is for Growth
Stephen Chapman – MWH Australia
 5. Determination of Antibiotics in Wastewater for Recycling
Nhat Le-Minh – University of New South Wales
 6. New and emerging water treatment technologies; View on Contaminant Removal Mechanism
Shubha Sudheendra - National University of Singapore
 7. Rejection Capabilities of RO membranes to Notification-Level Chemicals and Selected Endocrine Disrupting Chemicals
Mohammad Helmy – CH2M Hill
 8. From Pollution to Solution – Renewed Water from Contaminated Groundwater
Fred Barendregt - Kellogg, Brown & Root
 9. Health Risk Assessment for Recycling for Replacement River Flows
Stuart Khan – University of New South Wales
 10. Using MF-NF-RO pilot plant to produce designer recycle water for agriculture irrigation
Linda Zou - Victoria University
- (additional posters to be confirmed).

WORKSHOP: Community Engagement and Indirect Potable Reuse (Sessions 5 & 6)

This will be a highly interactive workshop and expected to be of significant interest and value to all delegates.

Facilitators:

June Marks – Flinders University
Snow Manners – Resident of Toowoomba
Amelia Love – Queensland Water Commission
Stuart Waters – Twyford Consulting



National Committee
Australia

KENSINGTON GROUP PUBLIC FORUM: Who's Responsibility is it?

An open discussion on whether large-scale or small-scale solutions can best address urban water supply shortages. 6 pm The Scientia (UNSW). A free event and open to the public.

FIELD TRIPS

Option 1 - Water Reclamation and Management Scheme (WRAMS) in Sydney Olympic Park
Option 2 - North Head Recycled Water Membrane Bioreactor Plant at North Head STP

CONFERENCE DINNER @ THE SCIENTIA (UNSW)

Three course dinner and beverages, Tuesday 17th July.

Gold sponsor:



Silver sponsors:



CH2MHILL

Bronze sponsor:



www.cwwt.unsw.edu.au/reuse07



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The University of New South Wales, Sydney
July 16 – 18, 2007

DELEGATE DETAILS:

Surname..... First Name.....

Position.....

Organisation.....

Postal Address.....

Postcode..... Suburb State

Telephone (w)..... Mobile..... Facsimile.....

Email.....

Special and/ or Dietary Requirements:

Membership number (AWA / IWA):.....

REGISTRATION DETAILS

Registration Category *	Includes GST	Cost
Full delegate – Member	\$1085.00 per person	
Full delegate - Non-member	\$1195.00 per person	
Student - Member	\$440.00 per person	
Student - Non-member	\$495.00 per person	
Additional Dinner Ticket	\$154.00 per person	
	TOTAL COST:	

* Please see following page for registration inclusions and payment details.

Registration

This form becomes a tax invoice upon receipt of payment

REGISTRATION INCLUSIONS:

Registration Category	All prices include GST
AWA Member - Full Registration	<ul style="list-style-type: none"> All conference materials & conference satchel. Proceedings book 'Water Recycling and Reuse' in hard copy Welcome beverages on the evening of Monday 16 July. Daily catering on Monday, Tuesday and Wednesday day (morning tea, lunch and afternoon tea) Conference dinner (3 course meal and beverages) at Scientia on the evening of Tuesday 17 July. Site visit to either (i) the Water Reclamation and Management Scheme (WRAMS) at Sydney Olympic Park or the North Head Recycled Water MBR Plant at the Sydney Water North Head STP. PLEASE NOTE: that only 30 places are available for each site visit, therefore for the first 60 full registrations received by the AWA, registration <u>will include</u> the option to choose one of the two technical tours.
Non-Member - Full Registration	
Student - AWA Member	
Student - Non-member	
Additional Dinner Ticket	<ul style="list-style-type: none"> Conference dinner ticket for colleague or partner (3 course meal and beverages). Dinner will be on Tuesday 17th July.

PAYMENT DETAILS:

Please indicate method of payment by **ticking** the appropriate box:

<input type="checkbox"/>	Cheque (payable to <i>Australian Water Association</i>)		
<input type="checkbox"/>	Credit Card	(Please circle):	<input type="checkbox"/> Visa <input type="checkbox"/> MasterCard <input type="checkbox"/> Bankcard
Authorised Amount:	\$ _____		
Credit Card Number:Expiry Date.....		
<i>Name on Card:</i>		
Signature.....	Date.....		
<p><i>Credit Card Authority:</i> <i>I authorise AWA or its agents to charge the stated amount on my credit card as outlined above and enclose my signature for this authorisation. I also acknowledge that AWA is not required to produce a copy of a signed and validated sales voucher to obtain payment.</i></p>			
<p>In registering for this event, relevant details (eg. your name/organisation) will be used on the delegate lists and made available to parties directly related to the event including the venue, sponsors and key suppliers. I consent to the collection, use and disclosure of information (excluding credit card details) provided in this registration form in accordance with and for the purpose outlined above.</p>			
Signature.....	Date.....		

Please return to:
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