

# 1<sup>st</sup> Australian Young Water Professionals Conference

*The Scientia*, University of New South Wales  
15<sup>th</sup> – 17<sup>th</sup> February 2006

## The Program at a Glance

*Updated Friday 20th January*

Time	Day 1 (Wed 15 <sup>th</sup> Feb)	Day 2 (Thu 16 <sup>th</sup> Feb)	Day 3 (Fri 17 <sup>th</sup> Feb)
08.30	Conference Registration		Travel to Malabar STP
	Tea and coffee	Tea and coffee	
09.00			
09.30	Introductory Session	Session 4	Technical Tour (Malabar STP)
10.00			
10.30			
	Morning Tea	Morning Tea	
11.00			Travel to Sydney Olympic Park
11.30	Session 1	Session 5	Technical Tour (Sydney Olympic Park)
12.00			
12.30			
13.00			
13.30	Lunch	Lunch	Lunch
14.00			
14.30	Session 2	Session 6 (YWP Mentors)	Travel to Sydney Domestic Airport and UNSW
15.00			
15.30			
	Afternoon Tea	Afternoon Tea	

16.00	<b>Session 3 (Posters)</b>	<b>Session 6 (continued)</b>
16.30		
17.00		
17.30		
18.00		<b>Networking and pre-dinner drinks</b>
18.30	<b>Conference BBQ</b>	
19.00 +		

## Conference Program

**Wednesday 15<sup>th</sup> February 2006**

**08.15** Conference Registration and Poster pin-up

**08.40** Tea and coffee

### Introductory Session

**08.55** Introduction

**Dr Michael Storey**  
**Dr Pierre Le Clech**  
*Chair, 1<sup>st</sup> Australian Young Water  
Professionals Conference*

**09.00** Official Welcome to YWP2006

**Darryl Day**  
*President, Australian Water Association*

**09.20** International Water Association in Australia

**Professor Jürg Keller**  
*Chair, International Water Association  
(Australia)*

**09.30** IWA and the Young Water Professionals  
Program

**Assoc. Professor Richard Stuetz**  
*Chair, IWA Young Water Professionals  
Committee*

**09.40** AWA and the Young Water Professionals Program

**Chris Corr**  
*Chair, AWA Young Water Professionals Committee*

**09.50** Keynote Address

**Emeritus Professor Nancy Millis  
AC MBE**  
*Chair, CRC Water Quality and Treatment*

**10.40** Morning Tea

### Session 1 (Chair: Ross Young)

**11.00** Topic to be advised

**Ross Young**  
Executive Director  
Water Services Association of Australia

**11.20** YWP 1.1. Gippsland Lakes Project: Benchmarking of Innovative Wastewater Systems for a unique Gippsland coastal town

**Mandy Habener**  
*Maunsell Australia (Vic.)*

**11.40** YWP 1.2. Recent developments in Pipeline Inspections in Western Australia

**Garth Walter**  
*Water Corporation (WA)*

**12.00** YWP 1.3. Sustainable Irrigation – Can quality reporting improve performance?

**Demelza Brand**  
*Murray Irrigation Limited (NSW)*

**12.20** YWP 1.4. How Does Recycling Fit in Sydney's Water Cycle?

**Philip Von Huben**  
*Sinclair Knight Merz (NSW)*

**12.40** YWP 1.5. Capacity, Pricing and Politics of Northlakes Reuse Scheme – a case study of water recycling in the Northern Territory

**Meg O'Mullane**  
*Power and Water Corporation (NT)*

**13.00** Lunch

### Session 2 (Chair: CH2MHill)

**14.00** Topic to be advised

Presenter to be confirmed  
*CH2MHill*

- |              |   |   |
|--------------|---|---|
| <b>14.20</b> | YWP 2.1. Ecological response in aquatic systems: coping with limits to predictability                       | <b>Nicky Grigg</b><br><i>CSIRO Land and Water (ACT)</i>       |
| <b>14.40</b> | YWP 2.2. Water-energy nexus: a review of existing models  | <b>Deborah Marsh</b><br><i>University of Technology (NSW)</i> |
| <b>15.00</b> | YWP 2.3. Smart metering: a significant component of integrated water conservation systems                   | <b>Elisa Idris</b><br><i>Energy Conservaton Systems (NSW)</i> |
| <b>15.20</b> | YWP 2.4. An Example of Industry Experience as a South Australian Water Corporation Young Water Professional | <b>Katharine Ward</b><br><i>SA Water (SA)</i>                 |

**Session 3 – Poster session and short oral presentations (Chair: Ian Law)**

**15.40** Afternoon tea and poster session

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|---|---|
| YWP P.1. Using mechanical thermal expression (MTE) to dewater sewage sludge   | <b>Khagendra Thapa</b><br><i>Monash University (Vic.)</i>                   |
| YWP P.2. Domestic wastewater management plan: An essential tool.  | <b>Lee Leong</b><br><i>Maunsell Australia Pty Ltd, (Vic.)</i>               |
| YWP P.3. Behaviour of pharmaceuticals in sewage treatment plants  | <b>Francesco Pomati</b><br><i>University of New South Wales (NSW)</i>       |
| YWP P.4. Surface hydrophobicity of particles and bacteria in Melbourne's water storage system   | <b>Steven Tomlinson</b><br><i>Swinburne University of Technology (Vic.)</i> |
| YWP P.5. Estimation of oxygen demand levels using UV-Vis spectroscopy and artificial neural networks as an effective tool for real-time, wastewater treatment control | <b>Shoshana Fogelman</b><br><i>Griffith University (Qld)</i>                |
| YWP P.6. Column study of zinc sorption onto compost from synthetic stormwater   | <b>Othman Al-Mashaqbeh</b><br><i>University of Technology (NSW)</i>         |

YWP P.7. Pilot plant investigation of the MIEX <sup>®</sup> DOC process as a pre-treatment for microfiltration and granular activated carbon	<b>Mike Dixon</b> <i>Australian Water Quality Centre (SA)</i>
YWP P.8. Effect of pre-treatments on microfiltration of natural organic matter	<b>Eun Kyung Lee</b> <i>University of New South Wales (NSW)</i>
YWP P.9. Developing a synthetic greywater for testing greywater technologies	<b>Melissa Toifl, Grace Tjandraatmadja</b> <i>CSIRO Manufacturing and Infrastructure Technology (Vic.)</i>
YWP P.10. Advanced oxidation processes for the removal of humic substances	<b>Sanly Lim</b> <i>University of New South Wales (NSW)</i>
YWP P.11. Extending sustainable use of effluent disposal sites through policy inputs	<b>Ajay Sharma</b> <i>Central Queensland University (Qld)</i>
YWP P.12. Nitric oxide-mediated biofilm dispersal in <i>Pseudomonas aeruginosa</i>	<b>Nicolas Barraud</b> <i>University of New South Wales (NSW)</i>
<b>16.20</b> Topic to be advised	Presenter to be confirmed
<b>16.40</b> YWP 3.1. Corrosion Impact on Drinking Water Distribution Systems A Review and Future Research Direction	<b>Jenna Castorina</b> <i>James Cook University (Qld)</i>
<b>16.45</b> YWP 3.2. Effect of superoxide on redox chemistry of iron in circumneutral pH range (7-9)	<b>Shikha Garg</b> <i>University of New South Wales (NSW)</i>
<b>16.50</b> YWP 3.3. The use of on-line turbidity meters and particle counters for the investigation of particles within a drinking water distribution network	<b>Kelly O'Halloran</b> <i>Griffith University (Qld)</i>
<b>16.55</b> YWP 3.4. Assessing inter-relationships and decision support system for urban water sustainability assessment	<b>Elizabeth Lai</b> <i>University of New South Wales (NSW)</i>

- 17.00** YWP 3.5. Deletion analysis of the microcystin synthetase bi-directional promoter from the cyanobacterium *Microcystis aeruginosa* PCC 7806 suggests a role for iron and nitrogen in transcription regulation  
**Hannah Root**  
*University of New South Wales (NSW)*
- 17.05** YWP 3.6. Adsorption and biological removal of microcystins in GAC filter  
**Haixiang Wang**  
*University of Adelaide (SA)*
- 17.10** YWP 3.7. The Effect of Lateral Gene Transfer on Cyanobacterial Toxicity and the Implications for Toxic Bloom Monitoring  
**Alexandra Roberts**  
*University of New South Wales (NSW)*
- 17.15** YWP 3.8. Towards a *cryptosporidium* proteome map and the search for a diagnostic  
**Quach Truong**  
*Macquarie University (NSW)*
- 17.20** YWP 3.9. New Strategies For The Detection of Pathogens From Industrial Wastewater Samples  
**Kate Stoner**  
*Macquarie University (NSW)*
- 17.25** YWP 3.10. Production of poly(3-hydroxyalkanoates) copolymers from carbonaceous wastewater by Glycogen Accumulating Organisms  
**Yu Dai**  
*University of Queensland (Qld)*
- 17.30** YWP 3.11. Applicability of Generic Contaminant Fate Models to Analysis of Trace Metal Loadings from a Small Highly Urbanised Catchment of Sydney, Australia  
**Brett Davis**  
*University of Sydney (NSW)*
- 17.35** YWP 3.12. Degradation of 1,4-dioxane in water using advanced oxidation processes  
**Visapiri Vimonses**  
*University of New South Wales (NSW)*
- 17.40** YWP 3.13. Developing Sustainable Groundwater Supplies for Irrigating Parks  
**Alexandra Badenhop**  
*University of New South Wales (NSW)*
- 17.45** YWP 3.14. Querying institutional support for decentralised urban water: four Australian cases  
**Daniel Livingston**  
*University of New South Wales (NSW)*
- 17.50** Session close and concluding remarks

**18.30** Conference BBQ  
Kensington Colleges, UNSW

**Thursday 16<sup>th</sup> February 2006**

**08.40** Tea and coffee

**08.55** Welcome to Day 2

**Session 4 (Chair: Carol Howe)**

**09.00** Topic to be advised

**Carol Howe**  
*CSIRO Future Cities*

**09.20** YWP 4.1. Impact of the Upgrade of the Cronulla Sewage Treatment Plant on Water Quality at Sutherland Beaches

**Courtney May**  
*Department of Environment and Conservation (NSW)*

**09.40** YWP 4.2. Urban stormwater pollutant loads and treatment success in three Sydney sub-catchments

**Michael Galloway**  
*University of New South Wales (NSW)*

**10.00** YWP 4.3. Decision making framework for selecting sustainable water reuse treatment technologies

**Peter Holt**  
*Ecological Engineering (Vic.)*

**10.20** YWP 4.4. A graduate's perception of the water/wastewater industry. Lessons from Project Manukau- New Zealand

**Rajtha Herath**  
*CH2MHILL Australia (Vic)*

**10.40** Morning tea

**Session 5 (Chair: Nicholas Ashbolt)**

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|--------------|---|---|
| <b>11.00</b> | YWP   | <b>Professor Nicholas Ashbolt</b><br><i>UNSW</i>                      |
| <b>11.20</b> | YWP 5.1. Time-integrated large-volume sampling: collection and characterisation of particulate material in drinking water transport systems   | <b>Lisa Hamilton</b><br><i>Griffith University (Qld)</i>              |
| <b>11.40</b> | YWP 5.2. The Effect of Solar Radiation on the Treatability of Reservoir Water and its Subsequent Quality                                      | <b>Yeow Chong Soh</b><br><i>RMIT University (Vic.)</i>                |
| <b>12.00</b> | YWP 5.3. Effects of a Complex Mixture of Therapeutic Drugs at Environmental Concentrations on Human Embryonic Cells and Zebrafish Liver Cells | <b>Francesco Pomati</b><br><i>University of New South Wales (NSW)</i> |
| <b>12.20</b> | YWP 5.4. Verification of ballast water exchange by ships using organic matter fluorescence  | <b>Kathleen Murphy</b><br><i>University of New South Wales (NSW)</i>  |
| <b>12.40</b> | YWP 5.5. An Investigation into the Effects of Polyelectrolyte Charge Density on Silica-Silica Interactions                                    | <b>Sineaid Lagan</b><br><i>University of Melbourne (Vic.)</i>         |
| <b>13.00</b> | Lunch   |   |

### Session 6 YWP Mentors Program

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|--------------|--|---|
| <b>14.00</b> | Introduction   |   |
| <b>14.05</b> | A pathway to the water industry                                | <b>Grant Leslie</b><br><i>Ecwise Environmental</i>        |
| <b>14.25</b> | Emergency Water Support – Banda Aceh and East Timor            | <b>Paul Byleveld</b><br><i>NSW Health</i>                 |
| <b>14.45</b> | Getting the most out of conference networking                  | <b>Christobel Ferguson</b><br><i>Ecwise Environmental</i> |
| <b>15.05</b> | Speed mentoring activity<br>(including afternoon tea at 15.35) |   |

- 15.50** Mentoring and Networking Tips **Linda McDonald**  
*Corporate Learning*
- 16.10** Launch of the AWA YWP National Mentoring Program
- 16.15** Group Mentoring Activity
- 16.55** Session close and concluding remarks
- 18.00** Networking and pre-dinner drinks Coogee Bay Hotel  
Arden Street, Coogee
- 19.00** Conference Dinner and Awards *Including address by*  
**Nicholas Apostolidis**  
*Water Business Stream Leader, GHD*

**Friday 17<sup>th</sup> February 2006**

**Technical tour**

- 08.30** Bus departs UNSW
- 09.00** Technical tour of the Malabar Sewage Treatment Plant
- 11.00** Bus departs Malabar Sewage Treatment Plant
- 11.45** Technical tour of the Sydney Olympic Park water recycling scheme
- 13.00** Buffet lunch at Novotel Hotel, Sydney Olympic Park
- 14.00** Bus departs Sydney Olympic Park

**15.00** Drop-off at Sydney Domestic Airport

**15.30** Drop-off at UNSW