

29TH AUGUST - 2ND SEPTEMBER 2016 MARRIOTT RESORT SURFERS PARADISE, QUEENSLAND AUSTRALIA

RISING TO THE CHALLENGE





Full Day Workshop 1

Urban Waterways – Understanding Processes to Protect Waterway Health

Presenters: Tony Weber and Misko Ivezich, Alluvium

Verandah Room

This Workshop will cover waterway management from stream and catchment management objectives, planning through to implementation. The workshop themes are:

- 1. **Setting objectives and classifying urban streams -** Effective objective setting is critical to achieving healthy urban waterways. This session provides an overview of effective objective setting, identifying values and the role of geomorphic classification.
- 2. **Stream classification and geomorphic processes in urban streams -** An introduction to the classification of urban waterway types and the key geomorphic processes in urban streams.
- 3. **Catchment scale processes -** Overview of the catchment scale processes which can threaten urban waterway health and the tools available to assess these processes.
- 4. **Best practice in waterway planning -** Outline of best practice waterway planning in new and existing urban areas.

The Workshop will be interactive, with a focus on case studies with direct applicability to practitioners. It will introduce the fundamentals of urban waterway management, and touch on some of the latest developments in the science.

Workshop Format

09.00 am	Workshop Commences
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10.30 am Morning Tea

12.30 pm Lunch

15.00 pm Afternoon Tea

17.00 pm Workshop Concludes

Member Rate: \$595 per person Non member Rate: \$665 per person

Full Day Workshop 2

Turning Ideas into Impact

Presenters: Lindsay Beck, LindsayB and Peter Canny, El Camino

Boardroom

The stormwater industry is changing to meet the demands of modern cities with growing complexity in physical and social infrastructure. Expectation from community and government to be more collaborative and inclusive in decision making is ever-increasing, as we navigate stakeholder expectations and the need to collaborate with a growing number of professions outside our own.

This requires technical professionals to play a new role of "advocate" for their ideas and expertise with no official training on how to do this. Technical specialists spend an increasing amount of time on engagement-related activities and away from their specialty, or they rely on internal communications teams that often lack the right technical background.

So what does this mean?

The stormwater industry's brightest minds are struggling to make a difference for their organisations and clients as they try to make their ideas heard. Employers want to support employees to be more effective and to align their ideas to deliver concrete business objectives. There is a clear need to develop capacity to refine, present and engage people with emerging stormwater ideas and innovations.

Content

This Workshop teaches a process that empowers participants to be more effective at communicating technical messages. Offered over one day, the skills participants learn can apply to any technical idea or issue. Applicable to areas such as flooding and drainage, urban planning, integrated water cycle planning and delivery, or green infrastructure, this Workshop gives participants a process and underlying principles they can apply to real-world communication problems they are facing right now, such as obtaining funding, engaging with political stakeholders on new ideas, engaging community on technical solutions or infrastructure, and others.

The course is taught using real-world examples brought by the participants to give them a concrete and relevant case to apply immediately.

Learning Objectives

- · Ability to clarify communication objectives
- Better understand audiences and how to tailor messages
- Develop fit-for-purpose structures for improved delivery
- Apply key principles that inform design and execution specific to communication in a technical field

Workshop Format

09.00 am Workshop Commences

Pre Conference Workshops – Monday 29th August

10.30 am Morning Tea12.30 pm Lunch

15.00 pm Afternoon Tea

17.00 pm Workshop Concludes

Member Rate: \$595 per person Non member Rate: \$665 per person

Full Day Workshop 3

Design of Constructed Stormwater Wetlands

Presenters: Dr Dale Brown and Sally Boer, e2Designlab

Hinterland Room 1

This Pre Conference Workshop will cover the essentials of design for constructed stormwater wetlands, including:

- An overview of Wetlands What is a wetland, different types and how they work
- Functional design for multiple benefits including pollutant removal, ecological function, safety, cost effective asset management and integration within public open spaces
- The wetland design process
- Modelling a wetland in MUSIC setting up a model and parameterisation
- Sizing and design flows
- Sediment pond function and design
- Macrophyte zones function and design and wetland bathymetry, minimising mosquito proliferation and other considerations
- Role of vegetation in wetlands, plant species selection and considerations for planting
- Inlet, outlet and high flow bypass design considerations
- Hydrodynamics including flow distribution, permanent pool and extended detention depths and water level patterns to sustain wetland vegetation
- Designing for access and maintenance, including dewatering and monitoring
- Landscape integration examples of successful integration of wetlands within the urban landscape to provide multiple benefits and a facilitated discussion on new directions in wetland design seeking to meet the needs of a range of stakeholders

Workshop Format

09.00 am Workshop Commences

10.30 am Morning Tea

12.30 pm Lunch

15.00 pm Afternoon Tea

17.00 pm Workshop Concludes

Member Rate: \$595 per person
Non member Rate: \$665 per person

Half Day Morning Workshop

AR&R 2016 in Practice

Presented by: XP Software

Hinterland Room 2

AR&R is the biggest change to Australian stormwater in nearly 30 years, but what does this mean for practicing engineers? This Workshop is designed to focus less on AR&R thesis and more on how you will practice AR&R 2016 methodology. Delegates will:

- Learn practical tips on how you can meet the new AR&R 2016 guidelines in your day-to-day work
- Understand the effects on the industry at large
- Learn the method so your practice can take advantage of AR&R changes

The new edition of the AR&R guideline will provide technical direction for the industry and practices will change as a result of the release. We will run through key modelling methods you can employ today to comply with the new guidance. You will learn the key upcoming challenges and how to handle them for stormwater system design and analysis - and how to best manage these challenges.

The AR&R Guideline has developed from 14 Chapters split over 8 books, to 49 Chapters to be distributed over 9 books. The guideline is comprehensive and we will be addressing the key introductory concepts relevant to modellers, with a view to covering subsequent chapters and specific topics in future.

The session will be followed by a live Q&A. Note: XP Solutions has been an interested party in the Australian Stormwater industry for more than 40 years, but we are not affiliated with AR&R. For more details go to http://www.arr.org.au.

Workshop Format

09.00 am Workshop Commences

10.30 am Morning Tea

12.30 pm Lunch

Member Rate: \$315 per person Non member Rate: \$355 per person

Half Day Afternoon Workshop

Integrated Stormwater Assessment and Design

Presented by: XP Solutions

Hinterland Room 2

This Workshop is designed to be educational and interactive to address stormwater infrastructure challenges that Australia faces now and into the future. The Workshop will feature:

- A site inspection of the case study location
- Opportunity to network with industry peers

The Workshop will be split into two focus topics:

- Integrated Urban Drainage Design; and
- Stormwater Detention and Infiltration System

The day will also feature a major stormwater drainage study being completed by a local council. The study identifies weaknesses in the existing infrastructure network and compares against the impact of climate change to 2100.

Workshop Format

12.30 pm Lunch

13.30 pm Workshop Commences

15.00 am Afternoon Tea

17.00 pm Workshop concludes

Member Rate: \$315 per person Non member Rate: \$355 per person

CONFERENCE PROGRAM: TUESDAY 30TH AUGUST

8.00 am	Delegate Registration			
oloo ulli	Tea and Coffee on Arriva	ı		
	Welcome to STORMWAT	ER 2016		
8.55 am	Chris Gray, Conference Facilitator			
9.25 am	Welcome to Country			
9.30 am	Conference Opening Andrew Allan, National President, Stormwater Australia			
	Keynote Presentation			
9.50 am	British Columbia - 2001 t	o 2016 and Beyond	e / Water Balance Approac	
		Director, Partnership for W	/ater Sustainability, British	Colombia, Canada
10.35 am	Gold Sponsor Welcome Rod Wiese, Managing Dir	ector, Storm Consulting		
10.40 am	Morning Tea			
	Hinterland Room	Verandah Room	Waianbah Room	Elston Room
11.10 am	Engaging Communities in Stormwater Management through Effective Communication Dr Angela Dean, University of Queensland and CRC for Water Sensitive Cities	"Roof to Tap" - Urban and Industrial initiatives in Warrnambool Peter Wilson, Wannon Region Water Corporation	Using Drones to Undertake Inspections of Open Stormwater Channels Pramod Janardhanan, Sydney Water, Masood Naqshband, Abyss Solutions and James Rennie Australian UAV	Using Environmental Report Cards to Encourage Constructive Stakeholder Relationships in Natural Resource Management: Developing a Participatory Report Carding Process Anthony Kung, International WaterCentre
11.40 am	Move to Next Concurren	t Session		,
	Hinterland Room	Verandah Room	Waianbah Room	Elston Room
11.45 am	Visual Images that Engage People with Water Sensitive Urban Design Tracy Schultz, CRC for Water Sensitive Cities	Making Water for our Community Happen Petrina Nelson, City of Canada Bay	Adelaide Airport Stormwater Irrigation Trial - Determining the Multiple Benefits of Irrigated Vegetation Greg Ingleton, SA	Constructed Wetlands to Support Urban Waterway Protection from Stormwater Pollutants
12.15 pm	Move to Next Concurren	t Session	Water	University of Western Australia and CRC for Water Sensitive Cities
12.13 μπ	Move to Next Concurren	t Jession		

12.20 pm	Evaluating the Impact of an Education and Enforcement Program on Stormwater Pollution Using a Rick-Based Approach Using a Novel Suspended Particle Sampler Simon Sharp, CAPIM, University of Melbourne	Fishermans Bend Integrated Water Management Options Assessment David Howard, GHD Pty Ltd	Restoring Urban Ecology and Social Amenity to Alexandra Canal, Sydney Daniel Cunningham, Sydney Water	Transport Modelling to Verify Constructed Wetland Residence Times Thomas Cousland, Water Technology Pty Ltd
12.50 pm	Lunch			
1.50 pm	The Green and Blue Web. What is the Legacy we are Leaving for our Grandchildren? Martin O'Dea, CLOUSTON Associates	Hydrostatic Fluid Containment System - Passive Flood Barrier Scott Roy, Flow Defence	Maintenance of Stormwater Control Measures and the Implications for Performance Andrew Thomas, University of Melbourne Waterway Ecology Research Group and Murray Powell, Optimal Stormwater	Eric Singleton Bird Sanctuary Rehabilitation Project — Construction of a Nutrient Stripping Wetland Jeremy Maher, City of Bayswater and Simon Cleary, GHD
2.20 pm	Move to Next Concurren	t Session	1	l
	Hinterland Room	Verandah Room	Waianbah Room	Elston Room
2.25 pm	Adding Blue to Green: Unlocking the Business	Adaptive Floodplain Planning - from	Doing More with More: The Value of	An Approach to Control Stormwater Runoff in a More Cost-Effective
	Case for Dual-Purpose Stormwater Management and Urban Greening Dale Brown, E2DesignLab	Modelling to Implementation Rob Swan, Cardno	(Industry-Research) Collaboration Ross Allen, CRC Water Sensitive Cities	Way Leung Wai On, Waste and Environmental Technologies Ltd
2.55 pm	Stormwater Management and Urban Greening Dale Brown, E2DesignLab	Implementation	Collaboration Ross Allen, CRC Water	Way Leung Wai On, Waste and Environmental
2.55 pm 3.25 pm	Stormwater Management and Urban Greening Dale Brown,	Operation, Maintenance, Rectification and Optimisation of 20 Stormwater Harvesting Sites Omid Sayer, Ben Wolfgramm and Murray Powell, Optimal	Collaboration Ross Allen, CRC Water	Way Leung Wai On, Waste and Environmental
	Stormwater Management and Urban Greening Dale Brown, E2DesignLab Afternoon Tea The Use of GRP Ovoid Pipes in Trunk Drainage	Operation, Maintenance, Rectification and Optimisation of 20 Stormwater Harvesting Sites Omid Sayer, Ben Wolfgramm and Murray Powell, Optimal Water	Collaboration Ross Allen, CRC Water Sensitive Cities Multi-Functional Stormwater Projects - An Innovative Technical Design and Partnership Approach David Sexton, Engeny Water Management and Adam Berry,	Way Leung Wai On, Waste and Environmental Technologies Ltd WSUD Opportunities Mapping in City of Port Phillip, Melbourne

4.00 pm	ARR Blockage:	Stormwater Drainage	Putting Small Scale	Stormwater
	Numerical	Restoration and	WSUD Policy into	Infrastructure Design as
	Implementation and	Rehabilitation at	Action - A Rapid	a Function of Road
	Three Case Studies	Liverpool City Council	Adaptation Approach	Hierarchy
	Paul Ollett, Hydralinc	John Monro, Interflow	Prudence Tucker and	Rosemary Edwards,
	Pty Ltd	Pty Limited	April McKay, Great Lakes Council	PDC
4.30 pm	Close of Day 1			
5.00 pm -	Conference Welcome R	eception at the Surfers Par	radise Marriott Resort and	l Spa
5.00 pm – 7.00 pm		eception at the Surfers Partion from Clearwater and S		l Spa
•	'Water Drinks' Introduc	tion from Clearwater and S	tormwater Victoria	
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•	'Water Drinks' Introduc	•	tormwater Victoria	

CONFERENCE PROGRAM: WEDNESDAY 31ST AUGUST

7.00 am	Morning Activity on the Beach			
8.00 am	Delegate Registration			
8.40 am	Welcome to Day 2 Chris Gray, Conference Facilitator			
9.10 am	Keynote Presentation Rachael Robertson			
9.55 am	Keynote Presentation Dr Katherine Daniell, Austr	ralian National University Co	entre for European Studies	
10.40 am	Morning Tea			
	Hinterland Room	Verandah Room	Waianbah Room	Elston Room
11.10 am	A Modern Perspective on the Hydrology Processes of Armstrong Creek and Canadian Catchments in Regional Victoria Prof Peter J Coombes, Urban Water Cycle Solutions, Mark Colgate and Luke Barber, TGM and Mark Babister, WMA Water	Glenvale Linear Parkland. Waterways and Parks can Cohabitate! Tony Loveday, RMA Engineers and Josie Raftery, Toowoomba Regional Council	Drainage Planning and Design for Urban Density Helen Brookes, Essential Environmental	VIC vs NSW Baseflow Harvesting - Two Similar yet Very Different Stormwater Harvesting Showcases Hugh Williamson and Murray Powell, Optimal Stormwater
11.40 am	Move to Next Concurrent	Session		
11.45 am	Modelling the 3 Waters Ann Pugh, Innoyvze	Targeting Multiple Benefits from Stormwater Quality Projects Through the Living Rivers Program Bronwen Hutchinson, Melbourne Water	Why Best Practise is Destroying our Waterways Rod Wiese, Storm Consulting	Site Audit of Bioretention Systems in Western Sydney Nigel Bosworth, Calibre Consulting
12.15 noon	Move to Next Concurrent	Session		
12.20 pm	New Design Rainfalls for the Stormwater Industry Janice Green, Bureau of Meteorology	Pakenham Racecourse Relocation: Balancing Stormwater Needs for Environmental Outcomes	Best Practice Policy Framework for Achieving Water Sensitive Urban Design in Australia's Cities	The Water Cycle Leads the Way – A Torquay Residential Development Approach
		Alice Lisitsa and Julia Baumann, Dalton Consulting Engineers	Linda Choi, Monash University Law Faculty and CRC for Water Sensitive Cities	Australia and Tony Overman, Barwon Water
12.50 pm	Lunch			
	Hinterland Room	Verandah Room	Waianbah Room	Elston Room
1.50 pm	RADAR Rainfall Calibration of Flood	No Presentation Scheduled for this	Dissolved Nitrogen - The Elephant in the	Uncertainty Analysis of Hydrologic Model

	Models - The Future for Catchment Hydrology? A Case Study of the Stanley River Catchment in Moreton Bay, QLD Alister Daly, Water Technology Pty Ltd	Session	Room? Mark Liebman, Blacktown City Council and Carl Tippler, CT Environmental	Parameters Through Monte Carlo Methods in XPRAFTS: A Case Study of the Ripley Valley Catchment Laurence Allan, Cardno and Jonathan Klaric, XP Solutions
2.20 pm	Move to Next Concurrent	Session		
2.25 pm	Rainwater Tanks with On-site Detention: Basis for a Refined Design Method Steven Cobden, LaTrobe University	Evaluating Residents' Preferences and Willingness to Pay for Vegetated Stormwater Management: A choice Experiment Approach Ben Penhallurick, Renew Solutions Pty Ltd and Dr Jim Smart, Griffith University	Killing Two Birds with One Stone: Soils and soil Moisture for Healthy Trees and Stormwater Treatment Sally Boer and Dr Dale Browne, E2Designlab	Stormwater Pollution Investigation using Passive Sampling Techniques: A Pilot Study Beth Salt, Water NSW and Simon Sharp, Centre for Aquatic Pollution Identification and Management (CAPIM)
2.55 pm	Afternoon Tea			
3.25 pm	Reducing Flood Risk by Strategically Positioning Flow Controls in Stormwater Drainage Systems Lisa Lemont, Rocla	What's Stopping Voluntary Community Uptake of on-lot IWCM Measures and how do we Encourage it? Findings from the WaterSmart Moreland Pilot Jamie Comley, Jamie Comley Consulting	Improving Stormwater Treatment Using Engineered Filtration Media Eric Love, Centre for Organic Research and Education	Cost Savings and Innovation through 2d Stormwater Modelling: A Councils' Perspective Peter Coleman and Liam Callaghan, Logan City Council
3.55 pm	Move to Next Concurrent			
4.00 pm	Stormwater Pollution Educational Awareness Campaign Diane Ross and Richard Holloway, Australian Car Wash Association	Effect of Hydrologic Variability on the Macrophyte Assemblage within a Constructed Wetland: A Review of Modelling Approaches Gelareh Khakbaz, CRC for Water Sensitive Cities, University of Western Australia	Can an Offset Framework Deliver Water Sensitive Urban Design? Tony Weber and Matt Francey, Alluvium	Water Resources, Stormwater and Waterway Benefits of Water Conservation Measures for Australian Capital Cities Prof Peter J Coombes, Urban Water Cycle Solutions, Michael Smit, RHAA, Josh Byrne, Josh Byrne and Associates and Chris Walsh, University of Melbourne

4.30 pm	Move to Next Concurrent	Session		
	Hinterland Room	Verandah Room	Waianbah Room	Elston Room
4.35 pm	Managing Community and Infrastructure Flooding Vulnerability on a Complex and Diverse Floodplain Quentin Underwood, IVRC	Using Market Based Instruments to Deliver Cost-Effective Stormwater Management Outcomes Jeremy Cheesman, Marsden Jacob Associates	A Risk-Based Framework for Managing Stormwater, Using Ecological Condition Triggers for Receiving Waterways Jocelyn Dela-Cruz, NSW Office of Environment and Heritage and Anthony Pik, NSW Environment Protection Authority	Assessing New Technologies Available in Hydraulic Modelling to Improve Accuracy James Newton and Luke Cunningham, Water Technology Pty Ltd
5.05 pm	Close of Day 2			
7.00 pm – 11.30 pm	STORMWATER 2016 Confe Paradise Marriott Resort F Stormwater A U S T R A L I A	Hotel sponsored by:	Awards for Excellence - Gra	nd Ballroom, Surfers

CONFERENCE PROGRAM: THURSDAY 1ST SEPTEMBER

8.30 am	Delegate Registration				
9.30 am	Welcome to Day 3 Chris Gray, Conference Facilitator				
9.45 am	Keynote Presentation Mark Babister, WMA Water				
10.30 am	Morning Tea				
	Hinterland Room	Verandah Room	Waianbah Room	Elston Room	
11.00 am	On the Couch with the Winners of the National Awards for Excellence	Innovation in Stormwater Sediment Separation Dewaters and Separates the Fine Fraction and Contaminants David Carew, Melbourne Water	Urban Subsoil Drainage as an Alternative Water Source in a Drying Climate Carl Davies, CRC Water Sensitive Cites and University of Western Sydney	Geocentric Optimized WSUD Selection Tool with Link to 1D/2D Dynamic Wave-Variable Timestep Hydraulic/Hydrologic Modelling Platform Patrick Bonk, Innovyze	
11.30 am	Move to Next Concurrent	Session			
11.35 am	On the Couch with the Winners of the National Awards for Excellence	Better Living through MUSIC Modelling Dr Andrew O'Neil, Healthy Waterways	Following the Flowpath; a Practical Method for Embedding Integrated Water Cycle Management Thinking in the Design of New Urban Landscapes Tony Overman, Barwon Water	SQID Database – Interactive Preview Rod Wiese, Stormwater Australia	
12.05 pm	Move to Next Concurrent	Session			
12.10 pm	Could This Be It? How to Create Social and Amenity Objectives for WSUD. Jack Mullaly, Ideanthro	The Performance of Streetscape Bioretention Systems South East Queensland Lucy Peljo, BMT WBM Pty Ltd	Penrith City Council Gross Pollutant Trap Auditing Simon Weaver and Murray Powell, Optimal Stormwater	Room for Improvement: The Influence of Statutory Land Use Planning on the Adoption of Water Sensitive Urban Design Practices in Australia Don Williams, Faculty of Law, Monash University and CRC for Water Sensitive Cities, Monash	

12.40 pm	Lunch			
1.40 pm	Hinterland Room	Verandah Room	Waianbah Room	Elston Room
	Vulnerability of Stormwater Systems to Climate Change- Evidenced by Physical Models Christopher Drummond, University of New South Wales Water Research	Improving your Gross Pollutant Traps Through Rectifications – Getting the Biggest Bang for your Buck Murray Powell, Allen Zhang and Hugh Williamson, Optimal	Developing a New Bioretention Filter Media Specification to Balance Stormwater Treatment and Plant Growth Paul Dubowski, BMT WBM and Jack Mullaly,	Creating Stormwater Management Plans Ready for a Low Carbon Future Using Scenario Based Planning Edmond Lascaris, City of Whittlesea
2.10 pm	Move to Next Concurrent	Stormwater	Ideanthro	
2.15 pm	Application of Two- Dimensional Flood Models to Effectively Plan and Manage Urban Stormwater Sophia Buchanan, City of Gold Coast	Bankstown City Council Stormwater Audit Program - A Case Study Jeremy Manion, Canterbury Bankstown Council	More than Flooding and Nutrients: A Study of the Mental Health Benefits of Waterways Katie Fletcher, Alluvium	Meeting Dual Objective of Water Supply and Flood Mitigation in a Constrained Urbanised Setting Rod Wiese, Storm Consulting
2.45 pm	Afternoon Tea			
3.15 pm	Keynote Presentation Rising to the Challenge Michael Groom			
4.00 pm	Closing Presentation, Ann Andrew Allan, Stormwater		for 2018 National Conferen	ce and Prize Draw
4.15 pm	Conference Close			

Conference Registration Fees

Early Bird Full Conference and Social Events Member Rate: Early Bird Full Conference and Social Events Non Member Rate: Early Bird Full Conference with Welcome Reception only Member Rate Early Bird Full Conference with Welcome Reception only Non Member Rate: Early Bird Day Registration Member Rate Early Bird Day Registration Non Member Rate	\$990 per person \$1160 per person \$860 per person \$1030 per person \$495 per person \$565 per person
Standard Full Conference Member Rate: Standard Full Conference Non Member Rate: Standard Full Conference with Welcome Reception only Member Rate Standard Full Conference with Welcome Reception only Non Member Rate: Standard Day Registration Member Rate Standard Day Registration Non Member Rate	\$1090 per person \$1260 per person \$960 per person \$1130 per person \$565 per person \$635 per person

Conference Technical Tour

This full day technical tour will visit a range of sites in South East Queensland and across the border, showcasing a range of on the ground works including bioretention systems and stormwater treatment systems in some major development projects in the region.

Full details of the final program will be provided by the end of May 2016.

Technical Tour Format

08.30 am Coach departs from the Marriott Hotel

10.30 am Morning Tea12.30 pm Lunch

16.30 pm Coach returns to the Marriott Hotel

Early Bird Member Rate: \$265 per person Early Bird Non member Rate: \$325 per person

Standard Member Rate: \$325 per person Standard Non member Rate: \$385 per person