

10 YEARS



Water  
Research  
AUSTRALIA

# next water

12-13 February 2019  
Melbourne

Event Program

TIME	SESSIONS	
8:30am	Delegate Registration	
9:15am	Welcome and Housekeeping - Gerry Gannon Event MC	
9:20am	Welcome to Country - Perry Wandin Wurundjeri Elder	
9:30am	Opening - Karen Rouse, CEO, Water Research Australia	
9:50am	Morning Keynote <b>Water Quality and Health from Source to Tap</b> Prof Joan Rose, international water quality expert	
10.30am	MORNING TEA BREAK	
	STREAM 1 (Olympic Room B)	STREAM 2 (Olympic Room A)
	MORNING STREAMS	
11.00am	Climate Change	Water and Wastewater Treatment
	<p>Climate change is affecting seasonal weather patterns and extremes, disrupting ecosystems and posing water security and other challenges for the water sector. Hear from leaders of climate-change related research who are tackling decision-making in the face of the uncertain future climate change presents, and from industry who are taking steps to seize opportunities from this challenge.</p>	<p>The water industry is continuously improving and innovating in water and wastewater treatment. Advances include new approaches and technologies to improve treatment systems that include infrastructure and people. Hear how smart working and working smart can move us to the next level of water treatment.</p>
	<p><b>Better data-driven decision making under future climate scenarios</b> Dr Leon van der Linden SA WATER</p> <p><b>Preparing for future challenges in an uncertain world</b> Prof Holger Maier UNIVERSITY OF ADELAIDE</p> <p><b>Scenarios and robustness metrics: how do they impact decision-making?</b> Cameron McPhail UNIVERSITY OF ADELAIDE</p> <p><b>Mapping the possible – how scenario planning can demystify the future</b> Luke Sarsons ARUP</p> <p><b>Adapting catchment monitoring and potable water treatment to climate change</b> Dr Sina Moradi UNIVERSITY OF NEW SOUTH WALES</p> <p><b>Towards next generation natural organic matter characterisation techniques for treatment optimisation under a changing climate</b> Anthony Agostino UNIVERSITY OF NEW SOUTH WALES</p>	<p><b>Treatment advances and contributions towards the Sustainable Development Goals (SDGs)</b> Luke Zappia WATER CORPORATION</p> <p><b>Transforming drinking water treatment – rethinking the application of biological treatment processes</b> Dr Katrin Doederer UNIVERSITY OF QUEENSLAND</p> <p><b>Using Graphene Oxide to Improve Nanofiltration Flow Rates</b> Wang Zhao MONASH UNIVERSITY</p> <p><b>Insights into Algal Treatment through Floc Property Analysis</b> A/Prof Rita Henderson UNIVERSITY OF NEW SOUTH WALES</p> <p><b>Full Scale Validation of a Media Filter for Pathogen Removal: A Case Study</b> Raj Mahendrarajah COLIBAN WATER</p> <p><b>Is Granular Sludge Suitable for Wastewater Treatment in Australia</b> Ben Thwaites UNIVERSITY OF NEW SOUTH WALES</p> <p><b>Interactions between wastewater particles and pathogens</b> A/Prof Fiona Young / Dr Paul Monis FLINDERS UNIVERSITY / SA WATER</p> <p><b>Drinking water and wastewater treatment operators in the future – the value of competency</b> Sally-Anne Bartlett WATERQ PLUS</p>
	<p>SPONSOR: </p>	
12.30pm	LUNCH	

AFTERNOON STREAMS		
TIME	Water Security	Resource Recovery
1.30pm	<p>Population growth and climate change are increasingly posing challenges to water security. Hear how leading researchers and water utilities are working to ensure sound planning and innovative approaches to securing future supplies that meet community and environment needs and preferences.</p> <p>SPONSOR: </p> <p><b>Delivering water security for Melbourne and the surrounding region in a variable and changing climate</b> Bruce Rhodes MELBOURNE WATER</p> <p><b>Research informing long-term water security planning in south east Queensland</b> Joint presenters: Dr Deb Gale &amp; Paul Fisher SEQWATER</p> <p><b>Bespoke tastes transforming community engagement</b> Dr Kelly Newton SA WATER</p> <p><b>PANEL SESSION:</b></p> <p><b>Urban Water Security through Integrated Management</b> Prof Peter Scales   UNIVERSITY OF MELBOURNE David Sheehan   COLIBAN WATER James Westcott   SOUTH EAST WATER Dr Kathy Northcott   GHD Dr Meenakshi Arora   UNIVERSITY OF MELBOURNE</p>	<p>Channelling the reuse/recycle culture to maximise our resources, how can we harness the value of wastewater to underpin economic growth, reduce environmental impacts and generate healthy liveable communities?</p> <p><b>Shifting waste perception to resource and opportunity</b> Dr Rachel Miller WATER CORPORATION</p> <p><b>Improving the performance of anaerobic digesters using hydraulic mixing</b> Prof Raj Parthasarathy RMIT</p> <p><b>Investigation of synergistic effects of rheology and chemistry on anaerobic digestion: Process improvement and monitoring</b> Samira Miryahaie RMIT</p> <p><b>Robust Rheological Characterisation of Sewage Sludge</b> Dr Kris Coventry MELBOURNE WATER</p> <p><b>A toolbox for designing thickened sludge pipeline</b> A/Prof Nicky Eshtiaghi RMIT</p> <p><b>Multiple use of iron salts in wastewater systems</b> Prof Zhiguo Yuan ADVANCED WATER MANAGEMENT CENTRE</p> <p><b>Concentrated algal systems for nutrient removal and recovery from wastewater</b> Matthew Kube RMIT</p> <p><b>PFAS and precursor compounds in Australian biosolids, implications for reuse</b> Damien Moodie RMIT</p>
3.00pm	AFTERNOON BREAK	
3.30pm	Data Science into Strategy Workshop	Sanitary Surveys and Operational Monitoring in Catchments Workshop
	<p><b>WORKSHOP</b></p> <p><b>Dr Peter Prevos   COLIBAN WATER</b></p> <p>This workshop will introduce participants to the principles of good data science and discuss the technical tools available to implement a data science strategy. Participants can increase knowledge, improve skills and learn how to develop a data science strategy within their business.</p>	<p><b>WORKSHOP</b></p> <p><b>Dr Dan Deere &amp; Karla Billington   WATER FUTURES &amp; NATURAL LOGIC</b></p> <p>An introduction to Health-based Targets Guidelines, Sanitary Surveys and Vulnerability Assessments. How can we tackle the challenge of developing a National approach for the continued improvement in source water protection?</p> <p>Participants will leave with a greater understanding of the requirements and opportunities for improvement, along with an understanding of various methodologies currently being used.</p>
5.00pm	END	

**GALA DINNER**  
12th February 2019 | 6:30pm | Jim Stynes Room MCG

This celebratory evening will acknowledge the 10th anniversary of Water Research Australia. Enjoy a delicious three-course dinner with drinks and entertainment.

TIME	SESSIONS
8:30am	Delegate Registration
9:15am	Welcome and Recap
9:20am	Morning Keynote - Dr Virginia Wheway, Manager Data Science & Analytics, Thiess
10.00am	MORNING TEA BREAK
	<div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <p style="text-align: center;"><b>STREAM 1 (Olympic Room B)</b></p> </div> <div style="width: 48%;"> <p style="text-align: center;"><b>STREAM 2 (Olympic Room A)</b></p> </div> </div>
	<b>MORNING STREAMS</b>
10.30am	<div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <p style="text-align: center;"><b>Alternative Water Sources</b></p> <p><b>A look at how to successfully and safely develop alternative water sources for diverse applications and a panel discussion around the next move for Australia in developing alternative supplies.</b></p> <p style="text-align: center;"><b>SPONSOR:</b>  City West Water™</p> <p><b>TOPICS AND SPEAKERS INCLUDE:</b></p> <p><b>Perth's Groundwater Replenishment Scheme – From Concept to Reality</b> Dr Stacey Hamilton WATER CORPORATION</p> <p><b>Direct Potable Reuse – a more cost effective water supply than long distant water transfer or Desalination</b> Reba Paul INSTITUTE FOR SUSTAINABLE FUTURES</p> <p><b>The triple bottom line for alternative water</b> Prof Stuart Khan UNIVERSITY OF NEW SOUTH WALES</p> <p><b>Detecting UVT-reducing Trade Wastes for maintenance of UV disinfection efficiency the easy way!</b> Prof Felicity Roddick RMIT</p> <p><b>PANEL SESSION:</b></p> <p><b>Translating research into improved water supply approaches</b> Dr Annalisa Contos   ATOM CONSULTING Dr Annette Davison   RISK EDGE Prof Stuart Khan   UNIVERSITY OF NEW SOUTH WALES Adjunct Prof Ian Law   IBL SOLUTIONS Prof Joan Rose   MICHIGAN STATE UNIVERSITY Dr Steve Capewell   WATER CORPORATION</p> </div> <div style="width: 48%;"> <p style="text-align: center;"><b>Data Science</b></p> <p><b>Showcasing enablers for transitioning utilities of today to those of the future, including satellite technology, online decision support systems, open sourcing software and virtual reality technology for operator training.</b></p> <p><b>TOPICS AND SPEAKERS INCLUDE:</b></p> <p><b>How military technology became mainstream and how the water industry can benefit</b> Maira Smith D-CAT</p> <p><b>Open source software development to accelerate data science innovation</b> Dr Peter Prevos COLIBAN WATER</p> <p><b>Graphene Quantum Dot embedded hydrogel as a solid state sensor for dissolved iron contamination</b> Dr Martin Sweetman UNIVERSITY OF SOUTH AUSTRALIA</p> <p><b>Improving Melbourne sewage quality and load forecasting using a co-designed, online decision support system</b> Chris O'Neill   HYDRONUMERICS Adrian Mazzarella   MELBOURNE WATER</p> <p><b>Remote and collaborative virtual reality (VR) operator training</b> A/Prof Ben Horan   CADET VIRTUAL REALITY LAB Scott McMillan   MELBOURNE WATER</p> <p><b>Surface enhanced raman spectroscopy-based methods for water pollution detection in treated wastewater</b> Tim Ong RMIT</p> <p><b>PANEL SESSION:</b></p> <p><b>Diagnosis water and everything!</b> A/Prof Helen Stratton   GRIFFITH UNIVERSITY Qin Li   GRIFFITH UNIVERSITY Dr Nicole Masters   USC Dr Greg Jackson   QHEALTH Dr Cameron Veal   SEQWATER</p> </div> </div>
12.00pm	LUNCH

AFTERNOON STREAMS	
1.00pm	<div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <p style="text-align: center;"><b>One Health</b></p> <p><b>Under the One Health approach, multiple sectors communicate and work together to achieve better public health outcomes. It is particularly relevant to challenges of climate change, emerging contaminants and anti-microbial resistance confronting the health, water, veterinary, and agricultural sectors today. Hear how its application can help us adapt to a changing climate and ensure sustainable wastewater management.</b></p> <p><b>A global perspective on the One Health approach</b> Dr Stephanie Rinck-Pfeiffer GLOBAL WATER RESEARCH COALITION</p> <p><b>Climate change and water: the risks and opportunities for Victorians' health</b> Dr Angie Bone DEPARTMENT OF HEALTH AND HUMAN SERVICES, VICTORIA</p> <p><b>Antibiotic Resistance in the water cycle</b> A/Prof Erica Donner UNIVERSITY OF SOUTH AUSTRALIA</p> <p><b>Investigation of PFAS in Australian wastewater treatment plants</b> Timothy Coggan RMIT</p> <p><b>Prioritisation of contaminants</b> Prof Stuart Khan UNIVERSITY OF NEW SOUTH WALES</p> <p><b>Comparison of norovirus and adenovirus diversity in clinical and wastewater samples</b> Jennifer Lun UNIVERSITY OF NEW SOUTH WALES</p> <p><b>Behaviour of illicit drugs and psychopharmaceuticals in wastewater treatment</b> Luis Restrepo CURTIN UNIVERSITY</p> <p><b>Tracking the fate of drugs of addiction through wastewater treatment processes</b> Meena Yadav UNIVERSITY OF SOUTH AUSTRALIA</p> </div> <div style="width: 48%;"> <p style="text-align: center;"><b>Catchment and Source Water Management</b></p> <p><b>A look into cyanobacteria, DNA barcoding, next generation sequencing and guidelines for managing risk in recreational waters.</b></p> <p><b>Update on the review of the NHMRC Australian Drinking Water Guidelines and Guidelines for Managing Risk in Recreational Water</b> Prof Fred Leusch WATER QUALITY ADVISORY COMMITTEE, NHMRC</p> <p><b>Water treatment options for cyanobacteria and associated taste and odour metabolites</b> Dr Cameron Veal SEQWATER</p> <p><b>Population genetics of a cyanobacterial bloom in the River Murray in Victoria in 2016</b> Dr Nijoy John UNIVERSITY OF MELBOURNE</p> <p><b>Rediscovering invertebrate biodiversity with DNA barcoding for advanced management of streams</b> Eddie Tsyrlin UNIVERSITY OF MELBOURNE</p> <p><b>Microbial diversity profiling and taxonomy evaluation of macropods</b> Christian O'Dea USC</p> <p><b>Smart Monitoring for microbial risk assessment</b> Dr Brendon King SA WATER</p> <p><b>Understanding bloom-forming E. coli: improved detection, bloom prediction, treatment significance and management strategies</b> Dr Martha Sinclair MONASH UNIVERSITY</p> <p><b>Integrated modelling to compare health risks associated with alternative approaches to managing sewer overflows</b> A/Prof Anne Roiko GRIFFITH UNIVERSITY</p> </div> </div>
2.30pm	<b>AFTERNOON TEA</b>
	<b>AFTERNOON PLENARY</b>
3.00pm	<b>Driving Impact Through Collaboration</b>
	<p style="text-align: right;"><b>SPONSOR:</b> </p>
	<p><b>Introduction - Karen Rouse, CEO, WaterRA</b></p> <p><b>Afternoon Keynotes</b></p> <p><b>Collaboration, key to achieving the Sustainable Development Goals</b> Rosie Wheen, Chief Executive, WaterAid</p> <p><b>Driving engagement and impact from research – the role of collaboration</b> Sarah Howard, Manager Research Excellence, Australian Research Council (ARC)</p> <p><b>SPEAKER &amp; PANEL DISCUSSION:</b> <b>Driving Impact Through Collaboration</b> Chaired by Michael Thomas</p> <p><b>Coaching the team towards high performance: effective collaboration for infrastructure delivery</b> Travis Juffermans   BARWON WATER</p> <p><b>Generating industry aware water scientists: a collaborative model for developing next generation water professionals</b> Dr Abigail Morrow   HUNTER WATER Dr Craig Evans   UNIVERSITY OF NEWCASTLE</p> <p><b>Achieving Better Societal Outcomes through Structured Collaboration</b> Shaun Cox   CHAIR WATER RESEARCH AUSTRALIA</p>
4.35pm	<b>Stream Findings and Closing Remarks</b>
4.45pm	<b>Close and Thank you</b>



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