

WATERLINES

ISSUE 3, 2025



WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS



WATER TECHNOLOGY

celebrating 25 years



STEVE CLARK
Managing Director

Welcome to our latest issue of Waterlines

"I am proud of where we have come from, I am proud of our people and the work that we have done together and I am excited for the future."

This year Water Technology proudly celebrated 25 years in business. Over this time we have seen many changes. However, the constant throughout this time has been our values.

Dr Andrew McCowan founded Water Technology in a room in a suburban home in Victoria and we have now grown to being a team of more than 190 people spread across Australia and New Zealand.

I am proud of where we have come from, I am proud of our people and the work that we have done together and I am excited for the future.

I thank our clients, partners and employees that have journeyed with us over the past 25 years.

I would also like to sincerely thank Dr Andrew McCowan and Steven Molino who are retiring from their professional careers in 2025.

They have both contributed so much to the industry and have left legacies of innovation and purpose – a true desire to make a difference.

They have also been strong and capable leaders and mentors to many – not to mention loyal friends.

Thank you for taking the time to read Waterlines and please do not hesitate to contact me, or any of the Water Technology team, if we can be of assistance.

Steve Clark

The Progression of Water Technology Over Time



External Events
that shaped our work
& the way we work

1996 - 2010
Millennium Drought



2011
Tropical Cyclone Yasi



2019
Black Summer Fires
South Eastern Australia



2019 - 2022
COVID-19



2022
Extreme Rainfall Events
VIC, NSW & QLD

2025
Tropical Cyclone
Alfred

2000

Dr Andrew McCowan commenced Water Technology from a room in his house

2001

Steve Clark joined Andrew and a new office was opened in Mount Waverley

2003

Warwick Bishop joined and three more people too

2005

5th year anniversary and new look logo created

2008

New head office in Notting Hill, new office in Brisbane and a new regional office in Wangaratta

2015

Coastal Engineering Solutions joined Water Technology

2017

Tony McAlister joined and became a Director of Water Technology, Australian Water Environments joined Water Technology and a new Adelaide office opened

2019

Steve Clark became Managing Director, Dr Andrew McCowan became Chair of the Board and new Gold Coast and Sydney offices opened

2022

Molino Stewart joined Water Technology, Steven Molino became a Director, Top Dog award commenced and whole of company gathering in the Gold Coast

2023

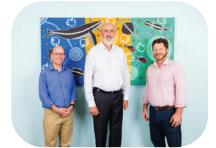
Johanna Theilemann and Karen Boyce became Directors of Water Technology and a new office opens in Armidale

2024

Changed to a National Discipline structure, Andreea Turvey commenced as Chief Operating Officer, Innovative Groundwater Solutions joined Water Technology, Reflect RAP endorsed and new offices in Sunshine Coast and Darwin opened

2025

Warwick Bishop became Chair of Water Technology Board, Nikki Harrington became a Director of Water Technology, E2Designlab joined Water Technology, whole of company gathering in Geelong, Dr Andrew McCowan and Steven Molino retired



Dr Andrew McCowan Tribute

After an exceptional career spanning more than five decades, Water Technology's founder, Dr Andrew McCowan, retired during 2025. Water Technology takes this moment to acknowledge Andrew's remarkable contribution to our industry and the profound influence he has had on those fortunate enough to work alongside him.

The following provides a brief reflection on Andrew's professional journey and the legacy he leaves through his leadership, mentorship and commitment.



The Early Years

Andrew was born and raised in Melbourne in a family with a history of engineering and innovation. He developed a passion for water and the environment at an early age through sailing and summers at the beach.

Andrew completed a Bachelor of Engineering with Honours at Monash University in 1974 and soon after started his professional career as a coastal engineer with the Ports and Harbours Branch of the Public Works Department in Victoria. While working he was sponsored to travel to Europe and obtained a Graduate Diploma in Hydraulic

Engineering at the prestigious International Institute for Hydraulic and Environmental Engineering at Delft in the Netherlands. His passion for research, modelling and travel was further enhanced when he commenced a role as a research engineer at the Danish Hydraulic Institute (DHI), based in Copenhagen, Denmark.

Andrew developed a close working relationship with the legendary professor of hydroinformatics, Mike Abbott, at DHI. This really sparked Andrew's interest in numerical methods and solving complex hydraulic problems with advanced numerical models.

After a few years at DHI, Andrew returned to Australia where he became a research fellow in the Department of Mechanical Engineering at Monash University, completing a Doctor of Philosophy at Monash University in 1991. His thesis was titled: Boussinesq Equations and their Application to the Numerical Modelling of Short Period Waves. Andrew took his expertise to the consulting industry in 1984 and was the Victorian Manager and a Director at Lawson and Treloar before commencing his own consulting company (Water Technology) in 2000.

Career Highlights

Andrew's particular areas of expertise included the application of advanced numerical modelling techniques to flood hydraulics, coastal engineering and environmental investigations.

In the early 1990's, Andrew was one of the first proponents of two-dimensional flood modelling through the adaptation of coastal models. He also advanced some of the first "rainfall on grid" modelling applications in Australia. He was one of the leading authors of DHI Software's MIKE 21 and MIKE Flood modelling packages, providing

Dr Andrew McCowan Tribute

particular expertise in “wetting and drying” processes and the management of supercritical flows.

Andrew was responsible for the hydrodynamic and coastal process investigations for a wide range of major studies. These have included the Port of Geelong Channel Improvement Program, the Point Lillias Project, the East Coast Armaments Complex, the Port Phillip Bay Environmental Study, the Lower Goulburn Floodplain Rehabilitation Scheme, the Port of Adelaide Channel Deepening Project and the Adelaide Desalination Project. In addition to these, Andrew has acted as expert peer reviewer for a number of other major studies. These have included the Gippsland Lakes Environmental Study, the Port of Melbourne Channel Deepening Project, coastal inundation modelling for the Department of Sustainability and Environment’s Future Coasts Program and bridge afflux investigations for Melbourne’s Westgate Tunnel Project.

Contribution to the Industry

Andrew has contributed significantly to the industry over his career and has been generous with his time and expertise. Andrew is a former Chair of Engineers Australia’s National Committee on Water

Engineering and was a corresponding member of the National Committee on Coastal and Ocean Engineering for many years. Andrew was also a member of the Victorian Coastal Council’s Science Committee and was a member of the Federal Government’s Coasts and Climate Change Council.

Publications and Awards

Andrew authored and co-authored over 50 journal and conference papers over his career, sharing his knowledge and findings widely and consistently. In addition, Andrew was invited to deliver many keynote presentations and facilitate sessions at workshops across the country.

Andrew was also on the author’s panel of Australian Rainfall and Runoff (ARR 2019) where he wrote the Hydraulic Modelling Chapter of Book 6 of ARR and made major contributions to the ARR project on two-dimensional hydraulic modelling. This reflects Andrew’s eminent position within industry as a leading expert on computational hydraulics in the coastal and flooding areas.



Dr Andrew McCowan Tribute

In 1986 Andrew was awarded the American Society of Civil Engineers' prestigious Karl Emil Hilgard Hydraulics Prize for a paper on developments in numerical wave modelling. Most recently, in 2024, Andrew was honoured with the Henderson Oration Award from Engineers Australia.

Leadership Traits

Andrew has always been a great teacher and a kind, caring and inspirational leader. Andrew's founding vision for Water Technology was to be a place that does great work that makes a difference, but also a workplace that values and cares for its people. He has always strongly promoted innovation within Water Technology and importantly given people permission to try new techniques or methods. These values have shaped our leaders who have grown under Andrew's guidance and benefited from his example. Andrew's vision, his way of working and his care for people are central components of Water Technology's culture.

Passions

Aside from his family (and playing the bagpipes), Andrew's great lifelong passion outside of work has been sailing. From competing annually for many years in the Flying Dutchman dinghy class world championships across the globe, to cruising around Port Phillip Bay on his 46' sloop "Firebrand", Andrew has always been most at home on the water. One of his most enjoyable projects at Water Technology was to support the Australian sailing team with coastal modelling for the Rio Olympics which contributed to medal winning performances for that event.

From Andrew

"For me, the most rewarding things have been seeing the way students, graduates and young engineers and scientists have matured to become technical leaders in their respective fields and to become people leaders themselves. It's been inspiring. It's also great to see a renewed focus on innovation and technology. This is what has differentiated Water Technology in the past and I see this as the key to Water Technology's success in the future."



Steven Molino Tribute

After an exceptional career spanning more than four decades, Steven Molino will transition to retirement at the end of 2025. Water Technology takes this moment to acknowledge Steven's remarkable contribution to our industry, his long partnership with Water Technology, and the profound influence he has had on those fortunate enough to work alongside him.

The following provides a brief reflection on Steven's professional journey and the legacy he leaves through his leadership, mentorship and commitment to advancing natural hazard resilience across Australia and abroad.



The Early Years

Steven was born and raised by his parents in Sydney's inner western suburbs of Belmore and Earlwood with his younger sister. He always had an interest in science and the environment but had limited opportunities to pursue those interests growing up.

After completing his HSC in 1978 he was fortunate to obtain a position as a Cadet Engineer with the NSW Electricity Commission studying civil engineering at the University of NSW.

He also began exploring rivers and bushland with the new friends he had made and questioned the engineering mind set at the time that problems needed to be solved by building something.

This led him to find an environmental science degree which he could undertake in parallel with his engineering degree and he and two friends were the first students to undertake this particular double degree. He was particularly grateful to Dr Ian Lee, Head of the School of Civil Engineering and Garth Coulter, Manager Power Development at the Electricity Commission who smoothed the way for him to extend his cadetship by an extra year which was a rare privilege extended to cadets.

Upon graduation Steven went through the mandatory rotation through the Commission's civil design, civil construction and power station planning divisions. It was in the latter that he worked for Peter Stewart preparing power station and water supply environmental impact statements and conducting the first environmental audits in Australia. His 11 years with the Electricity Commission laid the solid foundation for Steven's move into consulting. Steven commenced at ERM Mitchell McCotter in 1990 before co-founding Molino Stewart with Peter Stewart in 1995.

As the founding Principal of Molino Stewart, Steven led many high-profile environmental impact assessments and natural hazard and resilience projects. Under his leadership, the firm, and Steven personally, became recognised both nationally and globally as leaders in floodplain management, natural hazard risk assessment and disaster resilience. His expertise guided government agencies, communities and industry partners through some of the most challenging issues in the field.

Steven Molino Tribute

Molino Stewart and Water Technology collaborated extensively over many years, culminating in the 2022 merger which brought Steven into Water Technology as a Director. Since then he has been a national leader within the business and a trusted mentor to staff across multiple teams.

Contribution to the Industry

Steven's technical expertise, analytical skills and ability to communicate technical concepts have been valued and appreciated across Australia and internationally.

Steven has played a key role in the research and development of many methods, models, response plans, evacuation plans, warning systems, damage assessment and policies for emergency management – and he has applied his knowledge and expertise to many natural hazards including flooding, bushfire, storm surge, tsunami, rising sea levels and heat. This expertise has been recognised both across Australia and internationally.

He has prepared and independently reviewed scores of Environmental Impact Statements and Reviews of Environmental Factors for a diversity of infrastructure projects particularly in the energy and water sectors.

Steven has also designed and delivered environmental training courses across Australia including training for construction sites and manufacturing facilities, training for environmental managers and auditors and also training for company executives.

Steven, like Andrew, enjoyed and believed in the importance of knowledge sharing through publications, key note presentations, guest lectures, opinion pieces and mentoring. This included "Floodplain Manager" which built a readership of several hundred nationally and internationally between 2004 and 2023.

Passions

Family and church are the focus of Steven's energies outside of work. At home he spends time in his productive garden which is full of fruit trees, vegetable patches, hydroponic and aquaponic systems, bee hives and a chicken run. He likes to travel, preferably under his own steam, either cycling, hiking or whitewater kayaking. He has a keen interest in history and languages.

From Steven

"I am grateful for the abilities and opportunities I have been given. My aim has been to use those for the benefit of people and the environment. From that I will never retire."



Career Highlights

Steven has many career highlights over his 46 year professional career including:

- Working with the owners of Scenic World at Katoomba to develop a master plan for its redevelopment, negotiating land exchanges and leases with State and Local Government and obtaining development approvals for the masterplan and ongoing development stages and events in a highly visible and sensitive environment on the edge of the Blue Mountains World Heritage Area.
- Developing methodologies for assessing indirect and intangible flood damages in Australia.
- Project managing the EISs for a flood mitigation dam proposal for Warragamba Dam and the side spillway option which was eventually constructed.
- Working with the NSW SES to fine tune their evacuation capability assessment methodology, developing a toolkit for the application of the approach and applying it throughout Australia.
- Guiding the NSW EPA and Sydney Water in the development of 27 sewerage system EISs to assess the impacts of upgrades to reduce effluent overflows.
- Facilitating a series of stakeholder workshops and guiding technical investigations to reach consensus on an environmental flow regime for the four Upper Nepean water supply dams.
- Assessing and prioritising risks for multiple natural hazards in 10 Pacific Island nations for the United Nations.
- Supporting the building of community resilience in some of the highest risk floodplains and bushfire prone areas of Australia.
- Providing a road map for State and Local Government in Victoria to improve its flood preparedness and flood warning provisions.
- Independently reviewing warnings on behalf of the 2011 Victoria Floods Review.
- Independently reviewing the implementation of the recommendations from the 2009 Victorian Bushfire Commission of Inquiry.
- Developing the FloodSafe toolkit used by various State Emergency Services.
- Delivering environmental management and auditor training for hundreds of practitioners around Australia.
- Chairing the independent advisory panel which reviewed the NSW Northern Rivers Resilient Homes Scheme.



Thank You Andrew and Steven



Research and innovation are fundamental parts of Water Technology's history and a core component of its culture and future.

Dr Andrew McCowan said: "Right from the beginning, Research and Innovation was intended to take a leading role in the development of Water Technology. This was one of the reasons for including Technology as part of our name. Our involvement in Research and Innovation is our way of keeping the Technology in Water Technology."

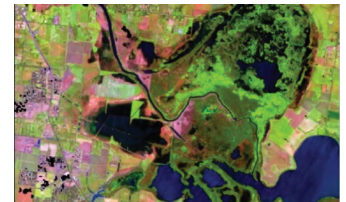
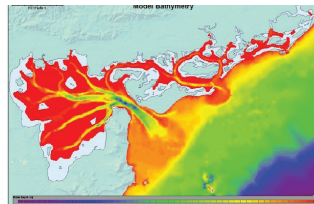
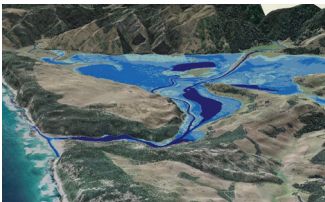
Water Technology has been involved in Research and Innovation initiatives through a range of mechanisms including:

- Being subject matter experts and contributors to Cooperative Research Centres and Australian Research Council projects.
- Directly partnering on initiatives with researchers.
- Supporting staff to undertake further study in the form of Masters or PhD degrees.

There are many benefits of supporting the advancement of knowledge and the early adoption of that knowledge to innovate in the approaches utilised for the benefit of our clients.

Some of the key Research and Innovation moments in Water Technology's history have involved:

- Improvements to flood modelling, with Water Technology being an early adopter of the use of LiDAR survey, of Finite Volume flexible mesh modelling techniques, of rainfall on grid modelling and of the use of radar rainfall in hydrologic model calibration. In addition, we are also using the new science of palaeoflood hydrology to inform flood risk analysis.
- The use of physical modelling in the development of innovative breakwater and boat ramp design.
- 2D hydrodynamic modelling for geomorphic investigations.
- The co-development of the Estuary Flows method in Victoria with Lance Lloyd.
- The development and trialing of ecological monitoring methods in Victoria and Tasmania.
- The use of a combination of full-scale testing, physical modelling and numerical modelling for the development of innovative desalination plant outfall diffuser designs.



Research and Innovation Partnership Highlights Over the Last 25 Years:

- Working with the Danish Hydraulic Institute (DHI) on the original development of the combined one and two-dimensional (1D2D) flood modelling package, MIKE Flood.
- Dr Yafei Zhu working with the CRC for Water Sensitive Cities where Water Technology played a key role in the development of the “Sponge City Brain”.
- Partnering with HydroLogic in the Netherlands to introduce digital water systems into the development of water management and decision support tools in Australia.
- Partnering in the EU Horizon 2020 WaterSENSE project with novel research focusing on scalable information services, based on satellite water monitoring and advanced big-data processing algorithms.
- Partnering in an ARC Linkage project which is investigating nutrient offsets from establishing a new mangrove wetland at the Southern Redland Bay Wastewater Treatment Plant site in Queensland.
- Being a project partner in research work on “Incorporating First Nations Knowledge in Water Modelling” funded by the Queensland Water Modelling Network (Queensland Department of Environment and Science).
- Being a partner in the OneBasin CRC which was established to focus on a collaborative approach to building shared understanding and co-design solutions to meet the needs of the Murray Darling Basin.
- Water Technology is one of over 40 partner organisations in the ARC Research Hub in the Internet of things for Water.
- Water Technology, in partnership with HydroLogic and the NZ Met Service, are undertaking a research in action project in New Zealand titled Service for Advanced Flood Emergency Response (or SAFER).
- Water Technology is one of 26 project partners in an ARC Training Centre for Climate Resilient Water that will commence in 2026.



Some of Our Team Members in the Field



Flash Back - Some Key Projects from the Early Years

Water Technology has completed more than 10,000 projects for a broad range of clients since commencing in 2000. A lot of changes have been witnessed over that time, including the type of work that we undertake.

Recent editions of Waterlines highlight the work we do in collaboration with clients in the face of a rapidly changing climate and also with First Nations Peoples as we listen and learn from their collective knowledge about landscape management.

The project summaries in this edition are a flash back to the start of Water Technology and some of the innovations applied that have really shaped the direction and success of the company.

Wyndham Harbour - Modelling and Design

Wyndham Harbour is a 750 berth marina and integrated residential development located at Werribee South on Port Phillip Bay in Victoria, approximately 25 kilometres south-west of Melbourne's CBD.

The Harbour evolved from the initial conceptual planning in 2003 through to final design and construction before becoming operational in 2015. Water Technology was involved in each of the stages.

In the initial stages of the proposed development, Water Technology undertook detailed hydrodynamic, wave, water quality and coastal process modelling to support the preparation of an Environmental Impact Statement.

A hydrodynamic model was developed of the western section of Port Phillip Bay to examine currents and flushing characteristics of the harbour to ensure good water quality is maintained within the harbour at all times.

Detailed Boussinesq wave modelling was also undertaken of the harbour entrance to check that the wave conditions in the harbour were satisfactory for berthed vessels and that the entrance was navigable under extreme wave conditions.

Dredging investigations were undertaken to determine appropriate dredge spoil disposal methods and to model the likely fate of sediment plumes generated during activities associated with construction.

Detailed investigations into the design of the breakwaters was also undertaken, including supervision of physical model testing of the breakwater to optimise alignments, rock size and construction methods.



Flash Back - Some Key Projects from the Early Years

Martha Cove Marina and Canal Estate - Modelling and Design

Martha Cove is situated at the base of Mount Martha on the eastern shores of Port Phillip Bay adjoining the coastal town of Safety Beach in the Mornington Peninsula. The marina has direct water access to Port Phillip Bay and provides a safe harbour for boats.

The development includes four marina basins (with a total capacity for up to 1,000 berths), a series of inland canals and residential islands. The marina is also connected to Port Phillip Bay by a dredged entrance channel that is protected by rubble-mound breakwaters.

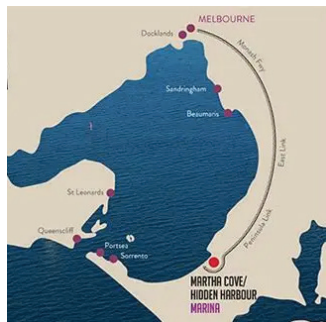
Water Technology was involved from the earliest stages of the proposed development by providing detailed hydrodynamic, wave and sediment transport modelling, coastal process, coastal engineering and dredging investigation services to support the preparation of an Environmental Impact Statement.

A range of innovative solutions were developed to manage the fate of stormwater inflows to the marina/canal system based on detailed water circulation and residence time modelling. A pumped recirculation system was included to help maintain good water quality within the inland waterways.

The breakwaters were designed to protect the entrance channel from wave action, to minimise their impact on navigation, and to help manage the alongshore transport of sand, thereby minimising the need for maintenance dredging.

The functionality of the breakwaters was optimised through a series of numerical and physical wave modelling investigations.

Construction of Martha Cove began in 2004 and the marina became operational in 2007.



Flash Back - Some Key Projects from the Early Years

Flood Warning and Emergency Management Projects in the Shepparton Area

Water Technology has a long history of supporting improved flood intelligence on the Goulburn and Broken Rivers at Shepparton in Victoria. We have worked closely with the City of Greater Shepparton and Goulburn Broken Catchment Management Authority to understand the risk through detailed flood modelling and mapping.

In an area highly constrained by flooding, we worked with the City of Greater Shepparton proactively to investigate strategic areas for development to supply needed housing stock in areas above the flood level. We supported the City of Greater Shepparton through delicate planning scheme amendment processes, to make sure the most up to date flood information was being used to make planning decisions.

Water Technology have also worked closely with the Victorian SES in the development of flood emergency plans, and then supported emergency services from within the Incident Control Centre during major flood events. We provided advice on likely flood impacts and suggested emergency response actions.

Based on our detailed flood mapping and extensive survey of floor levels across Shepparton, we have developed the Flood Report Portal (<https://my.floodreport.com.au/gbcma/>) which has been rolled out across the Goulburn-Broken Catchment Authority Management region. This provides property specific details for landholders relating flood levels at the gauge to specific impacts at the property, including depth above or below floor.

This was used extensively throughout the October 2022 flood event and provided needed information to the community to take property specific actions in the lead up to the flood.

Recently we have been working with Goulburn Murray Water and landholders on the future of Loch Garry and the lower Goulburn River levees. This work began as far back as 2002, as part of the Lower Goulburn Floodplain Rehabilitation Scheme. The work has recently been revisited post the devastating 2022 flood event.

With our long history of working in partnership with the various agencies involved in flood risk management in the area, we have become a trusted advisor, and we look forward to continuing this relationship into the future.



Some of Our Team Members in the Field



Employee Profiles

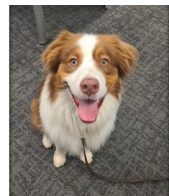
Water Technology commenced in 2000 with one employee in Victoria. Now in 2025 we have over 190 employees located in most States and Territories of Australia and also New Zealand. Many people have come and gone over the years and a number have come back! We are fortunate to have a significant number of long-term employees that have exceptional expertise and experience with our work and clients. The next few pages summarise feedback from a range of employees from across the company: sharing their experiences and why they enjoy working at Water Technology.



Ben Tate, National Lead - Flooding, Senior Principal Engineer, VIC, commenced in 2006

Ben was one of the early employees of Water Technology. He soon became a leader of the Flooding Team in 2010, which only had three people in it at that stage. However, that year the Millennium drought broke, and there were consecutive record floods throughout Victoria. The team expanded very quickly and a Flooding Team was also established in Queensland.

The teams continued to grow, along with the company. A decision was made to move to National teams across Water Technology in 2024. Ben became the National Lead for our Flooding discipline with a team of about 50 people across Australia and New Zealand. Ben has enjoyed the move to the National role which has exposed him to a wider group of amazing professionals to work with and he is using his many years of experience at Water Technology to help guide and mentor the next set of leaders.



Over 20 years at Water Technology, Ben has worked on many memorable projects, including working with the Victorian SES in responding to the 2011 and 2022 floods in Victoria. He had to put his skills to the test under the pressure of an emergency to predict consequences, advise on emergency actions and evacuations and support the affected communities.

Working with great people every day and the friendships formed over the years is also what Ben enjoys the most about Water Technology. Not to mention the odd table tennis game and having dog friendly offices.

Ben would like to thank Dr Andrew McCowan, Water Technology founder, who recently retired. Without his courage to start this company and the generosity he has given to all of us, Ben feels that his career would have been very different.



Ben Hughes, Team Lead - Flooding, Senior Principal Engineer, VIC, commenced in 2006

Ben was another one of the early employees of Water Technology and he has worked with many of the same people for almost 20 years due to the low turnover of staff. He has really enjoyed the evolution of Water Technology and the growth of the business has also enabled the growth of the people. The Natimuk Flood Investigation was one of Ben's favourite projects and was the first flood study that he managed. The study was one of the first in Victoria to take a town from zero flood mapping all the way to a fully implemented flood warning system. The flexibility of Water Technology has enabled Ben to grow his farm significantly in the last 5 years. He is able to work around things like shearing or harvest or client deadlines.



Dr Yafei Zhu, Manager Research, Technology and Innovation, Senior Principal Engineer, VIC, commenced in 2007

Yafei has worked on many interesting projects at Water Technology and is able to utilise his wide range of skills in modelling, civil design, research and software development. As an engineer, he finds it rewarding to see work come to life, whether it's a new Flood Portal being deployed or a wetland he designed being constructed. One project that stands out to Yafei is the Barwon River vertical slot fishway, which he modelled and designed. It was one of the first vertical slot fishways on Victoria's coastal rivers. Yafei is also involved in research, technology and innovation and he enjoys the opportunity to work with multidisciplinary teams, generate new ideas and translate research into practical, real-world solutions. He finds it rewarding to see how applied research can evolve into commercial products and tools that make a tangible difference for our clients and communities. At Water Technology, Yafei has also really appreciated the positive culture and the flexibility at Water Technology that supports a healthy work-life balance.



Aaron Vendargon, Senior Principal Engineer, VIC, commenced in 2007

The main things Aaron has enjoyed about working at Water Technology are the culture, great people, a supportive work environment and the flexible work options. Aaron has also appreciated the opportunity to work on a lot of interesting projects. The Bankside Development stands out to Aaron as one of the most memorable, which is a long term large-scale residential development project which Water Technology has been involved in since Aaron was a graduate. The project has involved design work and flood assessments at a local and regional scale. The key change Aaron has seen in the industry since working at Water Technology is that most of the technology and software he uses has improved significantly.





Johanna Theilemann, Director and Group Lead - Flooding, Senior Principal Engineer, VIC, commenced in 2013

Johanna started at Water Technology just after Easter in 2013, having recently moved back to Geelong from Hamilton with her husband and three kids. She has enjoyed watching the Flooding Team grow and diversify over time. Nationalising the team has helped with sharing skills and resources. Johanna thinks a strength of the team is the relationships and trust between long standing team members.

Johanna has loved the diversity in her work which has enabled her to meet the most interesting people and see some incredible places. No two projects are ever the same, which brings change, challenge and interest to all that she does.



Johanna has been lucky enough to work on many memorable projects during her time at Water Technology. One period of work that truly stands out, both for how interesting and how challenging it was, came during the 2022 floods that swept across so much of the eastern states. During that time, Johanna travelled to several severely impacted towns, including Lismore. While carrying out hydrologist inspections, Johanna was genuinely moved by the stories people shared of loss, resilience and survival.



Around the same time, Johanna supported the State Emergency Services (SES) during the significant flooding that occurred in Victoria in November and December 2022. Working as a flood analyst, her role was to support first responders and operational teams with the best available information of where the water was, where it was going and what that meant for the people on the ground.

When the Water Technology Board resolved to diversify and make a special appointment, Johanna applied and was successful, becoming Water Technology's first female director in 2023. Johanna has found that being on the Board has been equal parts challenging and fulfilling and she is genuinely excited to be part of Water Technology's growth and evolution, while staying true to the Water Technology values.

Chris Charles, *Group Lead - Spatial Services, Senior Principal Spatial Analyst, VIC, commenced in 2014*

In the spatial services group of Water Technology, Chris gets the opportunity to be involved in a wide range of projects which he really enjoys. Chris also thinks it's a perfect sized company - small enough to get to know and collaborate with everyone, but large enough to have access to some big projects in a variety of fields. One example of a memorable project for Chris was the South Gippsland Shire rural levees assessment which involved mapping and assessing the condition of a large network of old coastal levees. This was a challenging project which involved analysis and collaboration between the spatial and coastal teams. A big change Chris has witnessed over the last 10 years is the uptake of online mapping and also the increased accessibility to data such as LiDAR and high-resolution aerial or satellite imagery, which has enabled Water Technology to expand capability into image analysis work, such as vegetation mapping.



Tushara Sathiyendrah, *Operations Support Coordinator, NSW, commenced in 2017*

Tushara has really appreciated the friendly and collaborative culture at Water Technology and the chance to work with people who genuinely care about meaningful environmental and community-centred outcomes. Water Technology encourages shared learning and teamwork across all teams and locations, which makes the work environment very supportive. In Tushara's role, she really enjoys the variety of work and the chance to work with multiple teams across the business. The work is dynamic and often involves solving challenges, which keeps things interesting and always evolving. Tushara likes supporting the team with project management, helping improve processes and make workflows more efficient.



Shiv Umaphathi, *Senior Engineer, QLD, commenced in 2019*

Shiv loves the outdoors so she has thoroughly enjoyed the opportunity to do fieldwork in fantastic locations with some amazing people (and her dog) while working at Water Technology. Some of the highlights for Shiv have been spending long days collecting Acoustic Doppler Current Profile measurements at picturesque locations such as Hinchinbrook, Pumicestone Passage, and Tasmania. Another highlight has been travelling 800 kms in 24 hours every month for a few years to do water quality monitoring at Paradise Dam. Shiv believes that being out in the field is where you do a lot of your learning. She has also enjoyed being able to give advice and guide the wider team and junior colleagues on the use of various fieldwork gadgets and equipment and in making sense of the data that is collected.





Karl Ilich, Team Lead - Coasts and Marine, Senior Engineer, WA, commenced in 2020

The flexibility in working arrangements - including working from home and part time options - was a key attraction of Water Technology to Karl. He currently lives on his in-laws beef farm south of Perth and is actively trying to farm Marron (an endemic freshwater crayfish) through lots of trial and error. Karl loves that he can explore his range of passions – farming and the coastal management space. Karl also loves the people he works with as he has had the chance to meet lots of genuine people who are keen to make a difference and have like-minded values and concerns about the environment.



Dr Mick Aberton, Group Lead - Waterways and Ecology, Principal Ecologist, NSW, commenced in 2021

Mick really enjoys working with the friendly people who genuinely care about each other and the environment at Water Technology. Since commencing at Water Technology, Mick's most memorable project has involved working with the world's leading giant earthworm expert which has been a real privilege. Mick appreciates the opportunity to work across the different States and the chance to work with a wide range of people.



Dr Rhiannon Garrett, Senior Scientist, NSW, commenced in 2021

Rhiannon has thoroughly enjoyed learning from her colleagues and then having opportunities to apply those skills and knowledge to a range of complex problems while at Water Technology. Every project poses a slightly different challenge and Rhiannon likes delving into the nuances of each situation to formulate case-based flood emergency response strategies. The Lower Shoalhaven River and St Georges Basin Flood Evacuation Capability Assessment (FECA) is the largest project Rhiannon has worked on. This project has been the most memorable for Rhiannon as it allowed her to take all of the flood emergency response principles she had been applying to individual developments and utilise and adapt them to a much larger area. The project involved the identification of evacuation routes and triggers and assessment of the evacuation capability of different sectors across the floodplains taking into consideration the complexity of converging traffic and the impact of riverine, creek and overland flooding on warning times and evacuation routes.

Dr Robin Keegan-Treloar, Senior Hydrogeologist, WA, commenced in 2022



Robin commenced with Innovative Groundwater Solutions in 2022 and joined Water Technology in 2024 when IGS became a part of Water Technology. One of the most memorable projects Robin has worked on recently was developing a groundwater risk assessment tool for remote communities in northern Australia. Groundwater is the lifeline of the outback, and many remote communities depend on it as their primary water source. However, they can face sudden and serious supply issues due to insufficient supply, equipment failures, or contamination. Our project created a practical risk-assessment framework that helps service providers identify vulnerable communities, prioritise interventions, and address issues before they escalate into major supply failures. Robin found it to be a genuinely rewarding experience because the work has clear, real-world benefits for the people who rely on these water supplies every day. Robin also loves the dog friendly offices at Water Technology.

Courtney Smith, Coastal Scientist, QLD, commenced in 2023



Courtney moved from the Water Technology New South Wales office to the Queensland office which she found to be a very seamless transition. She has been able to continue working on New South Wales projects while also work on more Queensland and Australia-wide projects. Courtney has enjoyed the diversity of projects that she's been able to work on across Australia and being able to work and collaborate with a broad range of passionate people. A memorable project for Courtney was undertaking surveys in a tinny amongst the mangroves in Far North Queensland. A beautiful location but no swimming unfortunately due to the crocodiles!

Dr Mary Hingst, Senior Hydrogeologist, SA, commenced in 2024

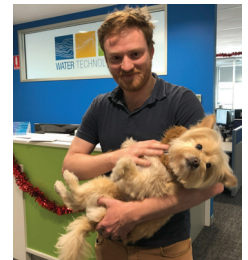
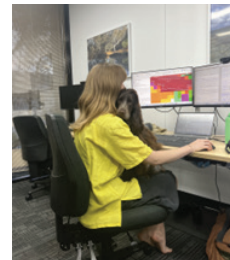


Mary joined Water Technolgy recently, coming to us with a broad range of experience in the United States. Since joining us in late 2024, Mary has enjoyed the variety of projects that she has been able to work on. In particular she enjoys being able to work in some places around Australia that she would likely never go to on her own. In particular, a project assessing groundwater processes and salt stores on the Murray River floodplains was a great expedition. In partnership with a colleague they collected several different kinds of data (i.e. stable isotopes, tritium, ions, water levels, geophysics, soil samples). A challenging project but the client was so pleased with the work that they are getting ready to head back out again for a follow-up study. Very rewarding indeed.

The Dogs of Water Technology

An important component of the Water Technology employee well-being program is our dog friendly office policy.

Welcoming pets can make the office a more social and inclusive place and help to reduce stress. These are conditions that increase employee interactions and foster creative collaboration and is very much valued by our employees. We even have an award given to the “Top Dog” each year. Below is a small selection of photos of the dogs that have visited the Water Technology offices around the country to “help”, play, make friends and get some cuddles. Great for the dogs, pet owners and employees who may not have a pet at home!



Our Values

Collaboration

Integrity

Knowledge

Achievement

Accountability

Balance





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