

PRE-CONFERENCE WORKSHOP / MASTERCLASS

Monday 26 October

Sponsored By



0730	Registration Desk Open	Federation Ballroom foyer
Guideline Update		Grand Ballroom
0830 - 0835	Welcome	
0835 - 0855	An update by convenors of the ANCOLD/ICOLD Guidelines & Bulletins: • Embankment Dams • Tailings Dams & Waste Lagoons • ICOLD Technical Committee C • Instrumentation	
0855 - 0945	An update on the draft ANCOLD Dam Safety Guideline At the end of the session there will be a short time for workshop attendees to ask questions on the Dam Safety Guideline	
1000 - 1030	Morning Refreshments	Mezzanine

	Grand Ballroom Workshop - Dam Safety Management Systems, Governance and Tools	Chancellor 6 Tailings Masterclass
1030 - 1045	ANCOLD Dam Safety Liabilities and Corporate Governance Course – reflections and learnings Angus Swindon, Tasset Consulting	Understanding tailings dam failure modes Workshop – Identifying failure modes in a hypothetical dam
1045 - 1130	Presentations of Dam Safety Management Systems (DSMS), independent reviewer/s and ISO55000 – reflections and learnings	Discussion and Q & A on failure modes Malcolm Barker, GHD Leandro Santos, KCB Manuel Membrillera, GHD
1130 - 1145	Reaping the benefits of applying tailings-level governance to water dams Andrew White, GHD & Bio Asare, Newmont	
1145 - 1200	Smart Surveillance for Resilient Dams: ICOLD's New Bulletins on Diagnostic Behaviour Analyses and Data Management Manuel Membrillera, GHD	
1200 - 1215	Technical Governance of Water Infrastructure Projects Chris Nielsen, Department of Local Government, Water & Volunteers	
1215 - 1230	Refreshing ANCOLD's Environmental Guidelines to Meet Emerging Environmental Challenges Cherie Blackburn, ACT Government	
1230 - 1245	Dam Safety Maturity Matrices – reflections and learnings from implementation and recent audits Dan Forster, Dam Safety Intelligence NZ	
1245 - 1330	Lunch	Mezzanine
	Grand Ballroom Workshop - Risk Based/ Informed Surveillance	Chancellor 6 Tailings Masterclass
1330 - 1345	Dam Safety Case - application Mark Arnold, Melbourne Water	Selecting and applying instrumentation for failure mode monitoring
1345 - 1400	Reconsidering Surveillance Decisions Under a SFAIRP/ALARP Lens: Bridging Risk-Based Reviews and Dam Performance Governance Tansy Huang, HARC	Workshop – Choosing the right instruments based on failure modes Malcolm Barker, GHD Leandro Santos, KCB Manuel Membrillera, GHD
1400 - 1500	Presentations on the application of Risk Based Surveillance – drivers, reflections and learnings Fraser White, Hydro Tasmania Tom Bugden, Snowy Hydro	
1500 - 1530	Afternoon Refreshments	Mezzanine

1530 - 1700

Grand Ballroom

Workshop - Panel Discussion

This is a panel discussion where workshop attendees will be able to ask questions of the presenters, answering questions submitted during the presentations

Chancellor 6

Tailings Masterclass

Developing effective trigger levels for monitoring and risk management

Q & A and wrap-up discussion

Malcolm Barker, GHD

Leandro Santos, KCB

Manuel Membrillera, GHD

1730 - 2030

Welcome Reception

Theatre Royal, cnr Campbell & Collins Streets

Arrival from 1730, collect a drink and move through to the Theatre, to be seated by 1800

Resilient dams and a resilient theatre!

Australia's oldest continually operating theatre, Noël Coward once called it "a dream of a theatre" and Laurence Olivier launched a national appeal for its reconstruction in the 1940s.

Cocktail style but enough as a dinner substitute, join us to eat, drink, chat and immerse yourself in some theatrical culture; Friends of the Theatre will conduct backstage tours - keep a look out for the Theatre's resident ghost!

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2000 - 2200

EP Networking Night

Theatre Royal, Vanessa Goodwin Room, Level 4

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DAY 1: TECHNICAL PROGRAM

Tuesday 27 October

0800

Registration Desk Open

Federation Ballroom foyer



Exhibition Open

Federation Ballroom



Plenary

Federation Concert Hall

0900

Conference Opening
ANCOLD 2026 Convenor, Chris Topham
ANCOLD Chair, Colleen Baker

0930

Keynote speaker

Stephen MacCarthy
 Corporate Security Manager, Water Corporation
 Chair: Chris Topham, ANCOLD 2026 Convenor

The security of critical infrastructure

With the Security of Critical Infrastructure (SOCi) Act now having had several years of operation this keynote will explore how industry has responded, practical implications, and what next? From his unique perspective from years of experience with Australian and US security agencies, Stephen will take the audience on a journey starting from the high-level aspirations of the SOCi Act and federal Countering Foreign Interference Policy, through implementation approaches, to practical considerations and impacts for dam and TSF owners based on the current threat landscape in Australia.



1020

Rachel Watson,
 CEO Hydro Tasmania

Diamond Sponsor



Federation Concert Hall**Advances in hydrology, hydraulics, climate change, and consequence assessments**

Chair: Yvette Collins, SMEC

Thanks to our
Sustaining Member**Grand Ballroom****Tailings dams guidelines, practice, technology, performance, risk, closure and rehabilitation**

Chair: Jasna Zuniga, GHD

Thanks to our
Sustaining Member

1100	Climate Change impacts on Flood Risks - What can Dam Owners do? James Stuart, Climate Resilience	A case study of application of risk-based framework on the design of a large tailings storage facility in high rainfall and seismically active environment Kimiko Rengifo Arakaki, WSP
1115	Incorporating Future Floods into Safety of Dams Flood Risk Assessments Kent Walker, US Bureau of Reclamation USA	Enhancing Tailings Dam Safety through a Truth-of-Source Monitoring Data Governance Framework Khishigsuren Davagdorj, Oyu Tolgoi LLC
1130	One size fits all ... mostly: lessons in adapting standard designs to a new spillway Colin Terry, Hydro Tasmania	In-Situ Stress Measurement in Tailings with the Self-Boring Pressuremeter: A Case Study from the Aitik TSF, Sweden Rohan Sutton, Cambridge Insitu
1145	Predicting runoff using real time rainfall data: a case-study based new approach Xinqian Leng, SMEC Australia	Influence of Papua New Guinea Seismic Sources on Ground Motion Estimates for Northern Australia and Implications for Tailing Storage Facility Safety Andreas Skarlatoudis, AECOM
1200	Hydraulic design insights from the largest spill event on record at Rookwood Weir: Comparing prototype observations with design-phase PHM and CFD model results Carlos Gonzalez, Sunwater	Closure or recycling of tailings dams for a Smart Future David Brett, GHD
1215	Preliminary portfolio screening of ARR climate change impacts Chriselyn Kavanagh, Aurecon Australasia	State Parameter Evaluation in Tailings Using Medusa DMT Mahdi Naeini, ATC Williams



1230 - 1400 Lunch

Federation Ballroom

1230 - 1400 **Emerging Professionals (EP) Lunch**

Smart Futures, Resilient Careers

From career setbacks and unexpected opportunities to AI, leadership and the changing skills of the profession, this panel brings together experienced industry leaders to discuss the realities of building a successful engineering career. Discover the lessons they wish they had known earlier and gain insights into the future of the dams industry.

Facilitator: Jaretha Lombaard, Entura
Panellists: Tom Ridgeway, Sunwater
Erin Hughes, HARC
Oliver Giudici, Hydro Tas



ANCOLD
emerging
professionals

Harbour View 1

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Jacobs

Challenging today.
Reinventing tomorrow.



Federation Concert Hall

Advances in hydrology, hydraulics, climate change, and consequence assessments

Chair: Louiza Van Vuuren, SMEC

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Grand Ballroom

Dam engineering theory and practice improvements, including analysis, foundations, risk and materials

Chair: Katie Dodman, KCB

1400	When underestimated rainfall becomes a dam safety problem: Reanalysis of Design Rainfall for Chichester Dam and Implications for Risk Assessments Tim Craig, HARC	Comparisons of 1D and 2D Site Response Analyses for Seismic Design of Dams Joshua Chan, GHD	
1407	Integrating Material Point Method and non-Newtonian Hydraulic modelling for Tailings Dam Break Analysis Mike Liu, Red Earth Engineering - A Geosyntec Company	Practical Guidance for Applying Rock Erodibility Indices in Spillway Design and Dam Safety Risk Assessment Nicholas Thomas-Kinsella, GHD	
1414	Assessing Retarding Basins as a Connected Systems in Fast-Changing Development Environments Albert Shen, HARC	Integrating Finite Element Stress Analysis and Probabilistic Interpretation in Sliding Stability Assessment: A Case Study of Concrete Arch Dam Graham Roberts, Stantec	
1421	Physics-informed ensemble seasonal forecasts for reservoir airspace management Tze Ling Seline Ng, Commonwealth Scientific And Industrial Research Organisation (CSIRO)	When Monitoring Data Tells a Different Story: Foundation Seepage Reassessment at a Legacy Dam Sahar Mamouri, Stantec	
1428	An update on Data-Fusion-based Dam Breach Empirical Equations Monte Azmi, Acciona Engineering and Design	Eliciting and Interpreting Societal Concerns in Dam Safety ALARP Assessments Colin Brain, SMEC	
1435	Practical choices for implementing medium-range ensemble inflow forecasts to dams James Bennett, CSIRO	From Marginal Safety to Design Confidence: Numerical Modelling of Flow and Cyclic Liquefaction in a Raised Tailings Facility Reza Mahinroosta, GHD	
1442	Extreme Pressures in Hydraulic Jump Stilling Basins with and without Baffle Block Hubert Chanson, The University of Queensland	Appropriate selection of target spectra for the production of Earthquake Time Histories Wayne Peck, Seismology Research Centre	
1449	Evaluating effectiveness of alternative evacuation strategies for large populations using LifeSim Edward Funnell, HARC	Stilling basin anchor fatigue design using DES CFD modelling Kabelo Seosenyeng, GHD	
1456	Hydrodynamic Pressure Fluctuations in Plunge Pools: A Comparative Study of Numerical and Experimental Approaches Cameron Fraser, SMEC	Expert Elicitation for Dam Safety Risk Analysis Case Study in Australia Angus Riordan, GHD, Sony Panicker, GHD	
1503		Re-Evaluating a Century of Deformation Concerns: Advanced Owner-Led Stability, Deformation and Risk Assessment for Prospect Dam Hassan Ghafouri, WaterNSW	

1500	Afternoon Refreshments	Federation Ballroom
	Federation Concert Hall Asset lifecycle: planning, procurement, construction, dam operations, maintenance and decommissioning Chair: Alex Gower, WaterCorp Thanks to our Sustaining Member 	Grand Ballroom Dam safety management, regulation, emergency management, environment, and First Nations Chair: Sonia Fortuna, SA Water Thanks to our Sustaining Member  
1530	Scaling Up Dam Safety Management for Urban Flood Detention Dams in the Aftermath of a Catastrophic Cyclone Samuel Paquier, Stantec 	Benchmarking International Emergency Preparedness & Response Guidelines utilizing CEATI's Dam Safety Maturity Matrix Kathleen Brock, Tennessee Valley Authority
1545	Managing Risk and Delivery Constraints in Spillway Remediation at Leslie Harrison Dam Tatiane Martins, Seqwater Amanda Ament, GHD 	A National-Scale Digital Platform for Dam Safety, Emergency Management and BIM: Lessons from 175 State-Owned Large Dams in Spain Stefan Hoppe, OFITECO
1600	Cooby Dam Wet Tower Conversion - a Project Journey from Pipework Replacement Stephen Petrie, Tell Advisory	Parametric Analysis of Cost-to-Save-a-Statistical-Life: Practical Insights for Dam Safety Investment Decisions Nate Snorteland, HDR
1615	Sedimentation of Gigerwald Reservoir - Raising of intake and bottom outlet under challenging conditions Sam Weatheritt, Lombardi Engineering Australia	Adapting to Change: The Evolution of Tailings Management Roles and Responsibilities Jodie Kilpatrick, SLR Consulting
1630	Contemporary good practice in flood operations of gated dams Michel Raymond, Hydrology and Risk Consulting Pty Ltd (HARC)	The Application of New South Wales and Australian Dams Safety Guidelines to Detention Basins and Flood Levees in Urban Environments Monica Laut, Haskoning Australia 
1645	How Can Risk-Based Approaches Be Used to Improve Dam Safety? Worldwide Examples and Lessons Learned Adrian Morales Torres, iPresas Risk Analysis	Beyond PAR and PLL- A review of information and guidance for assessing the consequence of dam failure on environmental assets Claire Hendley, Dams Safety NSW 
1700	Close Day 1	

1815 - 2300

Conference Dinner

MyState Bank Arena

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Transport from Hotel Grand Chancellor to the arena will depart at 6.15pm and return at 10.00, 10.30 and 11.00pm

Come down for air...

Your evening begins with a scenic 20-minute coach journey to MyState Bank Arena. Pop in your headphones and discover a little of Hobart's history as you travel through Tasmania's beautiful capital.

Good food

Great company

Enlightened entertainment

And a glimpse into the future of dam inspection with sponsor, Fulcrum Robotics

Because while technology continues to transform our industry, one thing never changes: resilient dams start with resilient people.

Dress code: Smart casual/ lounge suit, whichever you feel most comfy in, but whatever you wear, don't forget your Tassie Tuxedo!

"Tassie tuxedo" is Australian slang for a black puffer jacket, worn every day by locals and visitors across Tasmania. It is light-hearted local humour where Tasmanians poke fun at their own pragmatic, weather-ready approach to dressing for any occasion.

Fun fact: earlier this month there was a record attempt for the most puffer jackets worn (they reached 186). Can we beat that?!

Don your Tassie Tuxedo and beanie, and you'll be ready for anything!

DAY 2: TECHNICAL PROGRAM

Wednesday 28 October

0700

WILD (Women in Large Dams) breakfast session

By invitation
Hydro Tasmania, 4 Elizabeth Street



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0830

Registration Desk Open

Federation Ballroom foyer



Name Badge



Dams Safety NSW

Check-in Kiosks



SEYMOUR WHYTE



Delegate Gift



Resilience



Wi-Fi



Sustainability



Conference App

Exhibition Opens

Federation Ballroom



Head Shot Lounge



Klohn Crippen Berger

Premium Lounge



Barista Cart



Barista Cart



Indulgence Cart



Refreshment Breaks

Plenary

Federation Concert Hall

0900

Keynote speaker

Professor Toby Walsh

ARC Laureate Fellow & Scientia Professor of AI

Chair: Chris Topham, ANCOLD 2026 Convenor

Artificial Intelligence and the Future of Critical Infrastructure: Opportunities, Risks, and Responsibility

Artificial intelligence is rapidly moving from an experimental tool to decision making partner in engineering, with profound implications for safety-critical infrastructure such as dams and tailings facilities. In this keynote, Professor Toby Walsh draws on his global leadership in AI research and governance to explain what today's AI systems can — and cannot — do, and how they are likely to evolve over the next decade. He explores how AI may transform monitoring, design, risk assessment, and operational decision-making, while also introducing new challenges around trust, accountability, and resilience. The session equips engineers and decision-makers with a clear, realistic principles for engaging with a “smart future” without compromising safety, professional judgement, or public trust.



1000	Morning Refreshments	Federation Ballroom
	Federation Concert Hall Working smarter – use of artificial intelligence, technology, training and innovation Chair: Sam Banzi, Banzi Consulting Services	Grand Ballroom Dam engineering theory and practice improvements, including analysis, foundations, risk and materials Chair: Ryan Singh, HATS Consulting
1030	From Photos to Insights: AI-Assisted Analysis of Historical Records for Dam Safety Reviews and Risk Assessment Nima Akbari Paydar, SMEC	Would quantitative risk analysis have prevented the 1976 failure of the Bureau of Reclamation's Teton Dam? Dom Galic, US Bureau of Reclamation
1045	Feet on the ground, eyes on the data: ground-truthing the future of dam monitoring on Tasmania's Wild West Coast Aaron Kelly, Entura	Development of a Hazard Classification for Reservoir Landslides Don MacFarlane, AECOM
1100	Lean on me: How Toyota's Lean manufacturing can improve dam construction productivity Trent Thomson, Queensland Hydro Andrew Tindal, Acciona Geotech	Concrete Gravity Dam Risk Assessment: The Use (and Misuse) of Design Inputs and Probabilistic Methods Lyndon Johnson, Dam Safety Consulting
1115	From Field Data to Digital Asset: Advancing Dam Safety through GIS Based Surveillance Inspections Josh Kline, GHD	What Makes a Neotectonic Fault Significant? A Sensitivity Based Exploration of Dam Seismic Hazard Allie Phillips, GHD
1130	Unleash your Potential Energy: The Powerful Role of Training in a Dam Safety Management Program Sally Fracalossi, Entura	Innovative Decoupled Approach for Structural Analysis of Concrete Gravity Dams in Complex Geotechnical Foundations Francisco Lopez, SMEC
1145	Incremental Automation of Monitoring Data Management and Reporting for Tailings Storage Facilities Hugo Brandao, Klohn Crippen Berger	Expert Elicitation in Dam Safety Risk Analysis David Bowles, RAC Engineers And Economists, LLC and Utah State University



1200	Lunch	Federation Ballroom
	Federation Concert Hall Working smarter – use of artificial intelligence, technology, training and innovation Chair: Sean Gottschling, Hydro Tasmania	Grand Ballroom Tailings dams guidelines, practice, technology, performance, risk, closure and rehabilitation Chair: Nick Glover, GHD Thanks to our Sustaining Member 
1300	Reducing Operational Uncertainty Through Groundwater Modelling: Lessons from the Site C Right Bank Foundation Ann Wen, Klohn Crippen Berger	From Current State to Future Stage: Optimising TSF Performance to Meet Evolving Operational Demands Justin Yau, Klohn Crippen Berger
1307	Unified data capture platform for environmental survey work at Barlil and Cooranga Weir Blair Cheyne, Sunwater 	Resilient Digital Architectures for Tailings Dam Monitoring and Risk Management Baden Corr, Entura 
1314	RAMPing up Dam Risk Assessments Samantha Wongsodihardjo, HATS Consulting	Smart Technology, Smart Monitoring: A Risk Aligned Approach for TSF Monitoring Jedd Linke-Nagel, ATC Williams 
1321	Integrating Creep and Material Nonlinearity into AAR Modelling of Concrete Dams – A Practical Modelling Framework Lasal Fernando, Entura 	Temporal Shear Wave Velocity Variations in Response to Rainfall at a TSF in a Tropical Climate Chandula Weerasekara, The University of Western Australia 
1328	The Future of Dam Monitoring: Fewer Surveyors, Smarter Systems Michael Nicholson, Geomatix	Deriving Reliable Residual Strength Parameters for Heterogeneous Tailings by Integrating In-Situ Testing, Advanced Laboratory Methods, and Stratigraphic Characterisation Arun Muhunthan, ATC Williams
1335	AI-Assisted Failure Mode Identification and Risk Assessment Adrian Morales Torres, iPresas Risk Analysis	
1342	Session reset	

Federation Concert Hall		Grand Ballroom
Asset lifecycle: planning, procurement, construction, dam operations, maintenance and decommissioning Chair: Brianna Fenton, Hydro Tasmania Thanks to our Sustaining Member 		Dam safety management, regulation, emergency management, environment, and First Nations Chair: Carly Harvy, SA Water Thanks to our Sustaining Member  
1345	Lessons from the wilderness: A young design engineers' tale from a year in dam construction Isaac Probert, Pinion Advisory 	State-of-Practice Assessment: Emergency Preparedness for Dams in NSW Damien Bryan, Banzi Consulting Services
1352	From Static Manuals to Living Systems: A Framework for Modern Dam O&M Documentation Leigh Martin, AECOM	The Hidden Design and Operations Driver: Environmental Flows and Their Role in Dam Resilience Claudia Smith, Sunwater 
1359	Contemporary leading practice in dam flood operations review studies: Glenmaggie Dam case study Richard Mannix, HARC	Are you triggered? The Dam Engineer's Role during Emergency Response Michael Aboud, Entura 
1406	Guidance on building weirs in Queensland Chris Nielsen, Department of Local Government Water and Volunteers	Dam Risk Assessment – Geological hazard collaboration for improved understanding of seismic hazard Helen Baxter-Crawford, Gen X Geotech 
1413	Enhancing Uplift Drain Performance: Operational Insights from Seqwater's Large Dams Portfolio Tim Lawrence, Seqwater	The Double Fish Lock Jack Bygott, Sunwater 
1420	Meadowbank Spillway Gate Upgrade – Managing Spill Risk During the Outages David Law, Entura	Integrated trigger methods for dam safety monitoring Beatriz Frigueto, KCB
1427	Staged remedial works for progressive spillway rock erosion at Moondarra Reservoir James Williamson, Gippsland Water	Emergency Dewatering Outlets – Do they increase the resilience of a dam or can they become a maintenance nightmare? Richard Herweynen, Entura
1435	Afternoon Refreshments	
Plenary		Federation Ballroom
		Federation Concert Hall

1505	A Panel of Perspectives – Emerging vs Experienced This Q&A panel session brings together mentees and their mentors and explores how mentoring strengthens and builds resilience within the industry, and the differences in perspectives from this years technical programme between emerging and experienced practitioners. Aida Gibbons, SRW Radin Espandar, WSP Nick Ostrovsky, WaterNSW Angus Swindon, Tasset Consulting Chloe Liu, TasWater	
1545 - 1615	Conference Close and Awards ANCOLD 2026 Convenor, Chris Topham ANCOLD Chair, Colleen Baker Launch of ANCOLD 2027	 Emerging Professionals Best Paper Award Sponsors
1630	ANCOLD Annual General Meeting	Grand Ballroom
1800	End of conference get-together Mezzanine	Sponsored by 

POST-CONFERENCE Tours

Tours will depart at 8:00am from the Hotel Grand Chancellor and return to Hobart Airport by 5:00pm, allowing attendees to connect with evening flights, before returning to the Hotel Grand Chancellor, Hobart CBD.

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THURSDAY 29 OCTOBER

Mechanical Derwent Tour

This one day specialist technical tour delivers a focused exploration of mechanical gate systems that underpin the safe and reliable operation of major hydro-electric assets through the Derwent electric schemes. Delegates will examine contemporary spillway and intake gate arrangements, with emphasis on hydraulic actuation, automation, reliability improvements and the challenges of upgrading and maintaining critical mechanical infrastructure within long-operating schemes. The tour highlights contrasting gate types and control philosophies, illustrating how different mechanical solutions are applied to manage high flows, varying head conditions and demanding operational environments. Depending on site availability, the following gate types will be included: remote operated vertical lift radial gates, automated floating drum gate, PLC controlled overflow leaf gates, fixed cone dispersion valves. Together, insights from the assets provide a perspective on gate design, operation and upgrade strategies, making the tour an outstanding opportunity for general dams and mechanical engineers alike seeking real-world learning from proven hydro-electric systems.

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THURSDAY / FRIDAY

Gordon Tour

Experience Tasmania's iconic dams firsthand on the ANCOLD Conference 2 day technical tour, where world-class engineering meets spectacular wilderness. The Gordon Dam tour offers a rare opportunity to explore one of Australia's most recognisable hydro-electric schemes, showcasing large-scale concrete dam engineering hydro infrastructure set deep within the World Heritage landscape. At 144 metres tall, Gordon Dam is the largest double curvature concrete arch dam in Australia, and the jewel in the crown of Hydro Tasmania's infrastructure. The tour will also include Scotts Peak Dam, a 1 km long and 43 metre high asphalt faced rockfill dam, and the recently upgraded Edgar Dam, which demonstrates how legacy infrastructure is being adapted to meet modern standards. Together, this tour delivers an unmatched blend of technical learning, professional insight and unforgettable scenery — making it a standout highlight of the ANCOLD conference experience.