



30 NOV – 4 DEC 2025

Sunday 30 November 2025 Adelaide Convention Centre		
1200	Registration	Foyer G
TBC	Mentor/mentee meetings	Foyer G
1630-1740	Opening plenary	Hall C
1630	Welcome to Country, Cliffy 'Tangku Munaitya' Wilson , Kurna, Narungga, Ngarrindjeri, Ngadjuri and Arrente Man	MC: Dr David Post, President, MSSANZ
1640	Minister Joe Szakacs , Minister for Industry, Innovation and Science, South Australian Government	
1700	Plenary speaker: Prof Craig Simmons , Chief Scientist of South Australia	
1740-1930	Icebreaker Function	Regattas Lawn

	HALL A	HALL B	HALL C	ROOM E1	ROOM E2	ROOM E3	RIVERBANK 2	RIVERBANK 3	RIVERBANK 4	GILBERT SUITE
Monday 1 December Adelaide Convention Centre										
0700 – 1800	Speakers' preparation									Foyer G
0800 - 1900	Registration									Foyer G
0800 – 1730	Exhibition and catering									Hall G
0800 – 1730	Posters									Foyer E
0850-1010	1A: J7, The path forward for hydroclimate risk assessments - advancing science, modelling and management to support decision making in large river basins Room: Hall A Chair: TBC	1B: F1, Ecological and environmental modelling using a combination of mathematical and statistical approaches Room: Hall B Chair: Matthew Adams	1C: J9, Challenges, new concepts and new methods for water resources management Room: Hall C Chair: Dr Jing Yang, Pan Liu and Prof Barry Croke	1D: H3, Evidence-based and optimal decision-making in health services research through simulation and modelling Room: Room E1 Chair: Prof Gang Chen	1E: M3, AI for optimization: Methodologies and applications Room: Room E2 Chair: Kate Holland	1F: A2, Advances in numerical solutions for water resources models Room: Room E3 Chair: Dr Julien Lerat	1G: G2, Recent advances of earth observations in climate change impact research Room: Riverbank 2 Chair: TBC	1H: L3, Modelling water quality treatment and management Room: Riverbank 3 Chair: Dr Mukta Sapkota	1I: B5, Agricultural systems Room: Riverbank 4 Chair: TBC	1J: J6, Hydroclimate extremes forecasting: From droughts to floods Room: Gilbert Suite Chairs: Dr Adarsh S and Dr Ze Jiang
0850	The need to avoid	Air quality modelling for	Modelling long distance gravity	Genomic risk stratification in	Using markerless motion capture	Impacts of inter-basin water	Assessing the contribution of	Responding to the challenges	Modelling greenhouse gas	A machine learning

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	determinism and weak links in modelling chains when assessing climate impacts, Prof Rory Nathan , University of Melbourne	Pacific Island Countries: Insights from the Solomon Islands and Fiji, Dr Tomas Liska , UK Centre for Ecology and Hydrology	flow channel design and alignment, Lynn Seo , CSIRO	optimising intermediate risk prostate cancer management in Australia: Discrete event simulation, Dr Juntao Lyu , University of Melbourne	to identify unsuitable static body postures during work activities, Dr Simon Harrison , CSIRO Data61	diversion projects on feedback loops of water supply-hydropower generation-environment conservation nexus, Prof Dedi Liu , Wuhan University	grasslands to Australian national carbon sequestration under a changing climate, Yidan Gou , Australian National University	and complexities of urban water management in the Sydney Metro SSTOM, Nilmini Pannipitiya , SMEC	emissions in mixed crop-livestock farming systems, Dr Priyanath Jayasinghe , CSIRO Agriculture and Food	framework to enhance long-term drought forecast with spectrally transformed climate predictors, Dr Ze Jiang , UNSW Sydney
0910	Integrating Indigenous Knowledge and Indigenous Data Sovereignty for sustainable water management, Dr Cassandra Sedran-Price , University of Sydney	Toward modelling termite impacts on carbon stability and methane emissions in greenhouse gas modelling, Dr Umar Farooq , CSIRO Agriculture and Food	Real-time hydrological-hydraulic hybrid modelling to inform smart management of urban flow regimes, Lin Zhang , University of Melbourne	Rethinking the scale-up of digital technologies for youth mental health: Insights from participatory systems modelling in Western Sydney, Dr Seyed Hossein Hosseini , University of Sydney	A CUDA-optimised key frame extraction for biometric labelling in dairy cattle identification, Dr Md Farhad Hasan , Agriculture Victoria Research	Using energy balance functions to constrain future climate runoff trajectories, Dr Justin Hughes , CSIRO	Invited speaker: Operational satellite-based disaster monitoring on the cloud: Case studies from Asia, Prof Duk-Jin Kim , Seoul National University	The addition of large scale WSUD alternatives and their affect on kerbside stormwater systems, Sam Cook , Macquarie University	Simulating the effects of microclimate on the water balance of understorey plant communities in orchards, Dr Rogerio Cichota , New Zealand Institute of Bioeconomy Science	Scale-invariant models for extreme rainfall: Application to Australian sites, Ling-Wan You , University of Adelaide
0930	Muti-variable calibration to improve robustness of landscape models under change, Dr Matt Gibbs , CSIRO Environment	High resolution mapping of buffelgrass using dense time series of imagery and open source data, Dr Paul Box , NT Department of Lands, Planning and Environment, Water Resources Division	High-resolution near-surface soil moisture mapping for precision irrigation using a UAV, Noor Ul Ain Ayaz , Monash University	Improved routing and scheduling approach for home-based chemotherapy and infusion services with a single nurse, Vishmi Fernando , RMIT University	Minimising ergonomic impact in automated workspaces through reinforcement learning, Dr Rodolfo Garcia-Flores , CSIRO Data61	New hydraulic model for integrated water management, Dr Reem Obeid , SA Water	Advancing erosion predictive capabilities through deep learning in Southeast Australia, Dr Xihua Yang , NSW Department of Climate Change, Energy, the Environment and Water	MUSIC's Bioretention Node under climate change: What changes do we need? Jared Wake , Monash University	Multi-crop APSIM modelling framework for evaluating irrigation strategies and sowing window optimisation across diverse Australian production environments, Dr Jaba Sarker , Central Queensland University	Development of an Australia-wide extreme storms database for hydrologic risk assessments, Caleb Dykman , University of New South Wales
0950	Are our rainfall-runoff models up to the future task? Tony Weber , Alluvium Consulting Australia	A three-lattice predator-prey model: Migration expands the survival region, Dr Nariyuki Nakagiri ,	Comparing a physical hydrologic model and machine learning model in a catchment in New Zealand,	On causal loop diagrams and directed acyclic graphs: Insights in health systems and genomics, Dr Hadi Akbarzadeh	Joint optimisation of app data caching and computation ofgflooding in edge computing, Mohammad	How fast can a MARRMoT run? Improving runtimes for the Modular Assessment of Rainfall-Runoff Toolbox,	Satellite-based assessment of marine phytoplankton productivity responses to climate and anthropogenic	Using rainfall characteristics to evaluate sizing of rainwater tanks under climate change, Desmond Manuelpillai ,	Climate-driven rice expansion in Northeast China: A geospatial analysis, Yuze Bai , Australian National University	

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		University of Hyogo	<i>Dr Jing Yang, Earth Sciences New Zealand</i>	<i>Khorshidi, University of Melbourne</i>	<i>Ghasemi, Deakin University</i>	<i>Dr Keirnan Fowler, University of Melbourne</i>	pressures in Asia-Pacific waters, <i>Yinuo Xu, Australian National University</i>	<i>Monash University</i>		
1010-1040	Morning tea								Hall G	
1040-1130	Plenary session 2								Hall C	
1040	Plenary speaker: <i>Dr Val Snow, Bioeconomy Science Institute, AgResearch Group</i>								MC: Susan Cuddy, CSIRO	
1130-1230	2A: J7, The path forward for hydroclimate risk assessments – advancing science, modelling and management to support decision making in large river basins Room: Hall A Chair: TBC	2B: J4, Responding to the challenges and complexities of urban water management Room: Hall B Chair: Leon van der Linden	2C: K1, Modelling complexity: New approaches for water, environment and society in large basins Room: Hall C Chair: Okke Batelaan	2D: I2: Advancing system dynamics modelling: Integrating emerging technologies and participatory approaches for enhanced decision support in social systems Room: Room E1 Chair: TBC	2E: B9, Advances in agent-based modelling and their statistical challenges in biological, ecological and agricultural systems Room: Room E2 Chair: TBC	2F: A2, Advances in numerical solutions for water resources models Room: Room E3 Chair: Dr Julien Lerat and Prof Barry Croke	2G: G2, Recent advances of earth observations in climate change impact research Room: Riverbank 2 Chair: TBC	2H: Room: Riverbank 3 Chair:	2I: B5, Agricultural systems Room: Riverbank 4 Chair: TBC	2J: J6, Hydroclimate extremes forecasting: From droughts to floods Room: Gilbert Suite Chair: Dr Adarsh S and Dr Ze Jiang
1130	Basin-wide assessment of climate projection resolution, <i>Mahdi Montazeri, CSIRO</i>	Water resources modelling in Melbourne: Current status and future directions, <i>Dr Udaya Kularathna, Melbourne Water</i>	Stream K keynote: Ramsar wetland climate adaptation: Lessons learnt from a participatory process, <i>Dr Rebecca Doble, CSIRO Environment</i>	Leveraging participatory system dynamics to coordinate regional Net Zero Transitions in Australia, <i>Dr Philippa Hammond, CSIRO Agriculture and Food, Dr Humair Nadeem, CSIRO Mineral Resources</i>	Development of an agent-based model for movement and foraging of sheep flocks, <i>Dr Mitchell Welch, University of New England</i>	Synthesising hydrological knowledge in a semi-dry region with low-permeability unsaturated zone using Modflow-6, <i>Dr Konrad Miotlinski, University of Western Australia</i>	Land subsidence and rebound response to groundwater recovery in the Beijing Plain: A new hydrological perspective, <i>Shubo Zhang, Capital Normal University</i>	No session	Systems modelling of technological opportunities for a sustainable and profitable dairy sector in New Zealand, <i>Chavi Ekanayake, University of Canterbury</i>	Harnessing quantum variational circuits for enhanced streamflow forecasting in the Greater Pamba River Basin, India, <i>Arathy Nair G R, KM College of Engineering</i>
1150	Shifting from modelling changes in climate to better understanding risks to achieving desired outcomes, <i>Prof Holger Maier, University of Adelaide</i>	Melbourne's water supply modelling information system: Progress update and next steps, <i>Kien Vu, Melbourne Water</i>		Generative AI applications in system dynamics modelling, <i>Dr Seyed Hossein Hosseini, University of Sydney</i>	Vision and body as drivers of topological interactions in Collective Motion, <i>Andrei Zvezdin, University of New England</i>	Improving the discrete form of the Nash cascade, <i>Prof Barry Croke, Australian National University</i>	Correlations of land surface temperature with climatic and oceanic factors in China (1952–2022), <i>Yunfei Zhang, Capital Normal University</i>		Shedding light on complexity using sensitivity analysis, <i>Dr Neil Huth, CSIRO</i>	Australian meteorological drought: A review of process understanding, research gaps and model development needs, <i>Dr Chiara M. Holgate, Australian</i>

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										National University
1210		LSTM-based policy model for minimising pump operational costs in water distribution systems, Lang Zheng , University of Melbourne	From snowmelt to fields: Synthesizing water supply, use, and management gaps across Kabul River Basin, Dr Fazlullah Akhtar , University of Bonn		Data-driven models of collective motion derived directly from force maps, Dr Timothy Schaerf , University of New England	Non-linear reservoir modelling without tears using the QuaSoARE approach, Dr Julien Lerat , CSIRO	Spatial and temporal variability of weather system contributions to rainfall in the Murray-Darling Basin, Dr Guobin Fu , CSIRO		Identifying 'macro' drivers of cropping system performance, Dr Li Luo , University of Adelaide	
1230-1330	Lunch								Hall G	
1330-1510	3A: B1, APSIM 30-year symposium: Shaping the future of agricultural modelling Room: Hall A Chair: Dr Enli Wang	3B: K8, Watershed flood regime changes and their prediction Room: Hall B Chair: Dr Quanxi Shao and Prof Yongyong Zhang	3C: K1, Modelling complexity: New approaches for water, environment and society in large basins Room: Hall C Chair: Okke Batelaan	3D: A6, Industrial mathematical modelling and simulation Room: Room E1 Chair: TBC	3E: M2, Simulation modelling and analysis Room: Room E2 Chair: Dr Hasan Turan	3F: H2, Data science and simulation modelling methods in health Room: Room E3 Chair: TBC	3G: C1, Using workflow platforms in modelling and simulation Room: Riverbank 2 Chair: Dr Paul Cleary and Lachlan Hetherston	3H: L4, Modelling erosion and pollutant dynamics Room: Riverbank 3 Chair: Llewyn Randall	3I: B5, Agricultural systems Room: Riverbank 4 Chair: TBC	3J: C6, Emulation of dynamic models Room: Gilbert Suite Chair: TBC
1330	Thirty years of APSIM modelling: Reflections on the journey, past, present and future, Dr Brian Keating , University of Queensland	Invited speaker: Seasonal prediction of summer rainfall anomalies over China using CAS-ESM and machine learning technique, Prof Zhaohui Lin , Chinese Academy of Sciences	Understanding the impacts of climate change through the lens of climate and ecological analogues, Dr Ashmita Sengupta , CSIRO	Uncovering major barriers for not seeking mathematics assistance in the education industry: DEMATEL modelling approach, Dr Michael Dzatov , Central Queensland University	An agent-based simulation model for defence workforce planning, Amy Rogers , University of New South Wales	An adaptable modelling framework for infection risk and control, Ozge Ozcakir , Boeing Technology Innovation	Towards seamless provenance in collaborative modelling: Integrating Airflow with Provena, Peter Baker , CSIRO Environment	Hydrodynamic modelling of water quality impacts of petrol powered boats on a drinking water reservoir, Dr Kath Cinque , Melbourne Water	Simulation-based decision support for nitrogen management in vegetable production: The Sustainable Vegetable Systems (SVS) Tool, Dr Edith Khaembah , New Zealand Institute for Plant and Food Research	Using machine learning to emulate physics-inspired Agent-Based Models: A case study in emergency evacuations, Dr Daniel Smith , CSIRO
1350	The struggles of software engineering in a science-based context, Dean Holzworth , CSIRO	Levelling up: Modelling flood inundation changes in the South Australian River Murray, Dr Daniel McCullough , SA Department for	Leveraging petrophysical logs in data-scarce groundwater environments, Dr Daan Herckenrath , AGE Consultants	Validation of a numerical model of a ship and cable-towed body system, Dr Martin Leahy , Shoal Group	DesRail: A new discrete-event-simulation library for high-performance rail network simulations, Dr Paul Corry , Queensland	Forecasting all risk factors for all countries, Dr Tim Wilson , University of Melbourne	Workspace: 20 years retrospective and prospective, Dr Paul Cleary , CSIRO	Building a water quality model for Receiving Environment Digital Twin (REDiT), Caroline Lai , DHI Group	Correlating rainfall and simulated pasture growth for developing sustainable grazing insurance products in	Spatiotemporal groundwater predictions using Explainable AI, Dr Sreekanth Janardhanan , CSIRO Environment

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		<i>Environment and Water</i>			<i>University of Technology</i>				northern Australia, Hieu Ly , <i>University of Queensland</i>	
1410	APSIM crop model innovations for breeding; and using APSIM in artificial intelligence applications, Prof Scott Chapman , <i>University of Queensland</i>	Predicting global runoff and hydrological drought in 1991-2024 using the HBV-PML model, Prof Yongqiang Zhang , <i>Chinese Academy of Sciences</i>	Modelling the cost and viability of brackish groundwater desalination for agriculture in the Murray–Darling Basin, Dr Peter Reeve , <i>University of Adelaide</i>	A variable-rate sampling framework for efficient aerodynamic data sampling in CFD applications, Sarah Whitehouse , <i>Shoal Group</i>	SCOPE: An integrated early warning system for combat casualty prediction, Junia Tiong , <i>University of South Australia</i>	Simulation study of strategies to improve patient outcomes in a Pediatric Intensive Care Unit, Dr Danielle Currie , <i>Sax Institute</i>	Holistic naval ship design in CSIRO workspace, Dr David Rose , <i>Defence Science and Technology Group</i>	Modelling dissolved inorganic nitrogen losses from the Queensland sugarcane industry, Tessa Chamberlain , <i>QLD Department of the Environment, Tourism, Science and Innovation</i>	Pathways towards Net Zero emissions in grain cropping farms, Zhihao Tan , <i>University of Queensland</i>	Accounting for fire and grazing effects to improve soil organic modelling through emulator-based parameter recalibration, Dr Sebastian Ugboje , <i>CSIRO</i>
1430		Ensemble post-processing of sub-seasonal to seasonal precipitation forecasts based on Probabilistic Double Machine Learning method, Prof Aizhong Ye , <i>Beijing Normal University</i>		Simulating wind-driven greenhouse gas exchange in landfills, Marin Pjetri , <i>University of Queensland</i>	Modelling performance of uncrewed autonomous system swarms against directed energy weapon systems, Dr Karlo Hock , <i>Defence Science and Technology</i>	Clustering irregular Cytokine Time Series using Gaussian Process Mixture Models, Samantha Beard , <i>University of Adelaide</i>	Using workspace to explore large point cloud datasets, Lachlan Hetherton , <i>CSIRO</i>	Comparing methods for assessing suspended sediment and turbidity trends in rivers: A Melbourne example, Dr Anna Lintern , <i>Monash University</i>	Technical feasibility and economic analysis of solar photovoltaic water pumping system for irrigation in Nepal, Padam Prasad Paudel , <i>Agriculture and Forestry University</i>	Time-uniform universal approximation and recurrent neural networks, Dr Adrian Bishop , <i>CSIRO</i>
1450	B1 extended discussion	Climate change dominates recent increase in streamflow in the Yellow River Basin, Zhen Huang , <i>Chinese Academy of Sciences</i>		A sensitivity analysis of the Activated Sludge process in a single reactor configuration, Dr Simon Watt , <i>UNSW Canberra</i>	SWAR: Evaluating the effect of distributed communication approaches on application effectiveness, Dumitru-Alin Balasoiu , <i>University of Adelaide</i>	Designing personalized levodopa regimens using minimal inputs and hybrid simulation modelling, Dylan Knowles , <i>Luminesim Simulation and Analytics</i>	Design validation and verification for non-intrusive flight test instrumentation (NIFTI) using Model-Based Systems Engineering (MBSE), Dr Koranat Pattarakunnan , <i>Memko</i>	Improved hillslope erosion prediction for the Great Barrier Reef Catchments, Prof Bofu Yu , <i>Griffith University</i>		High-fidelity emulation of a groundwater simulator using a deep LSTM neural network architecture, Dr Dan Pagendam , <i>CSIRO Data61</i>
1510-1540	Afternoon tea								Hall G	

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1540-1740	4A: B1, APSIM 30-year symposium: Shaping the future of agricultural modelling Room: Hall A Chair: Dr Enli Wang	4B: K8, Watershed flood regime changes and their prediction Room: Hall B Chair: Prof Yongqiang Zhang and Prof Yang Gao	4C: A1, Applied probability Room: Hall C Chair: Georgy Sofronov	4D: F3, Modelling for effective climate change adaptation Room: Room E1 Chair: Dr Rebecca Doble and Vanessa Round	4E: M2, Simulation modelling and analysis Room: Room E2 Chair: Dr Hasan Turan	4F: E4, AI assessment of distributed energy resources and variable renewable energy systems Room: Room E3 Chair: TBC	4G: J1, Long term shifts in hydrological systems Room: Riverbank 2 Chair: Sreelakshmi Cherampatta Mana	4H: L4, Modelling erosion and pollutant dynamics Room: Riverbank 3 Chair: Dr Anna Lintern	4I: F7, Coupling models for agricultural transformation and climate change adaptation: Challenges, opportunities, and best practices Room: Riverbank 4 Chair: Andrea Kaim and Martin Volk	4J: G7, Tackling the challenges associated with modelling increases in landscape fire effects on human and ecosystem health under climate change conditions Room: Gilbert Suite Chair: Prof Stefan Reis and Dr Massimo Vieno
1540	Simulating nitrogen dynamics for sustainable farming systems, Dr Kirsten Verburg , CSIRO Agriculture and Food	Global lake primary productivity and carbon source-sink processes and their impact mechanisms, Dr Junjie Jia , Chinese Academy of Sciences	Stream A keynote: New random number generation tools for parallel environments, Prof Pierre L'Ecuyer , University of Montreal	Sensitivity analysis of a local-scale coral larval connectivity model to biological parameters, Dr Chinenye Ani , Australian Institute of Marine Science	Invited speaker: A foundational framework for generative simulation models: Pathway to generative digital twins for supply chain, Prof John Fowler , Arizona State University	Employing image processing and anomaly detection for faulty solar cells, Mohammad Ghasemi , Deakin University	Using models and high-resolution monitoring to estimate recharge in south-west Western Australia, Joel Hall , Department of Water and Environmental Regulation WA	Invited speaker: From monitoring to modelling soil erosion and sediment transport in Gullied Tropical Savanna catchments, Dr Maarten Wynants , Ghent University	Strategies for water and nutrient retention in agricultural catchments linking modelling and optimization, Martin Volk , Helmholtz Centre for Environmental Research	Biogenic and anthropogenic contributions to air quality extreme events in urban centres in Southeast Asia, Dr Janice Scheffler , UK Centre for Ecology and Hydrology
1600		A hybrid decomposition and machine learning model for forecasting coastal chlorophyll-a and total nitrogen, Dr Xiaotong Zhu , Chinese Academy of Sciences		Ecological community modelling: Climate-informed adaptation strategies for Southeastern Australia's biodiversity, Jillian Thonell , NSW Department of Climate Change, Energy, the Environment and Water	ARES: Aerial Response and Engagement Simulator, Ishan Honhaga , University of Adelaide	AI-driven detection of false data injection attacks in OLTC-controlled microgrids, Dr Asef Nazari , Deakin University	Attributing hydrological shifts in drought-affected catchments across the Murray-Darling Basin, Hongxing Zheng , CSIRO Environment	Drift analysis of a SLAM-based handheld laser scanner in gully environments, Ryan McCosker , QLD Department of the Environment, Tourism, Science and Innovation	A model workflow for land use planning optimising water re-use and nutrient retention, Dr Cordula Wittekind , Helmholtz Centre for Environmental Research	Air quality forecasts made affordable, Dr Massimo Vieno , UK Centre for Ecology & Hydrology
1620	Modelling livestock systems: Bottom-up, top-down, or	Climate change drove the decline in Yangtze Estuary net primary	Full information problem with random horizon, A/Prof Georgy Sofronov ,	Communicating climate information for adaptation through familiar	Dynamics and stability of milling behaviour under perturbation, Kyle Smith ,	Analysis of deviations in electricity demand forecasts, Andy	Ahead of the curve: Data-driven identification of Hydrological	A preliminary erosion model for gullies with complex geometries,	Transforming agriculture under climate change: A coupled framework of	Old tools, new landscapes: Application of multi-objective evolutionary

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	a meeting in the middle? Dr Adam Liedloff , CSIRO	production over the past two decades, Mingrui Wang , Chinese Academy of Sciences	<i>Macquarie University</i>	frames, Vanessa Round , CSIRO Environment	<i>University of New England</i>	Hoang Nguyen , University of South Australia	State Shifts, Enock Kajubi , IITB - Monash Research Academy	Llewyn Randall , Griffith University	process-based, optimization, and agent-based models, Andrea Kaim , Helmholtz Centre for Environmental Research	algorithms to achieve bushfire risk reduction objectives, Dr Douglas Radford , University of Adelaide
1640		Predicting flood event class using a novel class membership function and hydrological modelling, Prof Yongyong Zhang , Chinese Academy of Sciences	A modified multilevel Monte Carlo method and its numerical performance, Hitoshi Inui , Sophia University	Ecological thresholds of concern in the Murray-Darling Basin, Dr Daniel Stratford , CSIRO	Strategic adversarial analysis of a game theory security model, Martin Wong , Defence Science and Technology Group	Interpretable deep learning for energy forecasting and outlier detection, Joshua Chopin , University of South Australia	When rain returns but rivers don't: Non-stationary response of streamflow, Dr Rose Deng , SA Department for Environment and Water	Modelling the effects of vegetation on mitigation of gully erosion using Computational Fluid Dynamics (CFD), Prof Sarah Wakes , University of Otago	An integrated PMP-ABM model of adaptive enforcement and behavioral spillover, Noureddine Bouzidi , IMDEA Water	High-resolution landscape fire monitoring: Satellite-guided reconstruction of ground-level air pollutants at ten-minute and 500m scale, Dr Miles Sowden , Curtin University
1700	Beyond the paddock: Reflecting on APSIM's legacy and reimagining its future, Prof Keith Pembleton , University of Southern Queensland, Dr Val Snow , Bioeconomy Science Institute - AgResearch Group, Dr Kirsten Verburg , CSIRO Agriculture and Food		Efficient sampling from a multivariate normal distribution subject to linear equality and inequality constraints, Dr Matthew Adams , Queensland University of Technology	Changes in groundwater recharge under 2030 and 2050 climates in the Murray Darling Basin, Dr Russell Crosbie , CSIRO Environment	Improving adoption of quantum vector annealing in supply chains, Dr Dale Rogers , Arizona State University	Dynamic short-term solar forecasting using historical data and machine learning under varying weather conditions, Lei Bai , University of South Australia	Prolonged shifts in rainfall and runoff response in the Mt Lofty Ranges, South Australia, Kumar Savadamuthu , SA Department for Environment and Water	Climate change and gully erosion in Queensland - A preliminary investigation, Dr Melanie Roberts , Australian Rivers Institute	A state-variable based approach to model integration in a horticultural modelling platform, Dr Stephen Bell , New Zealand Bioeconomy Science Institute	Towards a globally nested EMEP4UK model, Prof Stefan Reis , UK Centre for Ecology & Hydrology
1720						Long short-term memory and statistical time series analysis forecast models for renewable energy and prices, Dr Luigi Cirocco , University of South Australia	Hydrological non-stationarity in the Northern Murray-Darling Basin, Dr Keirnan Fowler , University of Melbourne			Continental-scale machine learning classification of fire smoke pollution events for health research in Australia, 2001-2020, A/Prof Ivan Hanigan , Curtin University

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Tuesday 2 December Adelaide Convention Centre										
0800 - 1800	Registration								Foyer G	
0800 - 1800	Speakers' preparation								Foyer G	
0800 – 1730	Exhibition and catering								Hall G	
0800 – 1730	Posters								Foyer E	
0850-1010	5A: J8, Decision-making under uncertainty in water resources management Room: Hall A Chair: Dr Tze Ling Seline Ng	5B: B6, Integrating data and system knowledge to support decision-making: Advances, applications and lessons learned Room: Hall B Chair: Dr Ke Li	5C: B3, APSIM Developments: Soil modelling capability (water, nutrients, temperature, climatic inputs) Room: Hall C Chair: Dr Kirsten Verburg	5D: H5, Development and applications of simulation models in health economics Room: Room E1 Chair: TBC	5E: C4, Open and intelligent modelling and simulation Room: Room E2 Chair: Dr Fengyuan Zhang	5F: Room: E3 Chair:	5G: J11, Ecohydrological modelling Room: Riverbank 2 Chair: TBC	5H: K6, Advancing hydroclimate forecasting: methods and applications Room: Riverbank 3 Chair: Dr David Robertson	5I: Room: Riverbank 4 Chair:	5J: Open modelling foundation Room: Riverbank Boardroom Chair: TBC
0850	Embracing scenario thinking in water resources management under deep uncertainty, E. Prof Graeme Dandy, University of Adelaide	Characterisation of new cultivars in national variety trials using Genomic Prediction and Crop Growth Model, Dr Bangyou Zheng, CSIRO	A paradigm shift in nitrogen management: In-silico insights into biological nitrification inhibition in farming systems, Dr Ismail Garba, CSIRO Agriculture and Food	The modelled cost-effectiveness of a prevention program targeting both eating disorders and high BMI, Dr Long Le, Monash University	MapMate: A Framework bridging natural language interaction and map design through large language models, Zihao Tang, Nanjing Normal University	No session	Resolving the hydrodynamics of a coastal wetland in Moreton Bay, Dr Matthew Hipsey, University of Western Australia	A novel deep learning model for post-processing of short- and medium-term daily precipitation forecasts, Chenguang Zhao, Beijing Normal University	No session	Attendance is by invitation only
0910	Integration of operational and infrastructure decisions into long-term planning and management of water resources systems under deep uncertainty, A/Prof Wenyan Wu, University of Melbourne	Quantifying parameter sensitivity in ecopath with Ecosim Ecotracer Models using a new python wrapper, Daniel Tan, Australian Institute of Marine Science	Sensibility testing of a NH3 volatilisation model for APSIM, Dr Heather Pasley, CSIRO Environment, Dr Val Snow, Bioeconomy Science Institute	Computational modelling of black swan bioterror events, A/Prof Richard Bradhurst, University of Melbourne	PyGeoModel: A python package for integrating intelligent geographic model services into Jupyter's Computing Environment, 0950-1010, Dr Peilong Ma, Nanjing Normal University		Logistic regression model for early detection and prediction of algal blooms in estuarine environments, Mayya Podsosonnaya, Monash University	Hydrological modelling under uncertainty: Can two-state residuals improve error representation? Muhammad Hammad, University of New South Wales		
0930	Invited speaker: Informed performance assessment of water resources	Hierarchical ODE models for heading date estimation in wheat, Dr Javier	Improving APSIM modules for enhanced-efficiency fertilizers to	Patient-level modelling of long-term cardiovascular and mortality			Modelling wetland vulnerability to sea-level rise,	Trends in hydrological forecast skill in a changing climate,		

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	systems under uncertainty by considering trade-offs between performance and risk appetite, Yuan Cao , University of Melbourne	Fernandez , University of Queensland	simulate N2O emissions in vegetable systems, Deyao Liu , University of Melbourne	outcomes in chronic kidney disease, A/Prof An Tran-Duy , University of Melbourne			Prof Patricia Saco , University of Technology Sydney	Dr James Bennett , CSIRO		
0950	Optimizing sustainable water resource utilization of inter-basin water transfer under climate change, Zhipeng Fan , Wuhan University	Refining the Value-Ag framework for innovation impact evaluation in smallholder agrifood systems, Dr Marta Monjardino , CSIRO	Modelling of soil nitrogen dynamics in a smart-irrigated maize field in Newry, Victoria, Xiyang Hu , Monash University	Cost-effectiveness of lung cancer screening strategies in China: Markov Model and discrete event simulation comparison, Dr Juntao Lyu , University of Melbourne			A catchment-to-coast framework for mangrove resilience to climate and land use changes in Pacific Islands, A/Prof Jose Rodriguez , University of Newcastle			
1010-1040	Morning tea								Hall G	
1040-1130	Plenary session 3								Hall C	
1040	Plenary speaker: Nigel McGinty , Defence Science and Technology Group								MC: David Marlow, MSSANZ	
1130-1230	6A: J8, Decision-making under uncertainty in water resources management Room: Hall A Chair: Dr Tze Ling Seline Ng	6B: Room: Hall B Chair:	6C: B3, APSIM Developments: Soil modelling capability (water, nutrients, temperature, climatic inputs) Room: Hall C Chair: Dr Mike Dodd	6D: G6, Urbanization, hydro-meteorological hazards, and risk mitigation Room: Room E1 Chair: A/Prof Guna Hewa	6E: C4, Open and intelligent modelling and simulation Room: Room E2 Chair: Dr Fengyuan Zhang	6F: A4, Computational statistics and data analysis Room: Room E3 Chair: Georgy Sofronov	6G: J11, Ecohydrological modelling Room: Riverbank 2 Chair: TBC	6H: K6, Advancing hydroclimate forecasting: methods and applications Room: Riverbank 3 Chair: A/Prof Mark Thyer	6I: K3, Advancing drought monitoring, prediction, and resilience for sustainable development Room: Riverbank 4 Chair: Prof Yongqiang Zhang	6J: AI/ML panel discussion Room: Gilbert Suite Chair: Willem Vervoort
1130	Modelling of stormwater drainage systems using RCP 8.5 climate change scenario, Dr Faisal Ahammed , University of South Australia	No session	Use of mass balance to test and improve system models: Case study with APSIM, Joanna Sharp , New Zealand Institute for Bioeconomy Science	Invited speaker: Urbanisation and climate variability driving hydrological and geomorphological changes: Implications for flood risk, Dr Tesfa Gebrie Andualem , SA Water	Exploring geographical modal and its implication to support geographical integration, Zhuo Sun , Nanjing Normal University	Modelling insurance losses from Australian bushfires, Dr Nishanthi Raveendran , Western Sydney University	Root-zone “Periscope”: Modelling plant-available water storage dynamics across scales from aboveground observations, Zhechen Zhang , Flinders University	Selective incorporation of trend into seasonal streamflow climatology, Tristan Graham , University of Melbourne	Intensified water-ecological risks in the arid regions of Central Asia under global warming, Prof Yaning Chen , Xinjiang Institute of Ecology and Geography	Panel members: Prof Holger Maier , University of Adelaide Prof Sondas El Sawah , University of NSW A/Prof Wenyan Wu , University of Melbourne,

	HALL A	HALL B	HALL C	ROOM E1	ROOM E2	ROOM E3	RIVERBANK 2	RIVERBANK 3	RIVERBANK 4	GILBERT SUITE
1150	Quantitative evaluation of the influence of rainfall runoff model parameter uncertainty, Dr Phillip Jordan, HARC		Validated simulation of a long-term experiment reveals a pathway for improved crop productivity, Dr Julianne Lilley, CSIRO	A verification of the hydrological impact of 50 years of development in an urban catchment, Dr David Kemp, University of South Australia	Geo-analysis model interoperability in the AI era: Challenges, solutions, and future directions, Dr Fengyuan Zhang, Nanjing Normal University	Statistical modelling of property and crop losses, Kristoforus Jason, Macquarie University	Reliability, Resilience and Vulnerability (RRV) framework as a tool to assess vegetation water stress, Rasanthi Wimalasuriya, University of Sydney	Toward long-range forecasting of ecological outcomes, Dr David Robertson, CSIRO	A multi-index assessment of climate variability and agricultural drought in Afghanistan using station-observed historical data, Dr Shahriar Wahid, CSIRO	David Penton, CSIRO
1210	How indices contribute to global water scarcity estimation uncertainty, Caleb Gray, University of Adelaide		How and for how long should you “spin-up” soil C sub-pools in an APSIM simulation? Dr Heather Pasley, CSIRO Agriculture and Food	Modelling urban heat islands: The role of high-resolution urban morphology, Imran Hosen, WA Department of Water and Environmental Regulation		Simulation of residential energy-efficiency star rating and thermal requirement using NatHERS certificate data, Dr Chi-Hsiang Wang, CSIRO	Assessing sun-induced fluorescence capability for detecting water stress responses in arid vegetation groundwater dependent ecosystems, Dr Sicong Gao, CSIRO Environment		Changes in water availability and dryness under Global Climate Change, Dr Muhammad Abrar Faiz, Northeast Agricultural University	
1230-1330	Lunch								Hall G	
1330-1510	7A: J8, Decision-making under uncertainty in water resources management Room: Hall A Chair: Dr David Robertson	7B: F13, Reimagining croplands: Modelling carbon storage and biodiversity benefits Room: Hall B Chair: Dr Sebastian Ugbaje	7C: B3 & B4, APSIM Developments: Soil modelling capability AND Livestock, pests and diseases, whole farm modelling, cloud computing, etc. Room: Hall C Chair: Dr Heather Pasley	7D: G6, Urbanization, hydro-meteorological hazards, and risk mitigation Room: Room E1 Chair: A/Prof Guna Hewa and Prof Huade Guan	7E: F8, GIS and environmental modelling Room: Room E2 Chair: Prof Shawn Laffan and Dr Ari Jolma	7F: A4, Computational statistics and data analysis Room: Room E3 Chair: Nishanthi Raveendran	7G: E3, Economic modelling for a sustainable energy transition Room: Riverbank 2 Chair: Dr David Green and Dr Jenny Hayward	7H: L1, Catchment water quality modelling Room: Riverbank 3 Chair: Dr Danlu Guo, and Prof Jiping Jiang	7I: K3, Advancing drought monitoring, prediction, and resilience for sustainable development Room: Riverbank 4 Chair: TBC	7J: I4, Training future modellers for an uncertain future Room: Gilbert Suite Chair: TBC
1330	A structured framework for context-based selection of DMDU approaches in environmental water management, Farkhondeh Sadat Hashemi	Modelling SOC change: Role of climate, soil, land-management, and carbon input in Australian farming systems, Dr Chiara Pasut, CSIRO	Uncertainty in process-based models: Implications for estimating N loss in sugarcane, Petr Kolar, University of Melbourne	Drywells for the future: Managing urban stormwater in a changing climate, Liping Pan, Flinders University	Tracking the cure: Finding the right numerical tool for bath treatment dispersion, Dr Gayan Gunaratne, BMT	Automated detection of small vessels on waterways for actionable insights, Dr Aiden Price, Queensland University of Technology	Invited speaker: A simplified electricity system model for exploring least cost generation mixes, James Foster, CSIRO	Invited speaker: Estimating land-to-coast ocean fluxes of dissolved organic carbon using satellite observations and catchment models,	Marginal yield recessions can achieve agricultural water savings, Xuening Yang, Chinese Academy of Sciences	Applying an ethical lens for more responsible modelling practice, Dr Katrina Szetey, CSIRO

	HALL A	HALL B	HALL C	ROOM E1	ROOM E2	ROOM E3	RIVERBANK 2	RIVERBANK 3	RIVERBANK 4	GILBERT SUITE
	Madani, <i>University of Melbourne</i>							Dr Kesav Unnithan, <i>CSIRO Environment</i>		
1350	Rapid assessment of environmental flow targets using Bayesian logistic regression, Dr Andrew Schepen, <i>CSIRO</i>	Mechanistic modelling of soil organic-inorganic carbon dynamics, Leon Casse, <i>University of Sydney</i>	Enhancing near-surface soil water and temperature simulation through fine-scale field observations and mechanistic modelling, Dr Tao Luo, <i>CSIRO</i>	Comparing methods to reconstruct river cross sections from LiDAR DEMs for improved flood plain modelling, Chamaka Karunanayake, <i>University of South Australia</i>	Assessing soil erosion on post-mining and analogous natural landscapes with SIBERIA and SSSPAM models, Dr Indishe Senanayake, <i>University of Newcastle</i>	PEST++SQP: A new, non-intrusive, open-source package for high-dimensional non-linear optimisation under uncertainty, Reygie Macasieb, <i>INTERA Geosciences</i>	Least-cost modelling of electricity systems with a high share of weather dependent renewable generation, Paul Graham, <i>CSIRO</i>	Modernising reach scale stream bank erosion estimation in Australia, Dr David Waters, <i>Truui</i>	Global ecosystems reveal divergent evapotranspiration response patterns to drought stress, Dr Yizhe Ma, <i>Chinese Academy of Sciences</i>	Ready or not, here AI comes: Meaningful AI integration needs collaboration of universities and industry, Dr Felix Egger, <i>Alluvium Consulting Australia</i>
1410	Modelling of environmental water holders' behaviour: A risk-based approach, Dr Jong Lee, <i>Murray Darling Basin Authority</i>	Partitioning soil organic carbon for Australian croplands, Dr Jinyan Yang, <i>CSIRO</i>	Incorporating treading damage on wet soils in APSIM, Dr Mike Dodd, <i>Bioeconomy Science Institute</i>	Understanding catchment hydrology approaches for flood estimation, Jotinder Singh, <i>HARC</i>	Lähde: Information system for maintaining up-to-date information on forest resources in Finland, Dr Ari Jolma, <i>AFRY</i>	ShapleyX – a Python package for the efficient estimation of Shapley effects and Sobol' indices, Dr Frederick Bennett, <i>QLD Department of Environment, Tourism, Science and Innovation</i>	Economic modelling of rooftop PV and battery storage for affordable low-emission energy transitions, Dr Vanika Sharma, <i>University of South Australia</i>	Extended uncertainty analysis for the simple catchment load model SPARROW and implications for water management, Sandy Elliott, <i>Earth Sciences New Zealand</i>	Land use and land cover change impact on the actual Evapotranspiration in China, Dr Congcong Li, <i>Chinese Academy of Sciences</i>	What's the point of education in the age of AI? Prof Kate O'Brien, A/Prof Badin Gibbes, <i>University of Queensland,</i> Dr Felix Egger, <i>Alluvium Consulting Australia,</i> Prof Holger Maier, <i>University of Adelaide,</i> Prof Sondoss Elsawah, <i>University of New South Wales,</i> Dr Scott Spillias, <i>Dr Katrina Szetey,</i> <i>CSIRO</i>
1430	Risk mitigation and human judgment in environmental watering under forecast uncertainty, Dr Tze Ling Seline Ng, <i>CSIRO</i>	Soil carbon sequestration potential of Queensland under land use change and future climate scenarios, Dr Stephen Leo, <i>QLD Department of the Environment, Tourism, Science and Innovation</i>	Simulation-based decision-support tools in digital agriculture: Converting APSIM into point-and-click online tools, Uwe Grewer, <i>University of Southern Queensland</i>	Challenges in deriving representative rainfall-runoff model parameters for flood forecasting: Insights from Sixth Creek, South Australia, Tharindi Wijekoon, <i>University of South Australia</i>	Fine-tuning remote sensing foundation models for improved live fuel moisture content estimation, Dr Tony Boston, <i>Australian National University</i>		Next-generation electric vehicle forecasting: Long-term sales projections in the Australian context, Dr Chathurika Mediwaththe, <i>CSIRO</i>	Developing a water quality modelling toolkit: Load estimates in Port Phillip and Western Port catchments, Alison Kemp, <i>Melbourne Water,</i> Dr Lydia Cetin, <i>Jacobs Australia</i>	Extended global evapotranspiration and gross primary production dataset for 1981–2024, Dr Zhenwu Xu, <i>Chinese Academy of Sciences</i>	
1450	Enhancing multiple objectives in river operations using a simplified	Projecting future changes in soil organic carbon across NSW using machine learning	Modelling the whole farm effects of livestock selection:	Lightning hazards and awareness in Nepal: Challenges, vulnerabilities,	Breaks and trends in MODIS time series across the semi-arid Paroo River		Modelling green hydrogen for a cleaner, fairer Australia using digital twins and	Modelling mercury transport in legacy mining catchments in		

	HALL A	HALL B	HALL C	ROOM E1	ROOM E2	ROOM E3	RIVERBANK 2	RIVERBANK 3	RIVERBANK 4	GILBERT SUITE
	tool: Murrumbidgee River case study, A/Prof Mark Thyer , University of Adelaide	and climate projections, Dr Xihua Yang , NSW Department of Climate Change, Energy, the Environment and Water	Opportunities and limitations, Thomas Keogh , CSIRO	and pathways to risk reduction, Ram Chandra Ghimire , Tribhuvan University	catchment, Australia, Prof Shawn Laffan , University of New South Wales		circular economy strategies, Dr Anthony Halog , University of Queensland	Victoria, Australia, Aung Kyaw , Monash University		
1510-1540	Afternoon tea								Hall G	
1540-1700	8A: J2, River system modelling for water resources management: advances and challenges Room: Hall A Chair: Dr Dushmanta Dutta	8B: F13, Reimagining croplands: Modelling carbon storage and biodiversity benefits Room: Hall B Chair: Dr Jinyan Yang	8C: B4, APSIM developments: Livestock, pests and diseases, whole farm modelling, cloud computing, etc. Room: Hall C Chair: Dean Holzworth	8D: D4, International trade, supply chains, and global markets Room: Room E1 Chair: Dr Linh Tu Ho and Dr Sobhan Arisian	8E: C5, Systems for supporting the re-use of data – The backbone of digital transformation Room: Room E2 Chair: Dr Ryan McAllister	8F: I3, Agent-based and data-driven modelling of complex social systems in public information environments Room: Room E3 Chair: TBC	8G: E3, Economic modelling for a sustainable energy transition Room: Riverbank 2 Chair: Dr David Green and Paul Graham	8H: L1, Catchment water quality modelling Room: Riverbank 3 Chair: Sandy Elliott	8I: C2, Modelling and simulation of Robotic and Autonomous Systems (RAS) Room: Riverbank 4 Chair: TBC	8J: K5, When models fail: Lessons learned from false starts, wrong turns and dead ends Room: Gilbert Suite Chair: A/Prof Fiona Johnson
1540	Protecting Australia's investment in the National Hydrological Modelling Platform, Trudy Green , eWater	Boundary line analysis for estimating attainable soil organic carbon across Australian grain regions and farm-level constraints, Billal Hossen , University of Sydney	Stream B keynote: GrowPF – A new model for tracking growth and body composition in ruminants, Dr James Dougherty , CSIRO	Tariff risks and stock market performance: Evidence from multivariable simultaneous quantile, Dr Linh Tu Ho , Lincoln University	Consolidating Flow-MER modelling tools and metadata for National Environmental Reporting, Dr Mojtaba Rezvani , CSIRO	DIMESim: An agent-based model of the psychological dynamics of collective action, Dr Mengbin Ye , University of Adelaide	Optimisation of renewable electricity supply for brackish groundwater desalination in Western Australia, Dr Jenny Hayward , CSIRO	Rainfall-based estimation of fertiliser nitrogen inputs and their influence on stream nitrogen in Victorian catchments, Olaleye John Babatunde , University of Melbourne	Journey costing based scheduling of uncrewed aerial vehicles with energy constraints and wind effects, Gregory Sherman , Defence Science and Technology Group	Learning from model failures: Challenges in hydrological observations and modelling, A/Prof Fiona Johnson , University of New South Wales, Dr Conrad Waska , University of Sydney, Dr Julien Lerat , CSIRO, Ulrike Bende-Michl , Bureau of Meteorology, Prof Patricia Saco , University of Technology Sydney
1600	Updated climate inputs for rainfall-runoff modelling in Northern Victoria, Xiang Cheng , VIC Department of Energy, Environment and Climate Action	Carbon dioxide removal via enhanced weathering: Modelling the effect of soil properties, Hannah Green , James Cook University		Forecasting Australian pulse export trade flows and uncovering key trade determinants using machine learning, Dr Sobhan Arisian , La Trobe University	Designing for reality: A bottom-up approach to data interoperability, Dr Nina Welti , CSIRO	An agent-based model for the formation of common ground, Wooseok Jung , Curtin University	Understanding structural change from transitioning to a low-carbon economy: an integrated multi-model approach for Australia, Dr Marc Jim Mariano , CSIRO	Complexity of river water quality parameters using a nonlinear dynamic approach, Sakshi Dhumale , Indian Institute of Technology Bombay	AI large language models for control of uncrewed aerial systems, Dr Simon Crase , Defence Science and Technology Group	
1620	Automating the extension of time series inputs for the Source GBCCL model,	Depth-resolved soil organic carbon estimation: A scalable			The Minerva data platform - Towards a data platform for research	A stochastic nonlinear model of influence in synchronisation dynamics,	A multisectoral bio-physical Stock-Flow-Consistent input-output	Improving the understanding and prediction of low extreme dissolved oxygen	Sensor-driven control of UAS using AI in simulation, Simon Pywell , Defence	

	HALL A	HALL B	HALL C	ROOM E1	ROOM E2	ROOM E3	RIVERBANK 2	RIVERBANK 3	RIVERBANK 4	GILBERT SUITE
	Xue Hou , VIC Department of Energy, Environment and Climate Action	approach, Moa van Kretschmar , University of Sydney	benefits to developers, Dr Andrew Paroz , CSIRO		applications, Didi Liu , New Zealand Bioeconomy Science Institute	Hannah Gallant , Australian National University	macroeconomic modelling analysis for Australian transition to low- emission energy, Dr Taj Khandoker , CSIRO	(DO) events in Victorian rivers, Dr Danlu Guo , Australian National University	<i>Science and Technology Group</i>	
1640	Simulating transmission losses during environmental flow events in the northern Murray-Darling Basin, Dr Shaun Kim , CSIRO				Toward an internet of things data governance approach, Dr Sam Seo , University of South Australia	Modelling the closed loop between a personalised recommender system and users' opinion dynamics, Ella Davidson , University of Adelaide	A systemwide Energy Return on Investment (EROI) approach to Australia's renewable transition, Benjamin Lloyd- Hurwitz , Australian National University	Detection and driving factor analysis of hypoxia in River Estuarine Zones by Entropy Methods, Ye Xiong , Shenzhen Water Group Co		
1700-1800	Poster viewing session								Foyer E	
1800-1930	MSSANZ Annual General Meeting								Gilbert Suite	
1800	MSSANZ AGM								MC TBA	

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Wednesday 3 December Adelaide Convention Centre										
0800 - 1800	Registration								Foyer G	
0800 - 1800	Speakers' preparation								Foyer G	
0800 – 1730	Exhibition and catering								Hall G	
0800 – 1730	Posters								Foyer E	
0850-1010	9A: Room: Hall A Chair:	9B: L2, Advanced lake, reservoir, wetland and river system modelling Room: Hall B Chair: TBC	9C: J2, River system modelling for water resources management: advances and challenges Room: Hall C Chair: Trudy Green	9D: B2, APSIM- development: Advances in plant and vegetation modelling Room: Room E1 Chair: Prof Karine Chenu	9E: K4, Understanding and modelling catchment behaviour in a variable and changing climate Room: Room E2 Chair: TBC	9F: C3, Digital twins and mixed reality Room: Room E3 Chair: Lachlan Hetherton	9G: Room: Riverbank 2 Chair:	9H: F5, Advancing decision support: Decision tools for building robust and resilient futures Room: Riverbank 3 Chair: TBC	9I: B8, Innovative modelling approaches for agricultural systems sustainability under climate change Room: Riverbank 4 Chair: Dr Bin Wang	9J: E1, Tools for the energy transition Room: Gilbert Suite Chair: TBC
0850	No session	Stream L keynote: Real-	Climate data revisions and	Invited speaker: Integrating	Climate change appears to alter the	Assumptions tracking in	No session	Sunwater smart schemes:	Physics-guided deep learning for	Analysis of changes in peak

	HALL A	HALL B	HALL C	ROOM E1	ROOM E2	ROOM E3	RIVERBANK 2	RIVERBANK 3	RIVERBANK 4	GILBERT SUITE
		time water quality forecasting in rivers using satellite data and dynamic models, Prof Paul Whitehead , University of Oxford	their impact on hydrological modelling, Nevin Cracknell , NSW Department of Climate Change, Energy, the Environment and Water	molecular insights into phenology modelling enhances flowering time predictions, Dr Enli Wang , CSIRO Agriculture and Food	proportion of rainfall that becomes streamflow in Australia, Lucas Pamminger , Monash University	system models: Case studies from digital twins in agriculture and horticulture, Dr Jingjing Zhang , Bioeconomy Science Institute		Improving efficiency in water delivery, Dr Yenory Morales , Sunwater	maize phenology simulation, Dr Puyu Feng , China Agricultural University	temperature impact on energy demand in South Australia, Sachinda Ekanayake , University of South Australia
0910			Uncertainty estimation for river system models, Dr Shaun Kim , CSIRO	Connecting a prior-knowledge network with APSIM: Towards breeding by design, Christos Mitsanis , University of Queensland	Can our conceptual hydrological models really 'get' evapotranspiration? Lessons from testing 15 equations, Gabrielle Burns , University of Melbourne	Predicting lettuce biomass under six climate zones using machine learning in a digital twin system, Shu Liang , University of Adelaide		Modelling spread of invasive organisms as part of a New Zealand Biosecurity Risk Evaluation Framework, Joanna Sharp , New Zealand Institute for Bioeconomy Science	Pathway of soil improvement through straw return to promote yield increase cannot be ignored, Fangzheng Chen , China Agricultural University	Modelling urban emissions – A Perth case study, Prof William Grace , University of Western Australia
0930		Coupling MODFLOW and GLM-AED for integrated simulation of lake-aquifer interactions, Dr Matthew Hipsey , University of Western Australia	Farm dam and licenced diversions under climate change, Patrick Quaine , Melbourne Water	New approaches for simulating germination and emergence in APSIM, Dr Di He , CSIRO	Low flow prediction from land surface temperature, Dr Wenjing Yang , Flinders University	PipeTwin: A scalable framework for digital twin deployment in mineral suspension pipelines, Lachlan Hetherton , CSIRO		Reef depth as a robust reef characteristic for intervention planning, Dr Takuya Iwanaga , Australian Institute of Marine Science	Quantifying vegetation and soil organic carbon and their drivers in dryland ecosystems of Northwest, China, Yuqing Chen , Chinese Academy of Sciences	Conceptualisation of simulation platform for assessing residential construction code impacts, Dr Angela Maria Rojas Arevalo , CSIRO
0950			Analysing water security using NARCLIM 2.0 climate projection, Dr Dushmanta Dutta , NSW Department of Climate Change, Energy, the Environment and Water	Towards generalizable crop models: An eco-evolutionary optimality approach to carbon allocation, Dr Alexander Norton , CSIRO	Can conceptual rainfall-runoff models capture multi-annual storage dynamics? Ziqi Zhang , University of Melbourne			Utilising satellite-derived maps to partition coral reefs into meaningful spatial units, Dr Vanessa Haller , Australian Institute of Marine Science	Integrating crop modelling and machine learning for non-destructive estimation of crop traits, Dr Qiaomin Chen , University of Queensland	

	HALL A	HALL B	HALL C	ROOM E1	ROOM E2	ROOM E3	RIVERBANK 2	RIVERBANK 3	RIVERBANK 4	GILBERT SUITE
1010-1040	Morning tea									Hall G
1040-1130	Plenary session 4									Hall C
1040	Plenary speaker: Prof Lucy Marshall, University of Sydney									MC: Dr Willem Vervoort, University of Sydney
1130-1230	10A: J10, Advancements in hydrological predictions through novel sensing and innovative modelling techniques Room: Hall A Chair: TBC	10B: L2, Advanced lake, reservoir, wetland and river system modelling Room: Hall B Chair: TBC	10C: J2, River system modelling for water resources management: advances and challenges Room: Hall C Chair: Trudy Green	10D: B2, APSIM-development: Advances in plant and vegetation modelling Room: Room E1 Chair: Dr Edith Khaembah	10E: K4, Understanding and modelling catchment behaviour in a variable and changing climate Room: Room E2 Chair: TBC	10F: A3, Modelling and simulation for trustworthy data science on challenging datasets Room: Room E3 Chair: TBC	10G: G8, Modelling of bushfire dynamics, fire weather, impact and risk Room: Riverbank 2 Chair: Tanvir Saurav	10H: F5, Advancing decision support: Decision tools for building robust and resilient futures Room: Riverbank 3 Chair: TBC	10I: B8, Innovative modelling approaches for agricultural systems sustainability under climate change Room: Riverbank 4 Chair: Dr Bin Wang	10J: E1, Tools for the energy transition Room: Gilbert Suite Chair: TBC
1130	Stream J keynote: Bending time and space to predict hydrological extremes at decadal timescales, Prof Ashish Sharma, University of New South Wales	Towards a reference GLM-AED model for wetlands in Great Barrier Reef catchments, Dr Liliana Pagliero, Griffith University	Hydro-economic modelling of climate change impacts on water allocations and markets, Dr Andrew John, University of Melbourne	Modelling limiting transpiration under high evaporative demand to improve wheat productivity in dry environments, Prof Karine Chenu, University of Queensland	A comparison of monthly runoff models for their performance under variable climate regimes within Australia, Sreelakshmi Cherampatta Mana, Australian National University	Making sense of heart rate variability: Identifying meaningful metrics for stress and pain prediction, Joan Shu Ting Lim, University of Adelaide	Indirect effects of climate change on forest fires – Pitfalls for modellers, Adj Prof Rick McRae, UNSW Canberra	Interpretable sensitivity analysis of a coral ecosystem model: An assessment of CoralBlox with Shapley effects, Pedro Ribeiro De Almeida, Australian Institute of Marine Science	Invited speaker: Cost-effective agronomic practices could unlock Australian wheat yield potential, Dr Siyi Li, University of Queensland	Enhanced tools necessary for managing a high distributed solar photovoltaic electricity system, Dr Adrian Grantham, Australian Energy Market Operator
1150		Two-dimensional hydrodynamic modelling of wetlands in non-urban catchments, Dr Ha Nguyen, Alluvium Consulting	Shifting left: Building a collaborative integrated hydrological model for the Murray-Darling Basin, James Fuller, Murray-Darling Basin Authority	Modelling frost and heat impact on yields: challenges and perspectives, Dr Jonathan Richetti, CSIRO	Tailored calibration of Stochastic Weather Generators for enhanced hydrological system evaluation, Dr David McInerney, University of Adelaide	Is traditional natural language processing 'dead'? Saranzaya Magsarjav, University of Adelaide	Assessing uncertainty and sensitivity in forest fire behaviour models, Dr Jingwen Liu, University of Adelaide	Identifying intervention options that promote coral reef resilience under climate uncertainty, Vitor Hirata Sanches, Australian National University	Dynamic light extinction coefficient: A key to improve evapotranspiration partitioning for orchards in diverse climates, Dr Dianyu Chen, Northwest A&F University	Predictive power: Unlocking grid stability through solar forecasting, Alex Mitchard, SA Power Networks
1210	Modelling the frequency and extent of waterlogging: A case study,	Invited speaker: Forecasting with FLARE – Predicting Lake Alexandrina water quality, Claire Sims,	FIRM: Cloud-native integration framework for basin-scale hydrological modelling in the	Developing frost and heat damage functions to quantify canola and wheat yield loss with APSIM,	Calibrating robust conceptual hydrological models for future extremes, Caleb Dykman, University of New South Wales	Modelling the evolution of topics in social media conversations, Scott Carnie-Bronca,	Climate change will accelerate seasonal fire weather severity by 8–24% in Southeastern Australia, Negash	ParetoPick-R; An interactive tool for turning multi-objective optimisation results into	A hybrid machine learning–process-based model approach of simulating ammonia volatilization in	Forecasting diffuse solar radiation, E. Prof John Boland, Adelaide University

	HALL A	HALL B	HALL C	ROOM E1	ROOM E2	ROOM E3	RIVERBANK 2	RIVERBANK 3	RIVERBANK 4	GILBERT SUITE
	Dr Craig Beverly , Agriculture Victoria	Department for Environment and Water South Australia	Murray-Darling Basin, Simone De Kleermaeker , Deltares	Dr Pengcheng Hu , CSIRO		University of Adelaide	Roba , Charles Sturt University	actionable solutions, Dr Cordula Wittekind , Helmholtz Centre for Environmental Research - UFZ	rice paddies, Yifan Cao , University of Melbourne	
1230-1330	Lunch								Hall G	
1330-1510	11A: J10, Advancements in hydrological predictions through novel sensing and innovative modelling techniques Room: Hall A Chair: TBC	11B: L2, Advanced lake, reservoir, wetland and river system modelling Room: Hall B Chair: TBC	11C: J2, River system modelling for water resources management: advances and challenges Room: Hall C Chair: Danielle Baker	11D: B2, APSIM- development: Advances in plant and vegetation modelling Room: Room E1 Chair: Dr Enli Wang	11E: M1, OR methods and applications Room: Room E2 Chair: TBC	11F: A3, Modelling and simulation for trustworthy data science on challenging datasets Room: Room E3 Chair: TBC	11G: G8, Modelling of bushfire dynamics, fire weather, impact and risk Room: Riverbank 2 Chair: Adj Prof Rick McRae	11H: F5, Advancing decision support: Decision tools for building robust and resilient futures Room: Riverbank 3 Chair: TBC	11I: B8, Innovative modelling approaches for agricultural systems sustainability under climate change Room: Riverbank 4 Chair: Dr Siyi Li	11J: F12, The future of vegetation: advances in modelling plant function and distribution Room: Gilbert Suite Chair: Dr Clare Stephens and Prof Belinda Medlyn
1330	Bayesian inference for model construction in hydrology, Dr Nasrin Taghavi , Sydney Water	A multi-scale modelling framework for assessing environmental impacts of pumped hydro energy storage, Adyn de Groot , Alluvium Consulting Australia	Implementing dead storage in the Barwon- Darling Source model to improve low- flow and cease- to-flow behaviour, Dom Regan-Beasley , NSW Department of Climate Change, Energy, the Environment and Water	How well does APSIM NG simulate wheat yields with gridded data? Dr Jonathan Richetti , CSIRO	Passive sonar sensor placement for undersea surveillance, Dr Graham Weinberg , Defence Science and Technology Group	Quantifying annotator reliability in moral classification of texts, Yi Ren , University of Adelaide	Stream G keynote: Modelling the intensity of Victorian bushfire as observed by Himawari-9, Dr Bart Pindor , Country Fire Authority	Embedding public health in environmental stewardship: Lessons from participatory landscape modelling in Central NSW, Australia, Dr Esther Onyango , CSIRO Agriculture and Food	Irrigated rice yield response to projected climate change in northwest Bangladesh, Md Belal Hossain , Charles Sturt University	Australian trees for the Australian Earth System Model, Dr Alexander Norton , CSIRO
1350	Step-wise calibration technique using SWAT model, Dr Liliana Pagliero , Griffith University	How does bathymetric resolution and mesh design influence estuarine flushing time estimates?, Dr Mojtaba Moravej ,	Enhancing environmental water management in source: Decoupling spell identification from ordering at environmental flow nodes,	Calibration and evaluation of APSIM next generation for grapevine growth and water use in Australia, Shahin Solgi , Charles Sturt University	Integrated task and motion planning for keel block optimisation at Captain Cook Graving, Dr William Jones , University of Sydney	Modelling complex systems to analyse social media for belief revision, Gia Bao Hoang , University of Adelaide		From competing to complementary: Digital engineering ecosystems as Net Zero Enablers, Prof Sondoss Elsawah , University of	Knowledge integration and model evaluation for cross-sectoral agricultural climate change modelling, Dr David Allingham , Department of Primary Industries	Tracking the path of carbon through ecosystems: modelling vegetation carbon dynamics at Australian flux sites, Dr Assaf Inbar , Western Sydney University

	HALL A	HALL B	HALL C	ROOM E1	ROOM E2	ROOM E3	RIVERBANK 2	RIVERBANK 3	RIVERBANK 4	GILBERT SUITE
		<i>University of Queensland</i>	Dr Mukta Sapkota , <i>eWater Group</i>					<i>New South Wales</i>	<i>and Regional Development</i>	
1410	Process-informed stepwise multi-variable SWAT calibration framework, Eliana Nervi , <i>University of Sydney</i>	Informing risk and opportunity management in coal mine pit lakes via modelling experiments, Dr Nevenka Bulovic , <i>University of Queensland</i>	Developing a source model of the Upper Macquarie and Upper Coxs river systems, Dr Dushmanta Dutta , <i>NSW Department of Climate Change, Energy, the Environment and Water</i>	Calibration of APSIMx for key crops in Germany with public data, Irina Heiss , <i>Helmholtz-Centre for Environmental Research</i>	Multi-objective and multi-stage optimisation for forcestructure design, Minh-Tuan Nguyen , <i>Department of Defence</i>	Network analysis of Australian Internet traffic dynamics, Benjamin Lang , <i>University of Adelaide</i>	Resolving radiation in physics-based wildfire spread modelling, William Swedosh , <i>CSIRO</i>	A return to decision support: How can decision-support tools be used at the science-policy interface? Dr Keith Matthews , <i>Hutton</i>	Modelling impacts of novel Rht genes and biodegradable mulching on wheat early growth and yield, Dr Xiaoxing Zhen , <i>CSIRO Agriculture and Food</i>	Projected changes in biomass carbon under future climate scenarios in semi-arid southeastern Australia, Dr Bin Wang , <i>Hawkesbury Institute for the Environment, Western Sydney University</i>
1430	A new physics-guided deep learning model for improving plant transpiration estimation under water-limited conditions, Binrui Liu , <i>Flinders University</i>		Namoi and Murrumbidgee water balance tool – An integrated approach for river system management, Prasad Inamdar , <i>NSW Department of Climate Change, Energy, the Environment and Water</i>	Development and evaluation of a Taro Model within the APSIM plant modelling framework, Dr Yacob Beletse , <i>CSIRO</i>	Analysis of sonar dipping regimes by analytical means, Dr Martijn van der Merwe , <i>Defence Science and Technology Group</i>	Sentiment analysis of historical Australian parliamentary speeches, William Pincombe , <i>University of Adelaide</i>	Simulation of ember transport around urban structures, Lachlan Cunningham , <i>Monash University</i>	Using foresight and modelling to stress-test risk reduction options under various climate and socio-economic scenarios, A/Prof Hedwig van Delden , <i>Research Institute for Knowledge Systems</i>		Simple models can reveal insightful science: data-fitted models of intertidal seagrass as a case study, Dr Matthew Adams , <i>Queensland University of Technology</i>
1450	Physics-informed graph neural networks for operational flood modelling, Dr Sanka Rasnayaka , <i>National University of Singapore</i>		Urban demand models for the Fish River-Wywendy System, Geoff Podger , <i>Water Bubu</i>	Modelling orchard systems in APSIM, Dr Hamish Brown , <i>Bioeconomy Science Institute</i>	A systems approach to quantifying experience in cross-functional collaboration to improve strategic thinking in the national intelligence community, Dr Leon Young , <i>Huon Strategic</i>		The effect of ignition protocol on dynamic fire propagation in the Bridger Foothills fire, Dr Chantelle Blachut , <i>University of New South Wales</i>	Natural hazards ahead: Navigating uncertainty with stakeholder-led scenarios, Alice Miller , <i>University of Adelaide</i>		
1510-1540	Afternoon tea								Hall G	

	HALL A	HALL B	HALL C	ROOM E1	ROOM E2	ROOM E3	RIVERBANK 2	RIVERBANK 3	RIVERBANK 4	GILBERT SUITE
1540-1740	12A: J10, Advancements in Hydrological Predictions through Novel Sensing and Innovative Modelling Techniques Room: Hall A Chair: TBC	12B: J3, Novel methods for data collection and predictive modelling in data sparse environments Room: Hall B Chair: Dr Matt Gibbs and Dr Justin Hughes	12C: J2, River System Modelling for Water Resources Management: Advances and Challenges Room: Hall C Chair: Andrew Brown	12D: F4, Exploring the multiple roles of managed water within river basins Room: Room E1 Chair: TBC	12E: M1, OR methods and applications Room: Room E2 Chair: TBC	12F: F9, Ecological Forecasting: Advancing ecological theory and management in Oceania with near-term forecasts Room: Room E3 Chair: Prof Belinda Medlyn and Dr Alistair Hobday	12G: G8, Modelling of bushfire dynamics, fire weather, impact and risk Room: Riverbank 2 Chair: Prof Jason Sharples	12H: D2, Modelling Risk Management, ESG, Climate Finance, Policy Evaluation, and Tourism Economics Room: Riverbank 3 Chair: TBC	12I: D1, Machine Learning Applications in Economics and Finance Room: Riverbank 4 Chair: TBC	12J: Room: Gilbert Suite
1540	Estimation of land evapotranspiration over China based on Fengyun satellite, Wenjie Hou , <i>Institute of Geographic Sciences and Natural Resources and Research</i>	Pre-recorded: Hyperspectral image analysis for environmental monitoring: Advances of the last decade, Afsana Tasnim , <i>Rajshahi University of Engineering and Technology</i>	Invited speaker: Abrupt drought-to-flood transitions in Australia, Dr Rong Gan , <i>Department of Climate Change, Energy, the Environment and Water</i>	Climate-resilient and adaptive water management for resilient farming and improved productivity in Pakistan, Susan Cuddy , <i>CSIRO</i>	Optimising Port-Hinterland container transportation for resilience and sustainability, Luisa Mennecke , <i>TU Braunschweig</i>	Ecological forecasting to support experimental design: The EucFACE experiment as a case study, Prof Belinda Medlyn , <i>Western Sydney University</i>	Observations of vorticity-driven lateral spread in a wildfire, Adj Prof Rick McRae , <i>UNSW Canberra</i>	Do sustainability metrics matter? ESG effects on green bond premiums, Dist Prof Chia-Lin Chang , <i>National Chung Hsing University</i>	FUSE: Forecasting with UNSPSC-Enhanced granularity, Dr Dakshi Kapugama Geeganage , <i>Department of Housing and Public Works</i>	No session
1600	Constrained negentropy optimisation (CoNE-opt): Leveraging independent component analysis for the fusion of satellite-derived data products, Suraj Shah , <i>University of New South Wales</i>	Incorporating land use change adjustments into basin-scale groundwater recharge estimates in the Murray-Darling Basin, Dr Paula Campos Teixeira , <i>CSIRO</i>	The challenges and rewards of collaborative environmental flow modelling, Dr Stephanie Ashbolt , <i>Melbourne Water</i>	A time-series analysis of on-farm storage development in the Northern Murray-Darling Basin, Dr Usman Awan , <i>NSW Department of Climate Change, Energy, the Environment and Water</i>	Mothership and multi-tender routing: an optimisation framework for coral deployment under bathymetric constraints, Ryu Lippmann , <i>Queensland University of Technology</i>	High-resolution climate projections reveal future bleaching risks in the Great Barrier Reef, Dr Chaojiao Sun , <i>CSIRO</i>	Modes of pyrocumulonimbus development in southeast Australia, Dr Caleb Wilson , <i>UNSW Canberra</i>	Realised volatility estimation shortcuts: An empirical analysis, Prof David Allen , <i>University of Sydney</i>	Hybrid forecasting of crude oil prices using WT-QPSO-ANFIS, A/Prof Roengchai Tansuchat , <i>Chiang Mai University</i>	
1620	Characterizing transboundary dam operations using only remote sensing data: Insights from the Korea Border, Prof Ashish Sharma ,	Continuous water potential monitoring for soil-plant continuum hydraulic parameterisation and simulation,	Modelling the hydrological impacts of leaky weirs on catchment rehydration using SWAT+ Modelstorage,	Evaluating the ecological outcomes of environmental watering: the role of the counterfactual,	Descriptive and predictive modelling for professional darts, Adam Aly , <i>Australian National University</i>	Physically-based simulation of plant hydraulic transport and drought stress in Australian vegetation,	Multiscale analysis of terrain–lightning relationships using machine learning, Sima Rahmani , <i>University of New South Wales</i>	A prototype Earth System Impact score for businesses and investors, Dr Steven Lade , <i>Australian</i>	Gender wage gap analysis using machine learning methods, Dr Robert Dunne , <i>CSIRO</i>	

	HALL A	HALL B	HALL C	ROOM E1	ROOM E2	ROOM E3	RIVERBANK 2	RIVERBANK 3	RIVERBANK 4	GILBERT SUITE
	<i>University of New South Wales</i>	Prof Huade Guan , <i>Flinders University</i>	Wiyanda Naufal Aflah , <i>University of Sydney</i>	Susan Cuddy , <i>CSIRO</i>		Dr Clare Stephens , <i>Western Sydney University</i>		<i>National University</i>		
1640	Characterising multi-source uncertainties in satellite-based surrogate river discharge models, Dr Hae Na Yoon , <i>University of Newcastle</i>	Space-time image velocimetry for remote streamflow measurement using satellite video, Dr Matt Gibbs , <i>CSIRO</i>	The impact of climate change on the hydrological and water management situation in Lower Don, Alexander Buber , <i>Federal Research Center of Hydraulic Engineering and Land Reclamation</i>	Strategic environmental water use: Optimising wetland outcomes with ecological feedbacks, Dr Rebecca Carlier , <i>University of Newcastle</i>	A practical approach to electricity network hardening decisions, Dr Simon Dunstall , <i>CSIRO</i>	From climate refugium to heatwave epicenter: Will the 2025 Ningaloo bleaching become a new normal? Dr Chaojiao Sun , <i>CSIRO</i>	Mapping and modelling bushfire exposure at the wildland-urban interface in Australia, Nusrat Mehnaz , <i>UNSW Canberra</i>	Does overtourism and climate risk nexus exist? A cross-country examination, Dr Ghialy Yap , <i>Edith Cowan University</i>	Estimating sparse variance-covariance using Shrinkage Methods: Applications to error components models, Ramzi Chariag , <i>Central European University</i>	
1700	Satellite-based water budgeting and seasonal groundwater stress assessment in Indus Basin using flux towers, Dr Umar Waqas Liaqat , <i>International Water Management Institute</i>	Development and evaluation of "climate-robust" rainfall runoff model parameter libraries, Dr Justin Hughes , <i>CSIRO</i>	Advancing water–energy–food–ecosystem nexus planning through digital tools: Applications from the Indus Basin, Mohsin Hafeez , <i>International Water Management Institute</i>	Are flow thresholds and observed hydrological data enough to evaluate the effect of environmental watering? Dr Felix Egger , <i>Alluvium Consulting Australia</i>		From data gaps to climate projections: A framework for forecasting species population abundance, Dr Vihanga Gunadasa , <i>University of Sydney</i>	Terrestrial water storage in wildfire forecast, Dinuka Kankanige , <i>University of New South Wales</i>		A LASSO based approach to wage spillovers, Wei Ern Yeo , <i>Curtin University</i>	
1720	Enhanced model parameter transferability to ungauged catchments through regionally constrained calibration, Prof Lu Zhang , <i>Wuhan University</i>	Estimating streamflow discharge using the ‘wisdom of the crowd’, Dr Cuan Petheram , <i>CSIRO</i>	Application of hydro-economic modelling for water resource management in the Kamala River Basin, Nepal, Dr Auro Almeida , <i>CSIRO</i>	Novel assessment of trajectories of change in Murray-Darling Basin riverine tree ecosystems, Dr Tanya Doody , <i>CSIRO</i>		Charting the future: A horizon scan for ecological forecasting research in Oceania, Dr Alistair Hobday , <i>CSIRO</i>	Fuel moisture lag effects in fire spread calculations, William Swedosh , <i>CSIRO</i>		Generating initial values using Artificial Neural Network, Prof Felix Chan , <i>Curtin University</i>	
1830-1900	Pre-dinner drinks								Halls J&K	
1900-2230	Gala dinner								Halls J&K	

	HALL A	HALL B	HALL C	ROOM E1	ROOM E2	ROOM E3	RIVERBANK 2	RIVERBANK 3	RIVERBANK 4	GILBERT SUITE
Thursday 4 December Adelaide Convention Centre										
0800 - 1800	Registration								Foyer G	
0800 - 1330	Speakers' preparation								Foyer G	
0800 – 1540	Exhibition and catering								Hall G	
0800 – 1540	Posters								Foyer E	
0850-1010	13A: F10, Applications of artificial neural networks and generative artificial intelligence to environmental problems Room: Hall A Chair: Dave Penton	13B: D5, Decision-making under uncertainty in economics and finance Room: Hall B Chair: TBC	13C: Room: Hall C Chair:	13D: H1, Use of artificial intelligence and machine learning in the design and modeling of disease, cancer, and safety data Room: Room E1 Chair: TBC	13E: Room: Room E2 Chair:	13F: E2, Decarbonisation of industrial processes Room: Room E3 Chair: TBC	13G: D6, Applications of new technologies or methods in economics and finance Room: Riverbank 2 Chair: TBC	13H: G3, Climate risk assessment for government and industry: Bridging the gap between climate science and actionable insights for decision makers Room: Riverbank 3 Chair: Dr Raymond Cohen and TBC	13I: Room: Riverbank 4 Chair:	13J: Room: Gilbert Suite Chair:
0850	Stream F keynote: Marine ecosystem modelling with generative artificial intelligence, <i>Dr Scott Spillias, CSIRO</i>	Rules of thumb or models: Exploring diversity in growers' nitrogen fertiliser decisions, <i>Dr Masood Azeem, CSIRO</i>	No session	Safety management of hazardous chemicals in semiconductor wafer cleaning equipment focus of subcontractor practices, <i>Jinseon Lee, Korea National University of Transportation</i>	No session	Optimisation of energy supply to industry hub with multi-criteria selection and techno-economic assessment, <i>Dr Shuang Wang, Australian National University</i>	Evaluating whether the A-VIX improves volatility forecasts in the Australian equity market, <i>Marcus Robertson-Wall, Curtin University</i>	Efficient high-resolution climate simulations for Western Australia: Optimising domain design and resource allocation, <i>Dr Mark Marinelli, Department of Water and Environmental Regulation</i>	No session	No session
0910		How climate change affects protest behaviour, <i>Keegan Robertson, Curtin University</i>		Discovery of MRI biomarker for early Alzheimer's disease integrating regional atrophy and ventricular expansion, <i>Iroshan</i>		Electrification of cement clinker production: A case study on variable renewable energy	From disaster to debt: Exploring the link between natural catastrophes and syndicated loans,	Turning cross-sectoral agricultural climate change modelling into actionable insights for		

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				<i>Aberathne, Lincoln University</i>		integration, <i>Dr Chye Yi Leow, University of Adelaide</i>	<i>S M Woahid Murad, Curtin University</i>	industry and government, <i>Dr David Allingham, Department of Primary Industries and Regional Development</i>		
0930	Impute-net: A deep learning approach to missing observations in satellite imagery, <i>Achmad Pahlevi, Auckland University of Technology</i>	Do offer contracts, platform yield in deal structure matter? Analyses of U.S. securities-based crowdfunding markets, <i>Jackie Chua, Curtin University</i>		AI and ML transform clinical trials using real-world evidence to improve design, analysis, outcomes, <i>Prof Sejong Bae, Augusta University</i>		Integration of variable-rate industrial processes with variable renewable energy: A case study in H2-DRI, <i>Dr Armando Fontalvo, Australian National University</i>	An Economic Balance Sheet approach to quantify the risks affecting broadacre grain farmland value in Western Australia, <i>Mark Hayes, Curtin University</i>	Framework for deriving future hazard layers from future climate data for physical climate risk assessments, <i>Dr Raymond Cohen, CSIRO Data61</i>		
0950	Generative AI enhancing understanding of vast integrated environmental assessments, <i>Benjamin Leighton, CSIRO</i>					Facilitating techno-economic evaluation of green hydrogen production through accessible optimization, <i>Dr Robert May, Energy Exemplar</i>	A top-down changepoint detection framework based on Two-State Markov-Switching Model, <i>Ning Zhang, Macquarie University</i>	Climate change rainfall data algorithm for continuous modelling of stormwater, <i>Mircea Stancu, Cleanstormwater</i>		
1010-1040	Morning tea								Hall G	
1040-1130	Plenary session 5: President's invited mid-career plenary								Hall C	
	Plenary speaker: Advancing Australia's flood guidance: Lessons learned and future directions, <i>Conrad Wasko, University of Sydney</i>								MC: Dr David Post, MSSANZ President	
1130-1230	14A: F10, Applications of artificial neural networks and generative artificial intelligence to environmental problems Room: Hall A	14B: G9, Advancing Flood and Tsunami Modelling: Techniques, Applications, and Emerging Technologies Room: Hall B Chair: Dr Jin Teng	14C: C7, Advancing Machine Learning in Hydrology: Ensuring Reliable, Reproducible, and Validated Applications Room: Hall C	14D: K2, Statistical, post-processing and verification methods for environmental prediction Room: Room E1 Chair: A/Prof Fiona Johnson	14E: F11, Agricultural Artificial Intelligence Modelling Room: Room E2 Chair: TBC	14F: Room: Room E3 Chair:	14G: J5, Fit for purpose modelling for water resources management Room: Riverbank 2 Chair: TBC	14H: G4, Projections of regional climate change: from modelling to applications Room: Riverbank 3 Chair: Dr Leena Khadke	14I: K7, Understanding hydrological extremes: trends, drivers and impacts Room: Riverbank 4 Chair: Dr Conrad Wasko	14J: Room: Gilbert Suite Chair:

	HALL A	HALL B	HALL C	ROOM E1	ROOM E2	ROOM E3	RIVERBANK 2	RIVERBANK 3	RIVERBANK 4	GILBERT SUITE
	Chair: Jean-Michel Perraud		Chair: Dr Rajitha Athukorala							
1130	Does a water policy paper plus the Self-Thinking Data Manifest equal an educational experience? Dave Penton, CSIRO	Estimating surface water fractions for enhanced flood monitoring, Xinqi Guo, University of Melbourne	Flash flood nowcasting based on deep learning and radar rainfall estimates, Dr Jiawei Hou, Bureau of Meteorology	BRAIN: Building a national, hourly, kilometre-scale precipitation analysis product for Australia, Dr Yuhang Zhang, University of Melbourne	Mapping crop area and fertilizer application rates globally for 173 crops, Dr Fiona Tang, Monash University	No session	Uncertainty assessment in water quality modelling: Towards fulsome practices, Prof Tony Jakeman, Australian National University	A CORDEX flagship pilot study for simulating island climates in the Pacific (IC-Pac), Prof Jason Evans, University of New South Wales	Gap-filling terrestrial water storage in severe Amazon droughts, Shuang Liu, University of New South Wales	No session
1150	Large-language-model-assisted initial problem conceptualization in decision-making under deep uncertainty, Zhihao Pei, University of Melbourne	Hydrodynamic modelling of floods and developing an emulator for long term inundation predictions, Dr Fazlul Karim, CSIRO	A hybrid quantile deep learning ensemble framework catering to streamflow uncertainty and extreme events, Arpit Kapoor, University of New South Wales	Beyond correlation: Cause-effect relations in hydrometeorological systems, Vivek Kumar Yadav, University of Melbourne	Early forecasting of crop irrigation for sustainable water use with satellite data and machine learning, Mohsin Hafeez, International Water Management Institute		National-scale monitoring of irrigated agricultural water use using remote sensing evapotranspiration and a hydrological framework, Ning Liu, CSIRO	A next-generation tool for bias-correcting RCM inputs to enhance regional climate projections, Dr Youngil Kim, University of New South Wales	Changes to wet and dry spell characteristics in Australian catchments, Steven Thomas, University of Melbourne	
1210		Floodplain inundation modelling using CaMa-Flood across the Murray-Darling Basin, Dr Zaved Khan, CSIRO	Spatially weighted fine-tuning of LSTMs for improved streamflow predictions in ungauged catchments, Dr Ashkan Shokri, CSIRO	Enhancing NWP post-processing with IMPROVER, Dr Benjamin Owen, Bureau of Meteorology	Comparing machine learning and process-based models for predicting wheat flowering timing, Harris Ledvinka, University of Sydney		Harnessing the strengths of machine learning and geostatistics to improve streamflow prediction in ungauged basins, Vaughn Grey, Melbourne Water	Invited speaker: Regional climate model projections of Australia's future weather systems, Dr Acacia Pepler, Bureau of Meteorology	Meteorological drought termination: Processes and trends, Dr Chiara M Holgate, Australian National University	
1230-1330	Lunch								Hall G	
1330-1510	15A: F10, Applications of artificial neural networks and generative artificial intelligence to environmental problems Room: Hall A Chair: Ben Leighton	15B: G9, Advancing flood and tsunami modelling: techniques, applications, and emerging technologies Room: Hall B Chair: Dr Fazlul Karim	15C: C7, Advancing Machine Learning in Hydrology: Ensuring Reliable, Reproducible, and Validated Applications Room: Hall C	15D: K2, Statistical, post-processing and verification methods for environmental prediction Room: Room E1 Chair: Dr James Bennett	15E: F11, Agricultural artificial intelligence modelling Room: Room E2 Chair: TBC	15F: H4, Modelling the impact of environmental pressures on vector-borne and zoonotic disease burdens Room: Room E3 Chair: Dr Helen Mayfield and Dr Esther Onyango	15G: J5, Fit for purpose modelling for water resources management Room: Riverbank 2 Chair: TBC	15H: G4, Projections of regional climate change: from modelling to applications Room: Riverbank 3 Chair: Dr Youngil Kim	15I: K7, Understanding hydrological extremes: trends, drivers and impacts Room: Riverbank 4 Chair: A/Prof Wenyan Wu	15J: Water quality forum Room: Gilbert Suite Chair: Danlu Guo

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			Chair: Arpit Kapoor							
1330	Do androids dream of workflow provenance? An intelligent interface to the Provena metadata system, Peter Baker , CSIRO	Accommodating undulating tidal planes in tsunami models, Matthew Macauley , Geoscience Australia	How much data is enough? Evaluating training length in physics-informed LSTM for soil moisture, Chenting Jiang , University of Tasmania	When will it happen? On the evaluation of time-to-event, survival time and first-passage time forecasts, Dr Robert Taggart , Bureau of Meteorology	A hybrid feature selection framework: Balancing information preservation and multicollinearity control in biological datasets, Sadegh Mohajer , Lincoln University	Systematic review of quantitative models for African Swine Fever: Diversity across host and environmental drivers, Kim Dianne Ligue , University of Queensland	Integrated assessment and modelling for water management: lessons from transdisciplinary research, Dr Wendy Merritt , Australian National University	Intensification of short-duration extreme precipitation over Greater Sydney: Observations and climate projections, Dr Leena Khadke , University of New South Wales	Freshwater depletion in the Cambrian Limestone Aquifer from space, Dr Christopher Ndehedehe , Griffith University	Details to be announced
1350	Modelling buddy - Making large language models competent assistants in environmental modelling, Jean-Michel Perraud , CSIRO	Invited speaker: Impact of topographic data resolution on spatial interpolation of hourly rainfall splines for flood inundation modelling, Dr Chi Nguyen , CSIRO	Importance of scientific rigour in validating machine learning models: The Google global flood model example, Prof Holger Maier , University of Adelaide	Towards a sustainable workflow for post-processing development and evaluation, Dr Benjamin Owen , Bureau of Meteorology	Evaluation of empirical and radiative transfer modelling for estimating biochemistry using remote sensing data, Prof Anita Simic-Milas , Bowling Green State University	Predictive modelling of Ross River virus in New South Wales, Suhasini Sumithra , Health System Support Group	Evaluating Stochastic Weather Generators for simulating hydrological extremes, A/Prof Fiona Johnson , University of New South Wales	Utilising CORDEX projections to assess runoff changes in Victoria, Dr Anjana Devenand , CSIRO Environment	A new metric for better identifying and understanding rainfall-runoff events, Mohammad Masoud Mohammadpour Khoie , Australian National University	
1410		Introducing a fast and scalable method for floodplain inundation modelling, Dr Jin Teng , CSIRO	Confronting data leakage in environmental model optimisation, Willem Vervoort , University of Sydney	Multi lead time parameter inference for post-processing precipitation forecasts, Dr Durga Shrestha , CSIRO	Soil property prediction under data scarcity using a tabular foundation model, Dr Ratneel Deo , University of Sydney	Geostatistical modelling of lymphatic filariasis in Samoa using integrated human and mosquito surveillance data, Dr Helen Mayfield , University of Queensland	Limitations and best practice for bottom-up climate risk assessments, Matthew Armstrong , University of Adelaide	When floods disrupt freight: Modelling supply chain risks under future climates, Maggie Tong , CSIRO	Quantifying the global impact of atmospheric rivers on the recurrence of flood events, Sucheta Pradhan , University of Melbourne	
1430		Including flooded vegetation in	When more isn't always better:	Warnings based on risk matrices: A	Characterizing yield through	Qualitative network	Using top-down and bottom-up	Projections of global	Invited speaker Impactful	

	HALL A	HALL B	HALL C	ROOM E1	ROOM E2	ROOM E3	RIVERBANK 2	RIVERBANK 3	RIVERBANK 4	GILBERT SUITE
		Earth-observation flood maps to assist in the assessment of hydrological models, Catherine Ticehurst, CSIRO	Lessons from multi-variable calibration in hydrology, Dr Rajitha Athukorala, University of Sydney	coherent framework with consistent evaluation, Dr Robert Taggart, Bureau of Meteorology	wheat's perception of time: Phenomics, enviromics and genomics-based predictions, Dr Lukas Roth, ETH Zurich & University of Queensland	modelling to assess climate-sensitive vibrio and antimicrobial resistance in Tasmanian oyster supply chain, Dr Roshni Subramaniam, Parks Australia/CSIRO Environment	approaches to assess environmental outcomes under climate change, a case study, Leah Traill, HARC	groundwater temperatures due to climate change, Dr Dylan Irvine, Charles Darwin University	wet/windy extremes in Australia, Dr Acacia Pepler, Bureau of Meteorology	
1450		Event-based erosion modelling: A case study of ex-Tropical Cyclone Alfred, Dr Xihua Yang, NSW Department of Climate Change, Energy, the Environment and Water			Machine learning for locust population dynamics and outbreak prediction, Dr Allan Spessa, Australian Plague Locust Commission (APLC)	Ecological suitability of Japanese encephalitis virus in Australia: modelling vector-host transmission to potential human spillover, A/Prof Benn Sartorius, University of Queensland	Australian groundwater modelling guidelines: Past and future, A/Prof Juliette Woods, SA Department for Environment and Water	Extreme coastal wave events: Assessing global cumulative energy trends and wind forcing resolution impacts, Imee Bren Villalba, University of New South Wales	Modelling changes in extreme rainfall for Australia, Dr Conrad Wasko, University of Sydney	
1510-1540	Student Awards Presentation and Afternoon tea									Hall G