30 NOV – 4 DEC 2025

Sunday 30 November 2025 Adelaide Convention Centre		
1200	Registration	Foyer G
From 1200	Mentor/mentee meetings	At MSSANZ's desk, Foyer G
1630-1740	Opening plenary	Hall C
1630	Welcome to Country, ***Cliffy ' Tangku Munaitya' Wilson,*** *Kaurna, Narungga, Ngarrindjeri, Ngadjuri and Arrente Man*	MC: Dr David Post, President, MSSANZ
1640	***The Hon. Joe Szakacs MP****, Minister for Trade and Investment, Minister for Industry, Innovation and Science, Minister for Local Government and Minister for Veterans' Affairs, South Australian Government*	
1700	Plenary speaker: ***Prof Craig Simmons****, Chief Scientist of South Australia* Modelling Tomorrow: Bridging Science, Society, and Innovation for a Resilient 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	**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:** Dr Yun Chen	**1H:** L3, Modelling water quality treatment and management **Room:** Riverbank 3 **Chair:** Dr Mukta Sapkota	**1I:** B5, Agricultural systems **Room:** Riverbank 4 **Chair:** Dr Matthew Knowling	**1J:** J6, Hydroclimate extremes forecasting: From droughts to floods **Room:** Gilbert Suite **Chair:** Dr Adarsh S and Dr Ze Jiang

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	Chair: Dr Andrew John									
0850	The need to avoid determinism and weak links in modelling chains when assessing climate impacts, ***Prof Rory Nathan,*** *University of Melbourne*	Air quality modelling for Pacific Island Countries: Insights from the Solomon Islands and Fiji, ***Dr Tomas Liska,*** *UK Centre for Ecology and Hydrology*	Modelling long distance gravity flow channel design and alignment, ***Lynn Seo,*** *CSIRO*	Genomic risk stratification in optimising intermediate risk prostate cancer management in Australia: Discrete event simulation, ***Dr Juntao Lyu,*** *University of Melbourne*	Using markerless motion capture to identify unsuitable static body postures during work activities, ***Dr Simon Harrison,*** *CSIRO Data61*	Impacts of inter-basin water diversion projects on feedback loops of water supply-hydropower generation-environment conservation nexus, ***Prof Dedi Liu,*** *Wuhan University*	Assessing the contribution of grasslands to Australian national carbon sequestration under a changing climate, ***Yidan Gou,*** *Australian National University*	Responding to the challenges and complexities of urban water management in the Sydney Metro SSTOM, ***Nilmini Pannipitiya,*** *SMEC*	Modelling greenhouse gas emissions in mixed crop–livestock farming systems, ***Dr Priyanath Jayasinghe,*** *CSIRO Agriculture and Food*	A machine learning 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***	A three-lattice predator-prey model: Migration expands the	Comparing a physical hydrologic model and machine	On causal loop diagrams and directed acyclic graphs: Insights	Joint optimisation of app data caching and computation	How fast can a MARRMoT run? Improving runtimes for the	Satellite-based assessment of marine phytoplankton	Using rainfall characteristics to evaluate sizing of rainwater tanks	Climate-driven rice expansion in Northeast China: A geospatial	

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	Weber, *Alluvium Consulting Australia*	survival region, ***Dr Nariyuki Nakagiri,*** *University of Hyogo*	learning model in a catchment in New Zealand, ***Dr Jing Yang,*** *Earth Sciences New Zealand*	in health systems and genomics, ***Dr Hadi Akbarzadeh Khorshidi,*** *University of Melbourne*	off loading in edge computing, ***Mohammad Ghasemi,*** *Deakin University*	Modular Assessment of Rainfall-Runoff Toolbox, ***Dr Keirnan Fowler,*** *University of Melbourne*	productivity responses to climate and anthropogenic pressures in Asia-Pacific waters, ***Yinuo Xu,*** *Australian National University*	under climate change, ***Desmond Manuelpillai,*** *Monash University*	analysis, ***Yuze Bai,*** *Australian National University*	
1010-1040	Morning tea								Hall G	
1040-1130	Plenary session 2								Hall C	
1040	Plenary speaker: ***Dr Val Snow,*** *Bioeconomy Science Institute, AgResearch Group* Robust Models Don't Grow on Equations (or Data) Alone. The challenges of process-based modelling of pastoral systems.								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:** Dr Andrew John	**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:** Prof Sondoss El Sawah	**2E:** B9, Advances in agent-based modelling and their statistical challenges in biological, ecological and agricultural systems **Room:** Room E2 **Chair:** Dr Mitchell Welch and Dr Timothy Schaerf	**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:** Dr Yun Chen	**2H:** **Room:** Riverbank 3 **Chair:**	**2I:** B5, Agricultural systems **Room:** Riverbank 4 **Chair:** Dr Rogerio Cichota	**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, ***Mahdi Montazeri,*** *CSIRO*	Water resources modelling in Melbourne: Current status and future directions, ***Dr Udaya Kularathna,*** *Melbourne Water*	Stream K keynote: Ramsar wetland climate adaptation: Lessons learnt from a participatory process, ***Dr Rebecca Doble,*** *CSIRO Environment*	Leveraging participatory system dynamics to coordinate regional Net Zero Transitions in Australia, ***Dr Philippa Hammond,*** *CSIRO Agriculture and Food,* ***Dr Humair Nadeem,*** *CSIRO Mineral Resources*	Development of an agent-based model for movement and foraging of sheep flocks, ***Dr Mitchell Welch,*** *University of New England*	Synthesising hydrological knowledge in a semi-dry region with low-permeability unsaturated zone using Modflow-6, ***Dr Konrad Miotlinski,*** *University of Western Australia*	Land subsidence and rebound response to groundwater recovery in the Beijing Plain: A new hydrological perspective, ***Shubo Zhang,*** *Capital Normal University*	No session	Systems modelling of technological opportunities for a sustainable and profitable dairy sector in New Zealand, ***Chavi Ekanayake,*** *University of Canterbury*	Harnessing quantum variational circuits for enhanced streamflow forecasting in the Greater Pamba River Basin, India, ***Arathy Nair G R,*** *KM College of Engineering*
1150	Shifting from modelling changes in climate to better understanding risks to achieving	Melbourne's water supply modelling information system: Progress update and next		Generative AI applications in system dynamics modelling, ***Dr Seyed Hossein Hosseini,***	Vision and body as drivers of topological interactions in Collective Motion,	Improving the discrete form of the Nash cascade, ***Prof Barry Croke,*** *Australian*	Correlations of land surface temperature with climatic and oceanic factors in China (1952–		Shedding light on complexity using sensitivity analysis, ***Dr Neil Huth,*** *CSIRO*	Australian meteorological drought: A review of process understanding, research gaps

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	desired outcomes, ***Prof Holger Maier,*** *University of Adelaide*	steps, ***Kien Vu,*** *Melbourne Water*		*University of Sydney*	***Andrei Zvezdin,*** *University of New England*	*National University*	2022), ***Yunfei Zhang,*** *Capital Normal University*			and model development needs, ***Dr Chiara M. Holgate,*** *Australian 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:** Dr Simon Watt and Dr Michael Dzator	**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:** Dr William Jones	**3G:** C1, Using workflow platforms in modelling and simulation **Room:** Riverbank 2 **Chair:** Dr Paul Cleary and Lachlan Hetherton	**3H:** L4, Modelling erosion and pollutant dynamics **Room:** Riverbank 3 **Chair:** Llewyn Randall	**3I:** B5, Agricultural systems **Room:** Riverbank 4 **Chair:** Dr Qiaomin Chen	**3J:** C6, Emulation of dynamic models **Room:** Gilbert Suite **Chair:** Dr Dan Pagendam and Dr Sreekanth Janardhanan
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 Dzator,*** *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	Levelling up: Modelling flood inundation	Leveraging petrophysical logs in data-	Validation of a numerical model of a ship and	DesRail: A new discrete-event-simulation library	Forecasting all risk factors for all countries,	Workspace: 20 years	Building a water quality model for Receiving	Correlating rainfall and simulated	Spatiotemporal groundwater

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

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							Dr Koranat Pattarakunnan, *Memko*			
1510-1540	Afternoon tea								Hall G	
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:** A/Prof 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:** Dr Luigi Cirocco and 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*

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1620	Modelling livestock systems: Bottom-up, top-down, or a meeting in the middle? ***Dr Adam Liedloff,*** *CSIRO*	Climate change drove the decline in Yangtze Estuary net primary production over the past two decades, ***Mingrui Wang,*** *Chinese Academy of Sciences*	Full information problem with random horizon, ***A/Prof Georgy Sofronov,*** *Macquarie University*	Communicating climate information for adaptation through familiar frames, ***Vanessa Round,*** *CSIRO Environment*	Dynamics and stability of milling behaviour under perturbation, ***Kyle Smith,*** *University of New England*	Analysis of deviations in electricity demand forecasts, ***Andy Hoang Nguyen,*** *University of South Australia*	Ahead of the curve: Data-driven identification of Hydrological State Shifts, ***Enock Kajubi,*** *IITB - Monash Research Academy*	A preliminary erosion model for gullies with complex geometries, ***Llewyn Randall,*** *Griffith University*	Transforming agriculture under climate change: A coupled framework of process-based, optimization, and agent-based models, ***Andrea Kaim,*** *Helmholtz Centre for Environmental Research*	Old tools, new landscapes: Application of multi-objective evolutionary 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,***	Hydrological non-stationarity in the Northern Murray-Darling Basin, ***Dr Keirnan Fowler,*** *University of Melbourne*	Hydrologic response unit: The missing link in hydrology, ***Prof Freeman Cook,*** *Freeman Cook & Associates*		Continental-scale machine learning classification of fire smoke pollution events for health research in Australia, 2001-2020,

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						University of South Australia				***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** Matthew Knowling and Dr Ke Liu	**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:** A/Prof An Tran-Duy and A/Prof Richard Bradhurst	**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:** Prof Patricia Saco, A/Prof Jose Rodriguez and Dr Rebecca Carlier	**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 **Facilitator:** Michael Barton (virtual via Teams)
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	Session via Teams
0910	Integration of operational and infrastructure decisions into long-term planning and management of water resources	Quantifying parameter sensitivity in ecopath with Ecosim Ecotracer Models using a new python wrapper, ***Daniel***	Sensibility testing of a NH3 volatilisation model for APSIM, ***Dr Heather Pasley**, CSIRO Environment,*	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		Logistic regression model for early detection and prediction of algal blooms in estuarine environments,	Hydrological modelling under uncertainty: Can two-state residuals improve error representation? ***Muhammad***		

	HALL A	HALL B	HALL C	ROOM E1	ROOM E2	ROOM E3	RIVERBANK 2	RIVERBANK 3	RIVERBANK 4	GILBERT SUITE
	systems under deep uncertainty, ***A/Prof Wenyan Wu,*** *University of Melbourne*	***Tan,*** *Australian Institute of Marine Science*	***Dr Val Snow,*** *Bioeconomy Science Institute*		Computing Environment, ***Dr Peilong Ma,*** *Nanjing Normal University*		***Mayya Podsosonnaya,*** *Monash University*	***Hammad,*** *University of New South Wales*		
0930	Invited speaker: Informed performance assessment of water resources systems under uncertainty by considering trade-offs between performance and risk appetite, ***Yuan Cao,*** *University of Melbourne*	Hierarchical ODE models for heading date estimation in wheat, ***Dr Javier Fernandez,*** *University of Queensland*	Improving APSIM modules for enhanced-efficiency fertilizers to simulate N2O emissions in vegetable systems, ***Deyao Liu,*** *University of Melbourne*	Patient-level modelling of long-term cardiovascular and mortality outcomes in chronic kidney disease, ***A/Prof An Tran-Duy,*** *University of Melbourne*			Modelling wetland vulnerability to sea-level rise, ***Prof Patricia Saco,*** *University of Technology Sydney*	Trends in hydrological forecast skill in a changing climate, ***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, ***Xiying 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: ***Dr Nigel McGinty,*** *Defence Science and Technology Group* Objective Evidence for the Future								MC: Em Prof John Boland, Adelaide University	
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:** A/Prof Georgy Sofronov	**6G:** J11, Ecohydrological modelling **Room:** Riverbank 2 **Chair:** Prof Patricia Saco, A/Prof Jose Rodriguez and Dr Rebecca Carlier	**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: What is the future of MODSIM and MSSANZ in the age of AI? **Room:** Gilbert Suite **Chair:** Willem Vervoort

	HALL A	HALL B	HALL C	ROOM E1	ROOM E2	ROOM E3	RIVERBANK 2	RIVERBANK 3	RIVERBANK 4	GILBERT SUITE
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 Sondos El Sawah,*** *University of NSW* ***A/Prof Wenyan Wu,*** *University of Melbourne,* ***David Penton,*** *CSIRO*
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 Fazlul Karim,*** *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	**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:** Prof Yongqiang Zhang	**7J:** I4, Training future modellers for an uncertain future **Room:** Gilbert Suite **Chair:** Prof Kate O'Brien

	HALL A	HALL B	HALL C	ROOM E1	ROOM E2	ROOM E3	RIVERBANK 2	RIVERBANK 3	RIVERBANK 4	GILBERT SUITE
			Chair: Dr Heather Pasley							
1330	A structured framework for context-based selection of DMDU approaches in environmental water management, ***Farkhondeh Sadat Hashemi Madani,*** *University of Melbourne*	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, ***Dr Kesav Unnithan,*** *CSIRO Environment*	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*
1350	Rapid assessment of environmental flow targets using Bayesian logistic regression, ***Dr Andrew Schepen,*** *CSIRO*	Mechanistic modelling of soil organic-inorganic carbon dynamics, ***Leon Casse,*** *University of Sydney*	Enhancing near-surface soil water and temperature simulation through fine-scale field observations and mechanistic modelling, ***Dr Tao Luo,*** *CSIRO*	Comparing methods to reconstruct river cross sections from LiDAR DEMs for improved flood plain modelling, ***Chamaka Karunanayake,*** *University of South Australia*	Assessing soil erosion on post-mining and analogous natural landscapes with SIBERIA and SSSPAM models, ***Dr Indishe Senanayake,*** *University of Newcastle*	PEST++SQP: A new, non-intrusive, open-source package for high-dimensional non-linear optimisation under uncertainty, ***Reygie Macasieb,*** *INTERA Geosciences*	Least-cost modelling of electricity systems with a high share of weather dependent renewable generation, ***Paul Graham,*** *CSIRO*	Modernising reach scale stream bank erosion estimation in Australia, ***Dr David Waters,*** *Truii*	Global ecosystems reveal divergent evapotranspiration response patterns to drought stress, ***Dr Yizhe Ma,*** *Chinese Academy of Sciences*	Ready or not, here AI comes: Meaningful AI integration needs collaboration of universities and industry, ***Dr Felix Egger,*** *Alluvium Consulting Australia*
1410	Modelling of environmental water holders' behaviour: A risk-based approach, ***Dr Jong Lee,*** *Murray Darling Basin Authority*	Partitioning soil organic carbon for Australian croplands, ***Dr Jinyan Yang,*** *CSIRO*	Incorporating treading damage on wet soils in APSIM, ***Dr Mike Dodd,*** *Bioeconomy Science Institute*	Understanding catchment hydrology approaches for flood estimation, ***Jotinder Singh,*** *HARC*	Lähde: Information system for maintaining up-to-date information on forest resources in Finland, ***Dr Ari Jolma,*** *AFRY*	ShapleyX – a Python package for the efficient estimation of Shapley effects and Sobol' indices, ***Dr Frederick Bennett,*** *QLD Department of Environment, Tourism, Science and Innovation*	Economic modelling of rooftop PV and battery storage for affordable low-emission energy transitions, ***Dr Vanika Sharma,*** *University of South Australia*	Extended uncertainty analysis for the simple catchment load model SPARROW and implications for water management, ***Sandy Elliott,*** *Earth Sciences New Zealand*	Land use and land cover change impact on the actual Evapotranspiration in China, ***Dr Congcong Li,*** *Chinese Academy of Sciences*	What's the point of education in the age of AI? ***Prof Kate O'Brien, A/Prof Badin Gibbes,*** *University of Queensland,* ***Dr Felix Egger,*** *Alluvium Consulting Australia,* ***Prof Holger Maier,*** *University of Adelaide,* ***Prof Sondoss Elsawah,*** *University of New South Wales,*
1430	Risk mitigation and human judgment in environmental watering under	Soil carbon sequestration potential of Queensland under land use change and	Simulation-based decision-support tools in digital agriculture: Converting APSIM into point-	Challenges in deriving representative rainfall-runoff model parameters for	Fine-tuning remote sensing foundation models for improved live fuel moisture		Next-generation electric vehicle forecasting: Long-term sales projections in the	Developing a water quality modelling toolkit: Load estimates in Port Phillip and Western Port	Extended global evapotranspiration and gross primary production dataset for 1981–2024,	

	HALL A	HALL B	HALL C	ROOM E1	ROOM E2	ROOM E3	RIVERBANK 2	RIVERBANK 3	RIVERBANK 4	GILBERT SUITE
	forecast uncertainty, ***Dr Tze Ling Seline Ng,*** *CSIRO*	future climate scenarios, ***Dr Stephen Leo,*** *QLD Department of the Environment, Tourism, Science and Innovation*	and-click online tools, ***Uwe Grewer,*** *University of Southern Queensland*	flood forecasting: Insights from Sixth Creek, South Australia, ***Tharindi Wijekoon,*** *University of South Australia*	content estimation, ***Dr Tony Boston,*** *Australian National University*		Australian context, ***Dr Chathurika Mediwaththe,*** *CSIRO*	catchments, ***Alison Kemp***, *Melbourne Water,* ***Dr Lydia Cetin,*** *Jacobs Australia*	***Dr Zhenwu Xu,*** *Chinese Academy of Sciences*	***Dr Scott Spillias, Dr Katrina Szetey,*** *CSIRO*
1450	Neglecting hydrological errors can severely impact predictions of water resource system performance, ***A/Prof Mark Thyer,*** *University of Adelaide*	Projecting future changes in soil organic carbon across NSW using machine learning and climate projections, ***Dr Xihua Yang,*** *NSW Department of Climate Change, Energy, the Environment and Water*	Modelling the whole farm effects of livestock selection: Opportunities and limitations, ***Thomas Keogh,*** *CSIRO*	Lightning hazards and awareness in Nepal: Challenges, vulnerabilities, and pathways to risk reduction, ***Ram Chandra Ghimire,*** *Tribhuvan University*	Breaks and trends in MODIS time series across the semi-arid Paroo River catchment, Australia, ***Prof Shawn Laffan,*** *University of New South Wales*		Modelling green hydrogen for a cleaner, fairer Australia using digital twins and circular economy strategies, ***Dr Anthony Halog,*** *University of Queensland*	Modelling mercury transport in legacy mining catchments in 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:** Lewis Mitchell	**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:** Jonathan Dansie and Benjamin Campbell	**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 Wasko****, University of Sydney,* ***Dr Julien Lerat,*** *CSIRO,* ***Ulrike***
1600	Updated climate inputs for rainfall-runoff modelling in	Carbon dioxide removal via enhanced weathering:		Forecasting Australian pulse export trade flows and	Designing for reality: A bottom-up	An agent-based model for the formation of common ground,	Understanding structural change from transitioning to a	Complexity of river water quality parameters using	AI large language models for control of uncrewed aerial systems,	

	HALL A	HALL B	HALL C	ROOM E1	ROOM E2	ROOM E3	RIVERBANK 2	RIVERBANK 3	RIVERBANK 4	GILBERT SUITE
	Northern Victoria, ***Xiang Cheng,*** *VIC Department of Energy, Environment and Climate Action*	Modelling the effect of soil properties, ***Hannah Green,*** *James Cook University*		uncovering key trade determinants using machine learning, ***Dr Sobhan Arisian,*** *La Trobe University*	approach to data interoperability, ***Dr Nina Welti,*** *CSIRO*	***Wooseok Jung,*** *Curtin University*	low-carbon economy: an integrated multi-model approach for Australia, ***Dr Marc Jim Mariano,*** *CSIRO*	a nonlinear dynamic approach, ***Sakshi Dhumale,*** *Indian Institute of Technology Bombay*	***Dr Simon Crase,*** *Defence Science and Technology Group*	***Bende-Michl,*** *Bureau of Meteorology,* ***Prof Patricia Saco,*** *University of Technology Sydney*
1620	Automating the extension of time series inputs for the Source GBCCL model, ***Xue Hou,*** *VIC Department of Energy, Environment and Climate Action*	Depth-resolved soil organic carbon estimation: A scalable approach, ***Moa van Kretschmar,*** *University of Sydney*	Redesigning the APSIM test and deployment system to bring benefits to developers, ***Dr Andrew Paroz,*** *CSIRO*		The Minerva data platform - Towards a data platform for research applications, ***Didi Liu,*** *New Zealand Bioeconomy Science Institute*	A stochastic nonlinear model of influence in synchronisation dynamics, ***Hannah Gallant,*** *Australian National University*	A multisectoral bio-physical Stock-Flow-Consistent input-output macroeconomic modelling analysis for Australian transition to low-emission energy, ***Dr Taj Khandoker,*** *CSIRO*	Improving the understanding and prediction of low extreme dissolved oxygen (DO) events in Victorian rivers, ***Dr Danlu Guo,*** *Australian National University*	Sensor-driven control of UAS using AI in simulation, ***Simon Pywell,*** *Defence Science and Technology Group*	
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								Room E1	
1800	MSSANZ AGM								Dr David Post, CSIRO	

	HALL A	HALL B	HALL C	ROOM E1	ROOM E2	ROOM E3	RIVERBANK 2	RIVERBANK 3	RIVERBANK 4	GILBERT SUITE
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:** Tony Weber	**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:** Dr Keirnan Fowler and Ziqi Zhang	**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:** Dr Takuya Iwanaga and Pedro Ribeiro De Almeida	**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:** Em Prof John Boland
0850	No session	Stream L keynote: Real-time water quality forecasting in rivers using satellite data and dynamic models, ***Prof Paul Whitehead,*** *University of Oxford*	Climate data revisions and their impact on hydrological modelling, ***Nevin Cracknell,*** *NSW Department of Climate Change, Energy, the Environment and Water*	Invited speaker: Integrating molecular insights into phenology modelling enhances flowering time predictions, ***Dr Enli Wang,*** *CSIRO Agriculture and Food*	Climate change appears to alter the proportion of rainfall that becomes streamflow in Australia, ***Lucas Pamminger,*** *Monash University*	Assumptions tracking in system models: Case studies from digital twins in agriculture and horticulture, ***Dr Jingjing Zhang,*** *Bioeconomy Science Institute*	No session	Sunwater smart schemes: Improving efficiency in water delivery, ***Dr Yenory Morales,*** *Sunwater*	Physics-guided deep learning for maize phenology simulation, ***Dr Puyu Feng,*** *China Agricultural University*	Analysis of changes in peak 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*

	HALL A	HALL B	HALL C	ROOM E1	ROOM E2	ROOM E3	RIVERBANK 2	RIVERBANK 3	RIVERBANK 4	GILBERT SUITE
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*	
1010-1040	Morning tea								Hall G	
1040-1130	Plenary session 4								Hall C	
1040	Plenary speaker: ***Prof Lucy Marshall,*** *University of Sydney* Probabilistic Thinking in Environmental Modelling and Leadership								MC: Prof Willem Vervoort, University of Sydney	
1130-1230	**10A:** J10, Advancements in hydrological predictions through novel sensing and innovative modelling techniques **Room:** Hall A **Chair:** Dr Hae Na Yoon	**10B:** L2, Advanced lake, reservoir, wetland and river system modelling **Room:** Hall B **Chair:** Felix Egger	**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: Dr** Murray Peel and A/Prof Tim Peterson	**10F:** A3, Modelling and simulation for trustworthy data science on challenging datasets **Room:** Room E3 **Chair:** Lewis Mitchell	**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:** Dr Vanessa Haller	**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:** Em Prof John Boland
1130	Stream J keynote: Bending time and space to predict hydrological extremes at decadal timescales,	Towards a reference GLM-AED model for wetlands in Great Barrier Reef catchments,	Hydro-economic modelling of climate change impacts on water allocations and markets,	Modelling limiting transpiration under high evaporative demand to improve wheat productivity in	A comparison of monthly runoff models for their performance under variable climate regimes within Australia, ***Sreelakshmi***	Making sense of heart rate variability: Identifying meaningful metrics for stress and pain prediction, ***Joan***	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,	Invited speaker: Cost-effective agronomic practices could unlock Australian wheat yield potential, ***Dr Siyi***	Enhanced tools necessary for managing a high distributed solar photovoltaic electricity system,

	HALL A	HALL B	HALL C	ROOM E1	ROOM E2	ROOM E3	RIVERBANK 2	RIVERBANK 3	RIVERBANK 4	GILBERT SUITE
	Prof Ashish Sharma, *University of New South Wales*	***Dr Liliana Pagliero****, Griffith University*	***Dr Andrew John****, University of Melbourne*	dry environments, ***Prof Karine Chenu****, University of Queensland*	***Cherampatta Mana****, Australian National University*	***Shu Ting Lim****, University of Adelaide*		***Pedro Ribeiro De Almeida****, Australian Institute of Marine Science*	***Li****, University of Queensland*	***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, ***Dr Ke Liu,*** *University of Tasmania*	Invited speaker: Forecasting with FLARE – Predicting Lake Alexandrina water quality, ***Claire Sims,*** *Department for Environment and Water South Australia*	FIRM: Cloud-native integration framework for basin-scale hydrological modelling in the Murray-Darling Basin, ***Simone De Kleermaeker,*** *Deltares*	Developing frost and heat damage functions to quantify canola and wheat yield loss with APSIM, ***Dr Pengcheng Hu****, CSIRO*	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****, University of Adelaide*	Climate change will accelerate seasonal fire weather severity by 8–24% in Southeastern Australia, ***Negash Roba****, Charles Sturt University*	ParetoPick-R; An interactive tool for turning multi-objective optimisation results into actionable solutions, ***Dr Cordula Wittekind****, Helmholtz Centre for Environmental Research - UFZ*	A hybrid machine learning–process-based model approach of simulating ammonia volatilization in rice paddies, ***Yifan Cao****, University of Melbourne*	Forecasting diffuse solar radiation, ***Em Prof John Boland****, Adelaide University*
1230-1330	Lunch								Hall G	
1330-1510	**11A:** J10, Advancements in hydrological predictions through novel sensing and innovative modelling techniques **Room:** Hall A **Chair:** Dr Hae Na Yoon	**11B:** L2, Advanced lake, reservoir, wetland and river system modelling **Room:** Hall B **Chair:** Dr Ha Nguyen	**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:** Dr Rodolfo Garcia-Flores	**11F:** A3, Modelling and simulation for trustworthy data science on challenging datasets **Room:** Room E3 **Chair:** Lewis Mitchell	**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:** Dr Takuya Iwanaga	**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	A multi-scale modelling framework for	Implementing dead storage in the Barwon-	How well does APSIM NG simulate wheat	Passive sonar sensor placement for undersea	Quantifying annotator reliability in	Stream G keynote: Modelling the intensity of	Embedding public health in environmental	Irrigated rice yield response to projected climate	Australian trees for the Australian Earth System

	HALL A	HALL B	HALL C	ROOM E1	ROOM E2	ROOM E3	RIVERBANK 2	RIVERBANK 3	RIVERBANK 4	GILBERT SUITE
	construction in hydrology, ***Dr Nasrin Taghavi**, Sydney Water*	assessing environmental impacts of pumped hydro energy storage, ***Adyn de Groot**, Alluvium Consulting Australia*	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*	yields with gridded data? ***Dr Jonathan Richetti**, CSIRO*	surveillance, ***Dr Graham Weinberg**, Defence Science and Technology Group*	moral classification of texts, ***Yi Ren**, University of Adelaide*	Victorian bushfire as observed by Himawari-9, ***Dr Bart Pindor**, Country Fire Authority*	stewardship: Lessons from participatory landscape modelling in Central NSW, Australia, ***Dr Esther Onyango**, CSIRO Agriculture and Food*	change in northwest Bangladesh, ***Md Belal Hossain**, Charles Sturt University*	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**, University of Queensland*	Enhancing environmental water management in source: Decoupling spell identification from ordering at environmental flow nodes, ***Dr Mukta Sapkota**, eWater Group*	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, ***Dr Ebrahim Aly**, UNSW Canberra*	Knowledge integration and model evaluation for cross-sectoral agricultural climate change modelling, ***Dr David Allingham**, Department of Primary Industries and Regional Development*	Tracking the path of carbon through ecosystems: modelling vegetation carbon dynamics at Australian flux sites, ***Dr Assaf Inbar**, Western Sydney University*
1410	Process-informed stepwise multi-variable SWAT calibration framework, ***Eliana Nervi**, University of Sydney*	Informing risk and opportunity management in coal mine pit lakes via modelling experiments, ***Dr Nevenka Bulovic**, University of Queensland*	Developing a source model of the Upper Macquarie and Upper Coxs river systems, ***Dr Dushmanta Dutta**, NSW Department of Climate Change, Energy, the Environment and Water*	Calibration of APSIMx for key crops in Germany with public data, ***Irina Heiss,** Helmholtz-Centre for Environmental Research*	Multi-objective and multi-stage optimisation for forcestructure design, ***Minh-Tuan Nguyen**, Department of Defence*	Network analysis of Australian Internet traffic dynamics, ***Benjamin Lang**, University of Adelaide*	Resolving radiation in physics-based wildfire spread modelling, ***William Swedosh**, CSIRO*	A return to decision support: How can decision-support tools be used at the science-policy interface? ***Dr Keith Matthews**, Hutton*	Modelling impacts of novel Rht genes and biodegradable mulching on wheat early growth and yield, ***Dr Xiaoxing Zhen**, CSIRO Agriculture and Food*	Projected changes in biomass carbon under future climate scenarios in semi-arid southeastern Australia, ***Dr Bin Wang**, Hawkesbury Institute for the Environment, Western Sydney University*
1430	A new physics-guided deep learning model for improving plant transpiration estimation under water-limited conditions, ***Binrui***		Namoi and Murrumbidgee water balance tool – An integrated approach for river system management, ***Prasad***	Development and evaluation of a Taro Model within the APSIM plant modelling framework, ***Dr Yacob Beletse**, CSIRO*	Analysis of sonar dipping regimes by analytical means, ***Dr Martijn van der Merwe**, Defence Science and Technology Group*	Sentiment analysis of historical Australian parliamentary speeches, ***William Pincombe**,*	Simulation of ember transport around urban structures, ***Lachlan Cunningham**, Monash University*	Using foresight and modelling to stress-test risk reduction options under various climate and socio-economic scenarios,		Simple models can reveal insightful science: data-fitted models of intertidal seagrass as a case study,

	HALL A	HALL B	HALL C	ROOM E1	ROOM E2	ROOM E3	RIVERBANK 2	RIVERBANK 3	RIVERBANK 4	GILBERT SUITE
	***Liu**, Flinders University*		***Inamdar**, NSW Department of Climate Change, Energy, the Environment and Water*			*University of Adelaide*		***A/Prof Hedwig van Delden**, Research Institute for Knowledge Systems*		***Dr Matthew Adams**, Queensland University of Technology*
1450	Physics-informed graph neural networks for operational flood modelling, ***Dr Sanka Rasnayaka**, National University of Singapore*		Urban demand models for the Fish River-Wywandy System, ***Geoff Podger**, Water Bublu*	Modelling orchard systems in APSIM, ***Dr Hamish Brown**, Bioeconomy Science Institute*	A systems approach to quantifying experience in cross-functional collaboration to improve strategic thinking in the national intelligence community, ***Dr Leon Young**, Huon Strategic*		The effect of ignition protocol on dynamic fire propagation in the Bridger Foothills fire, ***Dr Chantelle Blachut**, University of New South Wales*	Natural hazards ahead: Navigating uncertainty with stakeholder-led scenarios, ***Alice Miller**, University of Adelaide*		
1510-1540	Afternoon tea								Hall G	
1540-1740	**12A:** J10, Advancements in Hydrological Predictions through Novel Sensing and Innovative Modelling Techniques **Room:** Hall A **Chair:** Dr Hae Na Yoon and 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:** Dr Tanya Doody and Susan Cuddy	**12E:** M1, OR methods and applications **Room:** Room E2 **Chair:** Dr Simon Dunstall	**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:** Dist Prof Chia-Lin Chang and Prof David Allen	**12I:** D1, Machine Learning Applications in Economics and Finance **Room:** Riverbank 4 **Chair:** Prof Felix Chan	**12J: Room:** Gilbert Suite
1540	Estimation of land evapotranspiration over China based on Fengyun satellite, ***Wenjie Hou**, Institute of Geographic Sciences and Natural Resources and Research*	Pre-recorded: Hyperspectral image analysis for environmental monitoring: Advances of the last decade, ***Afsana Tasnim**, Rajshahi University of Engineering and Technology*	Invited speaker: Abrupt drought-to-flood transitions in Australia, ***Dr Rong Gan**, Department of Climate Change, Energy, the Environment and Water*	Climate-resilient and adaptive water management for resilient farming and improved productivity in Pakistan, ***Susan Cuddy**, CSIRO*	Optimising Port-Hinterland container transportation for resilience and sustainability, ***Luisa Mennecke**, TU Braunschweig*	Ecological forecasting to support experimental design: The EucFACE experiment as a case study, ***Prof Belinda Medlyn**, Western Sydney University*	Observations of vorticity-driven lateral spread in a wildfire, ***Adj Prof Rick McRae**, UNSW Canberra*	Do sustainability metrics matter? ESG effects on green bond premiums, ***Dist Prof Chia-Lin Chang**, National Chung Hsing University*	FUSE: Forecasting with UNSPSC-Enhanced granularity, ***Dr Dakshi Kapugama Geeganage**, Department of Housing and Public Works*	No session
1600	Constrained negentropy	Incorporating land use change	The challenges and rewards of	A time-series analysis of on-	Mothership and multi-tender	High-resolution climate	Modes of pyrocumulonimbus	Realised volatility	Hybrid forecasting of crude oil prices	

	HALL A	HALL B	HALL C	ROOM E1	ROOM E2	ROOM E3	RIVERBANK 2	RIVERBANK 3	RIVERBANK 4	GILBERT SUITE
	optimisation (CoNE-opt): Leveraging independent component analysis for the fusion of satellite-derived data products, ***Suraj Shah**, University of New South Wales*	adjustments into basin-scale groundwater recharge estimates in the Murray-Darling Basin, ***Dr Paula Campos Teixeira**, CSIRO*	collaborative environmental flow modelling, ***Dr Stephanie Ashbolt**, Melbourne Water*	farm storage development in the Northern Murray-Darling Basin, ***Dr Usman Awan**, NSW Department of Climate Change, Energy, the Environment and Water*	routing: an optimisation framework for coral deployment under bathymetric constraints, ***Ryu Lippmann**, Queensland University of Technology*	projections reveal future bleaching risks in the Great Barrier Reef, ***Dr Chaojiao Sun**, CSIRO*	development in southeast Australia, ***Dr Caleb Wilson**, UNSW Canberra*	estimation shortcuts: An empirical analysis, ***Prof David Allen**, University of Sydney*	using WT-QPSO-ANFIS, ***A/Prof Roengchai Tansuchat**, Chiang Mai University*	
1620	Characterizing transboundary dam operations using only remote sensing data: Insights from the Korea Border, ***Prof Ashish Sharma**, University of New South Wales*	Continuous water potential monitoring for soil-plant continuum hydraulic parameterisation and simulation, ***Prof Huade Guan**, Flinders University*	Modelling the hydrological impacts of leaky weirs on catchment rehydration using SWAT+ Modelstorage, ***Wiyanda Naufal Aflah**, University of Sydney*	Evaluating the ecological outcomes of environmental watering: the role of the counterfactual, ***Susan Cuddy**, CSIRO*	Descriptive and predictive modelling for professional darts, ***Adam Aly**, Australian National University*	Physically-based simulation of plant hydraulic transport and drought stress in Australian vegetation, ***Dr Clare Stephens**, Western Sydney University*	Multiscale analysis of terrain–lightning relationships using machine learning, ***Sima Rahmani**, University of New South Wales*	A prototype Earth System Impact score for businesses and investors, ***Dr Steven Lade**, Australian National University*	Gender wage gap analysis using machine learning methods, ***Dr Robert Dunne**, CSIRO*	
1640	Characterising multi-source uncertainties in satellite-based surrogate river discharge models, ***Dr Hae Na Yoon**, University of Newcastle*	Space-time image velocimetry for remote streamflow measurement using satellite video, ***Dr Matt Gibbs**, CSIRO*	The impact of climate change on the hydrological and water management situation in Lower Don, ***Alexander Buber**, Federal Research Center of Hydraulic Engineering and Land Reclamation*	Strategic environmental water use: Optimising wetland outcomes with ecological feedbacks, ***Dr Rebecca Carlier**, University of Newcastle*	A practical approach to electricity network hardening decisions, ***Dr Simon Dunstall**, CSIRO*	From climate refugium to heatwave epicenter: Will the 2025 Ningaloo bleaching become a new normal? ***Dr Chaojiao Sun**, CSIRO*	Mapping and modelling bushfire exposure at the wildland-urban interface in Australia, ***Nusrat Mehnaz**, UNSW Canberra*	Does overtourism and climate risk nexus exist? A cross-country examination, ***Dr Ghialy Yap**, Edith Cowan University*	Estimating sparse variance-covariance using Shrinkage Methods: Applications to error components models, ***Ramzi Chariag**, Central European University*	
1700	Satellite-based water budgeting and seasonal groundwater stress assessment in Indus Basin using flux towers, ***Dr Umar Waqas Liaqat**, International Water*	Development and evaluation of "climate-robust" rainfall runoff model parameter libraries, ***Dr Justin Hughes**, CSIRO*	Advancing water–energy–food–ecosystem nexus planning through digital tools: Applications from the Indus Basin, ***Mohsin Hafeez**, International Water*	Are flow thresholds and observed hydrological data enough to evaluate the effect of environmental watering? ***Dr Felix Egger**, Alluvium*		From data gaps to climate projections: A framework for forecasting species population abundance, ***Dr Vihanga Gunadasa**, University of Sydney*	Terrestrial water storage in wildfire forecast, ***Dinuka Kankanige**, University of New South Wales*		A LASSO based approach to wage spillovers, ***Wei Ern Yeo**, Curtin University*	

	HALL A	HALL B	HALL C	ROOM E1	ROOM E2	ROOM E3	RIVERBANK 2	RIVERBANK 3	RIVERBANK 4	GILBERT SUITE
	Management Institute		*Management Institute*	*Consulting Australia*						
1720	Enhanced model parameter transferability to ungauged catchments through regionally constrained calibration, ***Prof Lu Zhang**, Wuhan University*	Estimating streamflow discharge using the 'wisdom of the crowd', **Dr Cuan Petheram**, CSIRO	Application of hydro-economic modelling for water resource management in the Kamala River Basin, Nepal, ***Dr Auro Almeida**, CSIRO*	Novel assessment of trajectories of change in Murray-Darling Basin riverine tree ecosystems, ***Dr Tanya Doody**, CSIRO*		Charting the future: A horizon scan for ecological forecasting research in Oceania, ***Dr Alistair Hobday**, CSIRO*	Fuel moisture lag effects in fire spread calculations, ***William Swedosh**, CSIRO*		Generating initial values using Artificial Neural Network, ***Prof Felix Chan**, Curtin University*	
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:** Dr Ranjodh Singh and Prof Felix Chan	**13C:** **Room:** Hall C **Chair:**	**13D:** H1, Use of artificial intelligence and machine learning in the design and modelling of disease, cancer, and safety data **Room:** Room E1 **Chair:** Dr Karan Singh and Prof Sejong Bae	**13E:** **Room:** Room E2 **Chair:**	**13F:** E2, Decarbonisation of industrial processes **Room:** Room E3 **Chair:** A/Prof John Pye	**13G:** D6, Applications of new technologies or methods in economics and finance **Room:** Riverbank 2 **Chair:** Dr Yongxian Tan and Joyce Khuu	**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 Dr Kelly Trinh	**13I:** **Room:** Riverbank 4 **Chair:**	**13J:** **Room:** Gilbert Suite **Chair:**
0850	Stream F keynote: Marine ecosystem modelling with generative artificial	Rules of thumb or models: Exploring diversity in growers' nitrogen fertiliser decisions, ***Dr***	No session	Safety management of hazardous chemicals in semiconductor wafer cleaning equipment focus of	No session	Optimisation of energy supply to industry hub with multi-criteria selection and techno-	Evaluating whether the A-VIX improves volatility forecasts in the Australian equity market, ***Marcus***	Efficient high-resolution climate simulations for Western Australia:	No session	No session

	HALL A	HALL B	HALL C	ROOM E1	ROOM E2	ROOM E3	RIVERBANK 2	RIVERBANK 3	RIVERBANK 4	GILBERT SUITE
	intelligence, ***Dr Scott Spillias**, CSIRO*	***Masood Azeem**, CSIRO*		subcontractor practices, ***Jinseon Lee, Prof Jong-bae Baek, Kangsan Park, Dr Mijeong Lee,** Korea National University of Transportation*		economic assessment, ***Dr Shuang Wang**, Australian National University*	***Robertson-Wall**, Curtin University*	Optimising domain design and resource allocation, ***Dr Mark Marinelli**, Department of Water and Environmental Regulation*		
0910		How climate change affects protest behaviour, ***Keegan Robertson**, Curtin University*		Discovery of MRI biomarker for early Alzheimer's disease integrating regional atrophy and ventricular expansion, ***Iroshan Aberathne**, Lincoln University*		Electrification of cement clinker production: A case study on variable renewable energy integration, ***Dr Chye Yi Leow**, University of Adelaide*	From disaster to debt: Exploring the link between natural catastrophes and syndicated loans, ***S M Woahid Murad**, Curtin University*	Turning cross-sectoral agricultural climate change modelling into actionable insights for industry and government, ***Dr David Allingham**, Department of Primary Industries and Regional Development*		
0930	Impute-net: A deep learning approach to missing observations in satellite imagery, ***Achmad Pahlevi**, Auckland University of Technology*	Do offer contracts, platform yield in deal structure matter? Analyses of U.S. securities-based crowdfunding markets, ***Jackie Chua**, Curtin University*		AI and ML transform clinical trials using real-world evidence to improve design, analysis, outcomes, ***Prof Sejong Bae**, Augusta University*		Integration of variable-rate industrial processes with variable renewable energy: A case study in H2-DRI, ***Dr Armando Fontalvo**, Australian National University*	An Economic Balance Sheet approach to quantify the risks affecting broadacre grain farmland value in Western Australia, ***Mark Hayes**, Curtin University*	Framework for deriving future hazard layers from future climate data for physical climate risk assessments, ***Dr Raymond Cohen**, CSIRO Data61*		
0950	Generative AI enhancing understanding of vast integrated environmental assessments, ***Benjamin Leighton**, CSIRO*	Factor models in housing research: Addressing methodological gaps for enhanced policy decision-making, ***Dr Ranjodh B Singh,** Curtin University*				Facilitating techno-economic evaluation of green hydrogen production through accessible optimization, ***Dr***	A top-down changepoint detection framework based on Two-State Markov-Switching Model, ***Ning Zhang**, Macquarie University*	Climate change rainfall data algorithm for continuous modelling of stormwater, ***Mircea Stancu**, Cleanstormwater*		

	HALL A	HALL B	HALL C	ROOM E1	ROOM E2	ROOM E3	RIVERBANK 2	RIVERBANK 3	RIVERBANK 4	GILBERT SUITE
						Robert May, *Energy Exemplar*				
1010-1040	Morning tea								Hall G	
1040-1130	Plenary session 5: President's invited mid-career plenary								Hall C	
	Plenary speaker: ***Conrad Wasko,*** *University of Sydney* Advancing Australia's flood guidance: Lessons learned and future directions								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 **Chair:** Jean-Michel Perraud	**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 **Chair:** Dr Rajitha Athukorala	**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:** Dr Jonathan Richetti	**14F: Room:** Room E3 **Chair:**	**14G:** J5, Fit for purpose modelling for water resources management **Room:** Riverbank 2 **Chair:** A/Prof Avril Horne and Dr Wendy Merritt	**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:**
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	Spatially weighted fine-tuning of LSTMs for improved streamflow	Enhancing NWP post-processing with IMPROVER, ***Dr Benjamin Owen,***	Comparing machine learning and process-based models for predicting wheat		Harnessing the strengths of machine learning and geostatistics to improve	Invited speaker: Regional climate model projections of Australia's future	Meteorological drought termination: Processes and trends, ***Dr Chiara***	

	HALL A	HALL B	HALL C	ROOM E1	ROOM E2	ROOM E3	RIVERBANK 2	RIVERBANK 3	RIVERBANK 4	GILBERT SUITE
		Murray-Darling Basin, ***Dr Zaved Khan***, *CSIRO*	predictions in ungauged catchments, ***Dr Ashkan Shokri***, *CSIRO*	*Bureau of Meteorology*	flowering timing, ***Harris Ledvinka***, *University of Sydney*		streamflow prediction in ungauged basins, ***Vaughn Grey***, *Melbourne Water*	weather systems, ***Dr Acacia Pepler***, *Bureau of Meteorology*	***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 **Chair:** Arpit Kapoor	**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**: Dr Jonathan Richetti	**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:** A/Prof Avril Horne and Dr Wendy Merritt	**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
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*	No presentation	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***	Importance of scientific rigour in validating machine learning models: The Google global flood model example, ***Prof Holger Maier***,	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***,	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*	

	HALL A	HALL B	HALL C	ROOM E1	ROOM E2	ROOM E3	RIVERBANK 2	RIVERBANK 3	RIVERBANK 4	GILBERT SUITE
		***Chi Nguyen**, CSIRO*	*University of Adelaide*		*Bowling Green State 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 Earth-observation flood maps to assist in the assessment of hydrological models, ***Catherine Ticehurst**, CSIRO*	When more isn't always better: Lessons from multi-variable calibration in hydrology, ***Dr Rajitha Athukorala**, University of Sydney*	Warnings based on risk matrices: A coherent framework with consistent evaluation, ***Dr Robert Taggart**, Bureau of Meteorology*	Characterizing yield through wheat's perception of time: Phenomics, enviromics and genomics-based predictions, ***Dr Lukas Roth**, ETH Zurich & University of Queensland*	Qualitative network modelling to assess climate-sensitive vibrio and antimicrobial resistance in Tasmanian oyster supply chain, ***Dr Roshni Subramaniam**, Parks Australia/CSIRO Environment*	Using top-down and bottom-up approaches to assess environmental outcomes under climate change, a case study, ***Leah Traill**, HARC*	Projections of global groundwater temperatures due to climate change, ***Dr Dylan Irvine**, Charles Darwin University*	Invited speaker Impactful 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	