ACCM 2023
6 - 8th December

The Sixth Australasian Conference on Computational Mechanics

Swinburne University of Technology
Melbourne, Australia
6th-8th December 2023

Conference Website
https://www.accm2023.com

Welcome from the Conference Chairs

On behalf of the local organising committee, we warmly welcome you to the 6th Australasian Conference on Computational Mechanics (ACCM 2023) to be held at Hawthorn campus of Swinburne University of Technology, Melbourne, Australia.

The ACCM Conference has been successfully held biennially since 2013 in Sydney, 2015 in Brisbane, 2017 in Geelong, 2019 in Hobart, and 2021 in Sydney, respectively. Supported by the Australian Association for Computational Mechanics (AACM), the ACCM Conference has become a flagship event for the Australiasian Computational Mechanics Community.

ACCM 2023 brings together more than 120 researchers at the forefront in many fields of Computational Mechanics to discuss the recent advances in computational methods, and the applications of numerical modelling techniques in various areas across different disciplines. In the coming two days, in addition to the plenary sessions, over 100 papers will be presented in 21 parallel sessions. 55 HDR students and 15 ECRs will compete for the Best Paper Awards.

We would like to thank everyone who have supported us in making this conference happen. In particularly we thank all authors for submitting their work to ACCM 2023 and all reviewers for reviewing the extended abstracts. We wholeheartedly thank all the members of Advisory Committee and Scientific Committee for their great support. Special thanks to the five distinguished plenary lecture speakers for sharing their exciting research findings with us.

We would like to express our sincere gratitude to all our sponsors who have provided generous financial support. Without these, it is impossible to run this conference while keeping the low registration fees benefiting all especially HDRs. We thank Prof. Grant Steven to donate Steven Prize for the best ECR and HDR papers.

Finally, we sincerely hope you have a wonderful and richly rewarding conference experience at ACCM 2023.

Conference Chair: Prof. Xiaodong Huang

Co-chairs: Prof. Dong (Tracy) Ruan and A/Prof. Shiwei Zhou

ACCM 2023 Conference Committees

Local Organising Committee
Chair:
Huang, Xiaodong, Swinburne University of Technology, Australia
Co-chairs:
Ruan, Dong (Tracy), Swinburne University of Technology, Australia
Zhou, Shiwei, RMIT University, Australia
Secretaries:
Li, Weibai, Swinburne University of Technology, Australia,
Tse, Kwong Ming, Swinburne University of Technology, Australia,
Xu, Shanqing, Swinburne University of Technology, Australia,
Xia, Fukun, Swinburne University of Technology, Australia

Advisory Committee

Name	Affiliation
Chan, Andrew	University of Tasmania, Australia
Gu, Yuantong	Queensland University of Technology, Australia
Khalili, Nasser	University of New South Wales, Australia
Li, Qing	The University of Sydney, Australia
Rolfe, Bernard	Deakin University, Australia
Russell, Adrian	University of New South Wales, Australia
Sheng, Daichao	University of Techonology Sydney, Australia
Song, Chongmin	University of New South Wales, Australia
Steven, Grant	The University of Sydney, Australia
Xie, Yi-Min (Mike)	RMIT University, Australia
Zhang, Yixia (Sarah)	Western Sydney University, Australia

Scientific Committee

Name	Affiliation
Bui, Ha	Monash University, Australia
Chen, Wensu	Curtin University, Australia
Das, Raj	RMIT University, Australia
Duan, Wenhui	Monash University, Australia
Fang, Jianguang	University of Technology Sydney, Australia
Gao, Wei	University of New South Wales, Australia
Ghabraie, Kazem	Deakin University, Australia
Guan, Hong	Griffith University, Australia
Heidarpour, Amin	Monash University, Australia

Name	Affiliation
Jiang, Zhengyi	University of Wollongong, Australia
Lee, Chiking	University of New South Wales, Australia
Leo, Chin	Western Sydney University, Australia
Leontini, Justin	Swinburne University of Technology, Australia
Li, Jianchun	University of Technology Sydney, Australia
Li, Weihua	University of Wollongong, Australia
Li, Lily	Swinburne University of Technology, Australia
Liang, Qingquan	Victoria University, Australia
Lin, Wenxian	James Cook University, Australia
Lin, Xiaoshan	RMIT University, Australia
Loughran, Jeffrey	James Cook University, Australia
Lu, Guoxing	Swinburne University of Technology, Australia
Luo, Zhen	University of Technology Sydney, Australia
Ma, Jun	University of South Australia, Australia
Ngo, Tuan	University of Melbourne, Australia
Nguyen, Giang D.	The University of Adelaide, Australia
Petrolito, Joe	La Trobe University, Australia
Pivonka, Peter	Queensland University of Technology, Australia
Prusty, Ganga	University of New South Wales, Australia
Ranzi, Gianluca	University of Sydney, Australia
Saha, Suvash	University of Technology Sydney, Australia
Sanjayan, Jay	Swinburne University of Technology, Australia
Sauret, Emilie	Queensland University of Technology, Australia
Sen, Itsu	Macquarie University, Australia
Shen, Luming	University of Sydney, Australia
Tang, Yunlong	Monash University, Australia
Thoeni, Klaus	The University of Newcastle, Australia
Tong, Liyong	University of Sydney, Australia
Veidt, Martin	University of Queensland, Australia, Australia
Wang, Zhongzheng	Queensland University of Technology, Australia
Wu, Chengqing	University of Technology Sydney, Australia
Xiang, Yang	Western Sydney University, Australia
Yan, Wenyi	Monash University, Australia
Yang, Jie	RMIT University, Australia
Yang, Richard	Western Sydney University, Australia
Yu, Xiaobo	Defence Science and Technology, Australia
Zhang, Leo	Western Sydney University, Australia
Zhang, Lihai	University of Melbourne, Australia
Zhang, Yingyan	RMIT University, Australia

ACCM 2023 Conference Venue

All ACCM2023 sessions will be held with in-person attendance at the Hawthorn campus of Swinburne University of Technology. The venue is in the Australian Graduate School of Entrepreneurship (AGSE) building, located at 50 William Street, Hawthorn, VIC 3122, Australia.


AGSE Building

The room number for different sessions/activities are shown in the table below and also in the detailed conference program.

| Activity and Room	Room No
Registration, Teas, and Lunches	Foyer, Ground Floor
Main Sessions (Opening, Plenary Sessions, & Closing Ceremony)	AGSE 202
Committee Meeting Room	AGSE 116
Secretary Meeting Room	AGSE 115
Parallel Sessions	AGSE 108 - 110
Parallel Sessions	AGSE 202
Conference Banquet	Zeiman Room, Hawthorn Arts Centre 360 Burwood Road, Hawthorn VIC3122

ACCM2023 Conference Venue Floor Plan

AGSE Building, 50 William Street, Hawthorn, VIC 3122, Australia

Ground Floor:
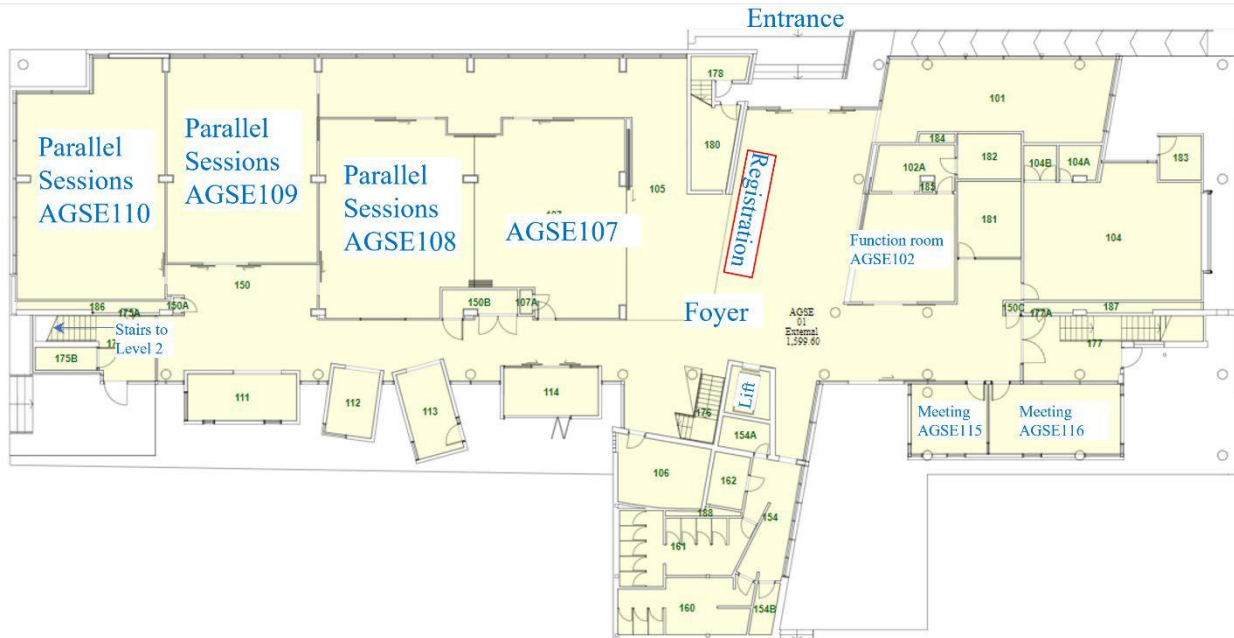
Level 2:
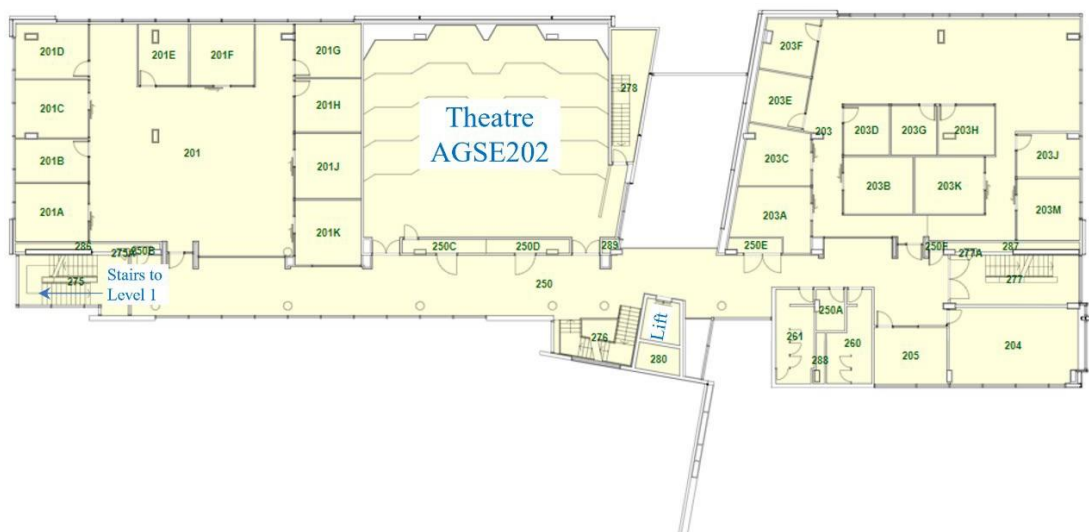
Instructions to Speakers and Session Chairs/Co-chairs

Instructions to Speakers

All presenters are required to upload your slides onto the computer in the room before your session begins, preferably during the tea or lunch break. A student assistant will be available to provide the assistance.

Time slot for plenary lecture: 30 minutes including 5 minutes Q & A. Time

slot for session keynote: 20 minutes including 5 minutes Q & A.

Time slot for session invited talks and general papers: 15 minutes including 3 minutes Q & A.

Please finish your presentation within the allocated time to avoid any delays.

Instructions to Session Chairs/Co-Chairs

Please arrive at the session before its scheduled start time and ensure all speakers for the session present.

The conference has a tight schedule, so please ensure that speaker concludes the talk within the allocated time slot. Please adhere to the program schedule to ensure the smooth transitions between sessions.

Please share the duty between session Chair and Co-Chair.

Useful Information

Registration

Registration will be in the foyer of the conference venue from 2 to 5pm on 6th December 2023. The registration desk will be open during conference, starting from 8:30am on 7th and 8th December. Arrival tea/coffee will be served from 8:30am during the conference.

Transport

Public Transport – Trains
The conference venue is around 5 minutes' walk from Glenferrie Station. You are encouraged to take public transportation to the conference venue. Please visit the Public Transport Victoria (PTV) website https://www.ptv.vic.gov.au/ to help plan your journey and to ensure that your journey will not be impacted by scheduled maintenance.

Parking
Public car parks are available near the conference venue, including the Swinburne $10 all day parking on the Park Street in a walking distance.

Conference Dinner Banquet

The conference dinner banquet will be held on 7th Dec. 2023 in the Hawthorn Arts Centre, located at 360 Burwood Road, Hawthorn VIC3122, Australia. It is about 6 minutes' walk from the conference venue. Pre-dinner drinks start from 6:30 pm, dinner will start from 7:30 pm and finish by 10:00 pm.

Tickets are included in the Full Delegate registration. Special invited guests can obtain their tickets from the ACCM 2023 registration table in the foyer of the AGSE building from 2 to 5 pm on 6th Dec or 8:30 – 11:30 am on 7th Dec. If you arrive late, please ask a volunteer for assistance.

Wi-Fi Access

The wireless network for the ACCM 2023 will be available within the AGSE building.

Network: Events@Swin
Password: swin1123

If you are visiting Swinburne University of Technology from a participating eduroam institution, you can also connect to the **eduroam** wireless network using your login credentials (username and password) and security settings from your home institution.

You must enter your full username including domain/realm (e.g., jsmith@inst.edu.au). This may differ to when you access eduroam from your home institution, where you may not be required to enter the domain/realm (@inst.edu.au).

Safety Procedures

The conference venue is Swinburne University's AGSE building at 50 William St, Hawthorn, VIC 3122. The health, safety and wellbeing of the conference participants is the top priority of the ACCM 2023 Local Organising Committee.

Smoking

To further increase the commitment to providing a healthy, clean air environment for staff, students and visitors, all Swinburne University of Technology premises are completely smoke-free. Therefore, students and visitors who smoke on campus may be issued an infringement notice under the Smoke-Free Environment Act.

Emergency/First Aid

The Safer Community team is here to help if you have experienced or witnessed inappropriate, concerning or threatening behaviour. Some of these behaviours include sexual assault and sexual harassment, bullying and cyber harm, discrimination and harassment, stalking, and family violence. You can report an incident by email to safercommunity@swinburne.edu.au.

Swinburne Security is another key service to keep you safe. Our Security professionals maintain a presence on campus 24/7 for the security of all Swinburne students, staff and visitors. Security provides a night bus service and a security escort service to walk you to your car and public transport. Click on the Security tab below to find tips on staying safe on and off campus and information on what to do in an emergency.

If you or someone you know is hurt or in immediate danger:
- In an emergency, call 000 for ambulance, police and fire.
- call Swinburne Security on +61 3 9214 3333 for 24-hour assistance including non-life-threatening incidences.

Lost property

If you have misplaced personal items, contact Swinburne security on 9214 3333 or visit the campus security office.

Plenary Lectures

Plenary Lecture 1

Recent research at RMIT Centre for Innovative Structures and Materials Plenary speaker: Prof. Yi-Min (Mike) Xie, RMIT University

Abstract: This talk will present a series of recent projects in the Centre for Innovative Structures and Materials at RMIT University. Much of the research is underpinned by computational mechanics. One particular interest of the research team is to design efficient and elegant structures for architectural applications. This has led to the recent development of a generalised topology optimisation framework by Professor Xie's team for generating multiple solutions that are structurally efficient but geometrically different. The presentation will also show various practical applications of the computational techniques.

Prof. Yimin (Mike) Xie is an Australian Laureate Fellow and a Distinguished Professor of RMIT University where he directs the Centre for Innovative Structures and Materials. He received his bachelor's degree in engineering mechanics from Shanghai Jiao Tong University in 1984 and earned his PhD in computational mechanics from Swansea University in the United Kingdom in 1991. He played a key role in developing the widely used evolutionary structural optimisation (ESO) method and the bi-directional evolutionary structural optimisation (BESO) method.

Professor Xie was elected a Fellow of the Australian Academy of Technology and Engineering in 2011. His research impact in the field of structural optimisation was recognised by the 2017 Clunies Ross Innovation Award and the 2017 AGM Michell Medal. In 2020, he was awarded the Victoria Prize for Science and Innovation. In 2022, he was named the Sir John Holland Civil Engineer of the Year. Professor Xie has published two research monographs and 500 SCI journal articles, which have attracted over 31,000 citations in Google Scholar. His team received the 2020 Digital FUTURES World Coding Award for developing the highly influential topology optimisation software, Ameba.

Plenary Lecture 2

Towards Fully Automated Computational Engineering Analysis in the Digital Age

Plenary speaker: Prof. Chongmin Song, University of New South Wales

Abstract: The growing availability of affordable computational power has paved the way for the widespread adoption of digital technologies, for example X-ray computed tomography, terrestrial laser scanning, close-range photogrammetry, and 3D printing. However, the unconventional geometric models produced by these technologies pose challenges to the existing computer simulation techniques based on the popular finite element method.

This talk presents our recent research towards developing a computational framework that fully automates the engineering analysis process directly from commonly used formats of digital geometric models. Our approach is underpinned by the scaled boundary finite element method, which enables us to incorporate an octree algorithm for automatic mesh generation across various formats such as digital images, STL models, point clouds and traditional CAD models. Furthermore, the solution procedure is purposely designed for the scaled boundary finite element method to leverage modern computer hardware architectures for high-performance computing. Numerical examples and demonstrations are shown to illustrate some of the salient features and potentials of the proposed framework for the analysis of complex models.

Prof. Chongmin Song is a Professor of Civil Engineering and Director of the Centre for Infrastructure Safety and Engineering, University of New South Wales, Sydney, Australia. He obtained the degree of Bachelor of Engineering from Tsinghua University, China and the degree of Doctor of Engineering from the University of Tokyo, Japan. He is one of the two original creators of the scaled boundary finite element method. His current research interests are on the development of advanced numerical methods and their engineering applications.

Plenary Lecture 3

The Future of Smooth Topological Design when Using Non-Penalization SEMDOT

Plenary speaker: Prof. Bernard Rolfe, Deakin University

Abstract: This plenary talk will take the audience through the non-penalization Smooth-Edged Material Distribution for Optimising Topology (SEMDOT) algorithm, which is an extension of the original SEMDOT method. Non-penalization SEMDOT is an elemental volume fraction-based topology optimization method, except that it adopts discrete variable sensitivities for solid, void, and assumed boundary elements instead of the continuous variable sensitivities used in the original penalization-based SEMDOT. In the non-penalized SEMDOT algorithm, the material penalization scheme is eliminated. The talk will show that the algorithm is efficient and effective when used on topology optimization problems. We will show three case studies involving: compliance minimization, compliant mechanism design, and heat conduction problems.

The proposed non-penalized SEMDOT algorithm allows designers to directly obtain the smooth surfaces without needing post-processing methods. Moreover, there is much potential in non-penalized SEMDOT because non-penalization enables direct comparison of multiple materials in the topology system using "physical properties". This is because the properties are no longer distorted by penalization. The final segment of the talk discusses the bright future and potential applications of non-penalization SEMDOT.

Prof. Bernard Rolfe is the Associate Dean, Research for the Faculty of Science, Engineering and Built Environment (SEBE). SEBE has over 400 academic staff, 600 PhD students, and more than $24M per annum in external research income. Bernard aims to improve research quality and capacity, while also overseeing research policy and procedures. He aspires to make SEBE a great place to do research. Bernard is an innovator in materials and manufacturing and an influencer in mobility engineering. He is a Director on the Board of the Society of Automotive Engineers – Australasia.

Bernard's substantive position is as a Professor of Advanced Manufacturing in the School of Engineering at Deakin University. His qualifications include a combined Economics and Engineering degree with honours in 1995 from the Australian National University (ANU). After completing his bachelor's degrees, he initially embarked on a career in business and technology consulting with Andersen Consulting before returning to the ANU to complete a PhD in Advanced Manufacturing (2002). He joined Deakin as post-doctoral fellow in 2002 and then became a lecturer in 2005. Bernard's research group has spent the past two decades working on the use of advanced metals in sheet forming primarily for the automotive sector.

Plenary Lecture 4

Numerical Modelling of High Performance Fibre Reinforced Cementitious
Composites: from Materials to Structures

Plenary speaker: Prof. Yixia (Sarah) Zhang, Western Sydney University

Abstract: High performance fibre reinforced cementitious composites (HPFRCC) exhibit superior mechanical properties such as high strength, excellent strain-hardening behaviour, improved crack-resistance and energy absorption capability. The employment of short fibre is the main contributor to the high performance in mechanical properties, which can be tailored to suit for the purpose of the structural application via effective mix design. The use of HPFRCC, including in strategic important infrastructures, could enhance the structural integrity, durability and infrastructure resilience especially when subjected to extreme loadings such as impact and blast. This presentation will introduce the numerical modelling framework developed in Prof. Zhang's team for multiscale numerical modelling of the mechanical properties of HPFRCC and for simulation of the structural performance of HPFRCC panels under blast loading. Experimental studies will also be introduced briefly which have been used to validate the numerical modelling methods and framework.

Prof. Yixia (Sarah) Zhang is the Deputy Chair of University Academic Senate, Deputy Director of University Urban Transformations Research Centre, and Discipline Lead of Civil and Environmental Engineering at Western Sydney University. Before moving to WSU in 2019, she worked in the University of New South Wales for 15 years staying 12 years in UNSW Canberra. She received her PhD on Structural Engineering with a focus on Computational Mechanics from the University of Hong Kong in 2001.

Prof. Zhang is currently the College of Expert member of Australian Research Council (ARC) and Executive Committee member of the Australian Association for Computational Mechanics. Her research focuses on Computational Mechanics, Composite Materials and Structures and advanced manufacturing technology in Civil Engineering and Mechanical and Aeronautical Engineering. In Civil Engineering, she works on green and high-performance cementitious composites and structures. In mechanical/aeronautical engineering, she focuses on composite materials and structures aiming to enhance the structural integrity, performance and safety. In addition to using the experimental techniques, she also simulates the mechanical behaviour of materials and structural behaviour including under extreme loadings such as impact/blast/fatigue/fire loadings. She has published over 365 peer-reviewed scholarly research papers. She was awarded research grant of over $15 million from various funding schemes including ARC, Defence, industries and government. She was the recipient of the 2022 inaugural Department of Defence, "Brilliant People, and Collaborative Culture Leadership Award". She was awarded the 2021 WSU Researcher of the Year through Partnership, 2022 WSU Researcher of the Year-Highly Commended, and the School Researcher of the Year in 2021 and 2022.

Plenary Lecture 5

Lightweight, Stiff, and Strong Shell Lattices: Design and Metal Additive Manufacturing

Plenary speaker: Prof. Michael Yu Wang, Monash University

Abstract: Shell lattices are a class of artificial periodic structures composed of smooth, non-intersecting and periodic thin shells. Shell lattices generally outperform truss lattices and stochastic foams in stiffness and strength at equal relative densities. The open-cell property promotes the fabrication of shell lattices through easier removal of residual resins or metal powders in additive manufacturing (AM) processes and facilitates their applications in areas where heat and mass transfer are in huge demand. This presentation focuses on the design, simulation, metal AM and experimental tests of lightweight, stiff, and strong shell lattices. First, we present six types of elastically isotropic variable thickness triply periodic minimal surface (TPMS) shell lattices and two families of uniform thickness shape-optimized shell lattices with isotropic elasticity, in which the highest achievable Young's and bulk moduli reach nearly 60% and 97% of the Hashin-Shtrikman upper bounds at 10% relative density. Through numerical simulations and experimental tests, TPMS shell lattices are shown to outperform truss lattices in stiffness, plateau stress, and energy absorption capacity significantly, thereby making them ideal candidates for lightweight structural applications. Next, the metal AM fabrication defects, including constitutive material anisotropy and geometric defects (thickness variation, holes, surface waviness and roughness), are precisely calibrated and then incorporated into numerical simulations to predict the mechanical properties of shell lattices more accurately. The as-calibrated material anisotropy is further incorporated into the variable thickness design of elastically isotropic shell lattices to achieve a better match between the numerical and experimental results. In essence, we deploy topology optimization tools for the design of graded shell lattice structures with optimized meso-/macro- structures for lightweight large-scale applications of shell lattices.

Prof. Michael Yu Wang is the Professor and Head of Department of Mechanical and Aerospace Engineering at Monash University. He has numerous professional honors–National Science Foundation Research Initiation Award; Ralph R. Teetor Educational Award from Society of Automotive Engineers; LaRoux K. Gillespie Outstanding Young Manufacturing Engineer Award from Society of Manufacturing Engineers; Boeing–A.D. Welliver Faculty Summer Fellow, Boeing; Chang Jiang (Cheung Kong) Scholars Award from the Ministry of Education of China and Li Ka Shing Foundation (Hong Kong); Research Excellence Award of CUHK.

He was the Editor-in-Chief of IEEE Trans. on Automation Science and Engineering. His main research interests are in robotic manipulation, learning and autonomous systems, manufacturing automation, and additive manufacturing. Before joining Monash University in 2022, he was the Founding Director of the Cheng Kar-Shun Robotics Institute, the Director of HKUST-BRIGHT DREAM ROBOTICS Joint Research Institute, and a Chair Professor of Mechanical and Aerospace Engineering as well as Electronic and Computer Engineering of Hong Kong University of Science and Technology (HKUST). Previously, he also served on the engineering faculty at University of Maryland, Chinese University of Hong Kong, and National University of Singapore. A recipient of ASME Design Automation Award, Professor Wang is a fellow of ASME and IEEE.

ACCM 2023 Conference Program Overview

DAY 1 – 6th Dec. 2023	
14:00-17:00	**Registration and Tea (Foyer, AGSE building, 50 William St, Hawthorn, VIC 3122)**

DAY 2 – 7th Dec. 2023		
Morning		
9:00-9:40	**Conference Opening and Welcome (AGSE202)** 9:00-9:15 Opening from Conference Chair 9:15-9:30 Welcome from Prof. Karen Hapgood, Deputy Vice-Chancellor, Research, Swinburne University of Technology 9:30-9:40 Address from Prof. Nassar Khalili, President of Australian Computational Mechanics Association	
9:40-10:10	**Plenary Lecture 1_Prof. Yi-Min (Mike) Xie**	AGSE202
10:10-10:40	**Plenary Lecture 2_Prof. Chongmin Song**	AGSE202
10:40-11:10	**Morning Tea**	Foyer, Ground floor
11:10-12:40	**Parallel Sessions**	AGSE108 - 110, AGSE202
12:40-13:40	**Lunch**	Foyer, Ground floor
Afternoon		
13:40-14:10	**Plenary Lecture 3_Prof. Bernard Rolfe**	AGSE202
14:20-15:50	**Parallel Sessions**	AGSE108 - 110, AGSE202
15:50-16:20	**Afternoon Tea**	Foyer, Ground floor
16:20-17:50	**Parallel Sessions**	AGSE108 - 110, AGSE202
18:30-21:30	**Pre-dinner Drink and Conference Banquet**	Hawthorn Arts Centre

DAY 3 – 8th Dec 2023		
Morning		
9:00-9:30	**Plenary Lecture 4_Prof. Yixia (Sarah) Zhang**	AGSE202
9:40-11:00	**Parallel Sessions**	AGSE108 - 110
11:00-11:30	**Morning Tea**	Foyer, Ground floor
11:30-12:50	**Parallel Sessions**	AGSE108 - 110
12:50-13:50	**Lunch**	Foyer, Ground floor
Afternoon		
13:50-14:20	**Plenary Lecture 5_Prof. Michael Yu Wang**	AGSE202
14:30-15:50	**Parallel Sessions**	AGSE108 - 110
15:50-16:20	**Afternoon Tea**	Foyer, Ground floor
16:20-16:40	**Invited Talk from Hexagon_ Terrence**	AGSE202
16:40-17:30	**Closing Ceremony (AGSE202)** 16:40-17:00 HDR and ECR Awards 17:00-17:20 Speech from the Chair of ACCM 2025 17:20-17:30 Closing	

Plenary Lecture Details

Time	Plenary Lecture 1 (7th December 2023)	
	Room No.: AGSE202 **Session chair: Qing Li**	
9:40 — 10:10	Title: Recent research at RMIT Centre for Innovative Structures and Materials	Yi-Min (Mike) Xie (*RMIT University*)
	Plenary Lecture 2 (7th December 2023)	
	Room No.: AGSE202 **Session chair: Yuantong Gu**	
10:10 — 10:40	Title: Towards Fully Automated Computational Engineering Analysis in the Digital Age	Chongmin Song (*University of New South Wales*)
	Plenary Lecture 3 (7th December 2023)	
	Room No.: AGSE202 **Session chair: Yixia (Sarah) Zhang**	
13:40 — 14:10	Title: The future of smooth topological design when using non-penalization SEMDOT	Bernard Rolfe (*Deakin University*)
	Plenary Lecture 4 (8th December 2023)	
	Room No.: AGSE202 **Session chair: Bernard Rolfe**	
9:00 — 9:30	Title: Numerical Modelling of High Performance Fibre Reinforced Cementitious Composites: from Materials to Structures	Yixia (Sarah) Zhang (*Western Sydney University*)
	Plenary Lecture 5 (8th December 2023)	
	Room No.: AGSE202 **Session chair: Wei Gao**	
13:50 — 14:20	Title: Lightweight, stiff, and strong shell lattices: design and metal additive manufacturing	Michael Yu Wang (*Monash University*)

Parallel Session Details

Day 2: Thursday – 7th December 2023 (Morning)

Time		Parallel Session I – 1 – 1	
		Theme: Modelling and Simulation of Structures **Session chairs: Wei Gao, Liang Xia** **Room No.: AGSE108**	
		Paper ID – Paper Title	*Presenter (Affiliation)*
11:10 – 12:40	11:10 – 11:30	***Keynote*** Paper ID: 35 - Virtual modelling based dynamic fracture analysis of elasto-plastic materials	Wei Gao (*University of New South Wales*)
	11:30 – 11:45	Paper ID: 5 - Influence of material thickness on micro cup forming: an analysis using finite element simulations of micro deep drawing of austenitic stainless steel 301	Di Pan (*University of Wollongong*)
	11:45 – 12:00	Paper ID: 10 - Development of a model for estimating bearing non-linear remaining lifetime	Wenlang Xie (*University of Wollongong*)
	12:00 – 12:15	Paper ID: 37 - A physics-informed neural network framework for computational structural dynamics	Shusheng Xiao (*Queensland University of Technology*)
	12:15 – 12:30		

Time	Parallel Session I – 1 – 2	
	Theme: Computational Methods **Session chairs: Jianguang Fang, Dong Ruan Room: AGSE109**	
	Paper ID – Paper Title	*Presenter* (*Affiliation*)
11:10 – 12:40	11:10 – 11:30	***Keynote*** Paper ID: 100 - Phase field fracture model for crushing simulation of TPMS structures	Jianguang Fang (*University of New South Wales*)
	11:30 – 11:45	Paper ID: 26 - Physics-informed neural network-based topology optimization framework	Hyogu Jeong (*Queensland University of Technology*)
	11:45 – 12:00	Paper ID: 43 - A numerical study of a safety roller barrier	Fukun Xia (*Swinburne University of Technology*)
	12:00 – 12:15	Paper ID: 74 - Extended octree pattern-based mesh generation and massively parallel computing with scaled boundary finite element method	Yifan Zhan (*University of New South Wales*)
	12:15 – 12:30	Paper ID: 109 - Topology optimization of geotechnical structures considering yield constraints	Aldemar Siqueira (*Swinburne University of Technology*)

Time	Parallel Session I – 1 – 3	
	Theme: Computational Methods **Session chairs: Wenyi Yan, Raj Das** **Room: AGSE110**	
	Paper ID – Paper Title	*Presenter* (*Affiliation*)
11:10 – 12:40	11:10 – 11:30	***Keynote*** Paper ID: 11 - A characteristic time-based heat input model and a thermal simulation strategy for selective laser melting	Wenyi Yan (*Monash University*)
	11:30 – 11:45	Paper ID: 79 - Development of a coupled FEA-CFD-based digital twin for shell-and-tube heat exchanger	Zhi Zhu (*Western Sydney University*)
	11:45 – 12:00	Paper ID: 63 - Physics-informed neural networks for multi-physics coupling microfluidic problems	Runze Sun (*Queensland University of Technology*)
	12:00 – 12:15	Paper ID: 23 - Energy absorption analysis of thin-walled origami tubes based on cutting and folding design	Junfeng He (*Guangzhou University*)
	12:15 – 12:30		

Time	Parallel Session I – 1 – 4	
	Theme: Computational Geomechanics and Fluids **Session chairs: Adrian Russell, Yinghui Tian** **Room: AGSE202**	
	Paper ID – Paper Title	*Presenter (Affiliation)*
11:10 – 12:40	11:10 – 11:30	***Keynote*** Paper ID: 44 - Cavity expansions in partially drained soils	Adrian Russell (*University of New South Wales*)
	11:30 – 11:45	Paper ID: 52 - Rainfall-induced shallow landslide predictions using GeoXPM and an advanced unsaturated constitutive model	Dinh Tai Nguyen (*Monash University*)
	11:45 – 12:00	Paper ID: 54 - GeoXPM simulation of seismically induced retrogressive landslide	Trieu N. Hoang (*Monash University*)
	12:00 – 12:15	Paper ID: 70 - Investigation of velocity profile of MR fluid in an annular duct by finite element analysis	Quoc Hung Nguyen (*Vietnamese-German University*)
	12:15 – 12:30	Paper ID: 101 - Non-classical nucleation of calcium silicate hydrate: a Bottom-Up approach to enhancing cement's mechanical properties	Xuyan Shen (*Monash University*)

Day 2: Thursday – 7th December 2023 (Afternoon) – ECR Sessions

Time	Parallel Session I – 2 – 1	
	Theme: Computational Methods **Session chairs: Adrian Russell, Yinghui Tian** **Room: AGSE108**	
	Paper ID – Paper Title	*Presenter (Affiliation)*
14:20 – 15:50	14:20 – 14:40	***Keynote*** Paper ID: 105 - Large deformation modelling: an efficient approach in offshore geotechnics	Yinghui Tian (*University of Melbourne*)
	14:40 – 14:55	Paper ID: 62 - Modelling of seismic actions of a biaxial shaking table when investigating the performance of geotechnical models	Rohit Tiwari (*University of New South Wales*)
	14:55 – 15:10	Paper ID: 53 - A Meshfree Method Implementation of a Bounding Surface Elasto-Plastic Model in Unsaturated Soils	Arman Khoshghalb (*University of New South Wales*)
	15:10 – 15:25	Paper ID: 93 - Applying Generative AI in LPBF Porosity Microstructure Prediction	Zijue Chen (*Monash University*)
	15:25 – 15:40	Paper ID: 103 - A Soft-Tissue Driven Jawbone Remodelling Algorithm Based on 5-years Clinical Follow-ups	Jingxiao Zhong (*The University of Sydney*)

Time	Parallel Session I – 2 – 2	
	Theme: Modelling and Simulation of Structures **Session chairs: Raj Das, Wenyi Yan** **Room: AGSE109**	
	Paper ID – Paper Title	*Presenter* (*Affiliation*)
14:20 – 15:50	14:20 – 14:40	***Keynote*** Paper ID: 107 - Influence of Strain Rate of Silicone Biosimulant on Cranial Ballistic Impact – A Numerical Simulation Study	Raj Das (*RMIT University*)
	14:40 – 14:55	Paper ID: 21 - Mechanical Analysis of Functionally Graded Graphene Origami-Enabled Auxetic Metamaterials	Shaoyu Zhao (*RMIT University*)
	14:55 – 15:10	Paper ID: 80 - Non-destructive evaluation of structures: advances in structural health monitoring using digital image correlation	Dershen Yang (*Monash University*)
	15:10 – 15:25	Paper ID: 90 - Fibre-Matrix Interaction in Soft-Biological Tissues Using Fourth-Order Structural Tensors	Daniel O'Shea (*University of New South Wales*)
	15:25 – 15:40	Paper ID: 6 - A new magnetorheological quasi-zero stiffness vibration isolation system highly stable characteristics	Lei Deng (*University of Wollongong*)

Time	Parallel Session I – 2 – 3	
	Theme: Modelling and Simulation of Structures	
	Session chairs: Yingyan Zhang, Jianguang Fang	
	Room: AGSE110	
	Paper ID – Paper Title	*Presenter* (*Affiliation*)
14:20 – 15:50	14:20 – 14:40	***Keynote*** Paper ID: 106 - Numerical analysis of novel composite sandwich panels with 3D printed cellular core under high velocity impact	Ramachandran Velmurugan (*Indian Institute of Technology Madras*)
	14:40 – 14:55	Paper ID: 30 - Transient optimisation for subject-specific tissue scaffolds using machine learning techniques	Chi Wu (*The University of Sydney*)
	14:55 – 15:10	Paper ID: 24 - Optimal implementation of numerical models and the efficiency of XLA	Xuzhen He (*University of Technology Sydney*)
	15:10 – 15:25	Paper ID: 97 - Design of piezo-electric energy harvesters for bridge infrastructure	Elena Atroshchenko (*University of New South Wales*)
	15:25 – 15:40	Paper ID: 111 - Scanning Pattern Influence on Mechanical Properties of 3D Printed Steel – Application of Process-Structure-Property Approach	Aleksandr Zinoviev (*University of New South Wales*)

Time	Parallel Session I – 2 – 4	
	Theme: Multidisciplinary Design and Optimisation **Session chairs: Liang Xia, Wei Gao** **Room: AGSE202**	
	Paper ID – Paper Title	*Presenter (Affiliation)*
14:20 – 15:50	14:20 – 14:40	***Keynote*** Paper ID: 12 - A multi-material topology optimization approach to hybrid material structures with gradient lattices	Liang Xia (*Huazhong University of Science and Technology*)
	14:40 – 14:55	Paper ID: 22 - Local volume constraints application in topology optimization using the Method of Moving Asymptotes	Zicheng Zhuang (*The Hong Kong Polytechnic University*)
	14:55 – 15:10	Paper ID: 46 - Generating diverse and competitive designs through structural complexity control in topology optimization	Yunzhen He (*RMIT University*)
	15:10 – 15:25	Paper ID: 77 - Research on large-scale 3D dynamic topology optimization method based on reduction model	Xiao Manyu (*Northwestern Polytechnical University*)
	15:25 – 15:40	Paper ID: 78 - Bi-directional Evolutionary Topology Optimization Considering Cumulative Fatigue Damage	Khodamorad Nabaki (*Aurecon*)

Day 2: Thursday – 7ᵗʰ December 2023 (Afternoon) – HDR Sessions

Time	Parallel Session I – 3 – 1	
	Theme: Computational Materials and Structures **Session chairs: Da Chen, Kwong Ming Tse** **Room: AGSE108**	
	Paper ID – Paper Title	*Presenter (Affiliation)*
16:20 – 17:50	16:20 – 16:40	***Keynote*** Paper ID: 1 - Overview of functionally graded porous structures	Da Chen (*University of New South Wales*)
	16:40 – 16:55	Paper ID: 91 - Evaluation of Mechanical Performance of 3D Printed Metal Scaffold Structures	Venus Savaliya (*Western Sydney University*)
	16:55 – 17:10	Paper ID: 71 - Dynamic compression of functionally graded lattice structures: finite element analysis	Chamini Rodrigo (*Swinburne University of Technology*)
	17:10 – 17:25	Paper ID: 82 - Performance Simulation of Porous Composites Structures for Passive Daytime Radiative Cooling	Liao Huang (*Monash University*)
	17:25 – 17:40		

Time	Parallel Session I – 3 – 2	
	Theme: Modelling and Simulation of Structures **Session chairs: Ricky Chan, Chi Wu** **Room: AGSE109**	
	Paper ID – Paper Title	*Presenter (Affiliation)*
16:20 – 17:50	16:20 – 16:40	**_Keynote_** Paper ID: 88 - Seismic risk mitigations in retained masonry facade construction in Australia	Ricky Chan (*RMIT University*)
	16:40 – 16:55	Paper ID: 34 - Robust modelling framework for corrosion propagation of aging reinforced concrete structures	Bin Dong (*University of New South Wales*)
	16:55 – 17:10	Paper ID: 83 - Multiscale modelling on the mechanical behaviors of a bio-inspired cementitious material with lower carbon footprint	Ziyu Chen (*Monash University*)
	17:10 – 17:25	Paper ID: 92 - 3D PDS-FEM Model for Concrete Fracture due to Hygro-Thermo-Mechanical Processes	Elia Nicolin (*University of Tokyo*)
	17:25 – 17:40	Paper ID: 99 - Hydro-Mechanical fully-coupled phase-field modeling of fracture in poroelastic media	Sana Shahoveisi (*University of New South Wales*)

Time	Parallel Session I – 3 – 3	
	Theme: Modelling and Simulation of Structures **Session chairs: Kazem Ghabraie, Xiaoshan Lin** **Room: AGSE110**	
	Paper ID – Paper Title	*Presenter (Affiliation)*
16:20 – 17:50	16:20 – 16:40	**_Keynote_** Paper ID: 108 - A novel parametrisation approach for optimising curved beams	Kazem Ghabraie (*Deakin University*)
	16:40 – 16:55	Paper ID: 76 - 3D fracture analysis using phase field model with parallel computing based on scaled boundary finite element method	Hongzhe Chen (*University of New South Wales*)
	16:55 – 17:10	Paper ID: 81 - Characterising Equilibrium Hydration Products and Phase Assemblages in Cement Incorporating Calcined Clay	Hao Sui (*Monash University*)
	17:10 – 17:25	Paper ID: 17 - Mechanical performance of an innovative nano-architectured pouch Li-ion battery	Seyed Sajad Mirjavadi (*The University of Sydney*)
	17:25 – 17:40		

Time		Parallel Session I – 3 – 4	
		Theme: Multidisciplinary Design and Optimisation **Session chairs: Ooi Ean Tat, Shanqing Xu** **Room: AGSE202**	
		Paper ID – Paper Title	*Presenter* (*Affiliation*)
16:20 – 17:50	16:20 – 16:40	***Keynote*** Paper ID: 27 - Optimisation of Open Pit Slopes Using Particle Swarm Optimisation and Scaled Boundary Finite Element Method	Ooi Ean Tat (*Federation University Australia*)
	16:40 – 16:55	Paper ID: 20 - Topology optimization of fluid structures within a NURBS framework	He Li (*RMIT University*)
	16:55 – 17:10	Paper ID: 41 - Perturbation approaches to achieving diverse and competitive designs in topology optimisation	Yulin Xiong (*RMIT University*)
	17:10 – 17:25	Paper ID: 66 - Accelerating gradient descent via gradient online learning and prediction	Yi Xing (*The University of Sydney*)
	17:25 – 17:40	Paper ID: 45 - Effect of Continuous Positive Airway Pressure Treatment on Upper-Airway Ventilation Conditions in a full realistic respiratory tract	Isabella Francis (*University of Technology Sydney*)

Day 3: Friday – 8ᵗʰ December 2023 (Morning) – ℍ𝔻ℝ Sessions

Time		Parallel Session II – 1 – 1	
		Theme: Multidisciplinary Design and Optimisation **Session chairs: Leo Zhang, Kazem Ghabraie** **Room: AGSE108**	
		Paper ID – Paper Title	*Presenter (Affiliation)*
09:40 **–** **11:00**	09:40 – 10:00	***Keynote*** Paper ID: 68 - Reinforcing thin-walled structures with stiffening ribs: from topology optimization to engineering practices	Liang Meng (*Northwestern Polytechnical University*)
	10:00 – 10:15	Paper ID: 39 - Addressing challenges in buckling-related topology optimisation using a linear material model	Tao Xu (*RMIT University*)
	10:15 – 10:30	Paper ID: 48 - Machine Learning-Assisted Analysis of Phononic Crystal Lenses Made of Graphene-based Composites	Liangteng Guo (*The University of Queensland*)
	10:30 – 10:45	Paper ID: 102 - Topology Optimization and Experimental Validation for Additively Manufactured CFRP Structures	Yanan Xu (*The University of Sydney*)
	10:45 – 11:00	Paper ID: 85 - Topology Optimization for 2D Photonic Crystals	Tianyu Zhang (*Swinburne University of Technology*)

Time	Parallel Session II – 1 – 2	
	Theme: Modelling and Simulation of Structures **Session chairs: Yingyan Zhang, Zhen Luo** **Room: AGSE109**	
	Paper ID – Paper Title	*Presenter* (*Affiliation*)
09:40 – 11:00	09:40 – 09:55	***Keynote*** Paper ID: 59 - Design of mechanical metamaterials with tunable properties	Zhen Luo (*University of Technology Sydney*)
	09:55 – 10:10	Paper ID: 7 - Study On The Stress-Strain Measurement Of LVL Loaded Perpendicular To The Grain	Muhammad Abul Kalam Azad (*University of New South Wales*)
	10:10 – 10:25	Paper ID: 64 - Damage Assessment of Polymeric Materials used in Composite Structures Subjected to Laser Irradiation	Patrick Kamlade (*Western Sydney University*)
	10:25 – 10:40	Paper ID: 65 - Atomistic Investigation on the Mechanical and Electrical Properties and Phase Transition Process of Poly (Vinylidene Fluoride)	Tianshu Liu (*Queensland University of Technology*)
	10:40 – 10:55	Paper ID: 73 - A double-phase field fracture modelling in 3D elasto-plastic solids with crack-direction-based strain energy decomposition	Yang Jiang (*University of Technology Sydney*)

Time		Parallel Session II – 1 – 3	
		Theme: Computational Methods **Session chairs: Jianguang Fang, Shanqing Xu** **Room: AGSE110**	
		Paper ID – Paper Title	*Presenter (Affiliation)*
09:40 – 11:00	09:40 – 09:55	ID: 29 - Generalized Structural Reliability Analysis with Imperfect Statistics through Machine Learning Technique	Qihan Wang *(University of New South Wales)*
	09:55 – 10:10	Paper ID: 42 Physical Model-Based Stochastic Maximum Grassland Fire Loading Analysis for Engineering Structures with Machine Learning Technique	Junxing Li *(University of New South Wales)*
	10:10 – 10:25	Paper ID: 57 - High order composite time integration method based on rational approximations for elastodynamics	Xiaoran Zhang *(University of New South Wales)*
	10:25 – 10:40	Paper ID: 95 - A machine learning approach in head injury prediction	Jing Yi Heng *(Swinburne University of Technology)*
	10:40 – 10:55	Paper ID: 13 - Smooth topological design of functionally graded porous infill structures for acoustic mechanical interaction problems	Jie Hu *(Guizhou University)*

Day 3: Friday – 8th December 2023 (Morning) – HDR Sessions

Time		Parallel Session II – 2 – 1	
		Theme: Computational Methods **Session chairs: Qing Li, Xiaoshan Lin** **Room: AGSEAGSE108**	
		Paper ID – Paper Title	*Presenter (Affiliation)*
11:30 – 12:50	11:30 – 11:45	Paper ID: 3 - Multiscale Modeling of Particulate Composites and porous media with spherical inclusions: An ABAQUS Plug-in Tool	Abdalla Elbana (*University of New South Wales*)
	11:45 – 12:00	Paper ID: 25 - A Novel Fully Implicit Algorithm for Integrating the Rate Form of Plasticity and its Verification Using von Mises Plasticity	Migel Arachchillage Kasun Madusanka Dharmasiri (*University of Tokyo*)
	12:00 – 12:15	Paper ID: 55 - A Scaled Boundary Finite Element Method Approach for Elastoplastic Analysis and implementation in ABAQUS	Yunxuan Cui (*University of New South Wales*)
	12:15 – 12:30	Paper ID: 60 - The Impact of Activation Functions on Physics-Informed Neural Networks for Computational Mechanics	Peter M. Kurukulasuriya (*Queensland University of Technology*)
	12:30 – 12:45	Paper ID: 67 - A GPU-based High Performance Computing Framework for Elasto-dynamic Analysis exploiting Octree Patterns	Mohammadreza Mohammadian (*University of New South Wales*)

Time	Parallel Session II – 2 – 2	
	Theme: Computational Molecular Dynamics **Session chairs: Yixia (Sarah) Zhang, Kwong Ming Tse** **Room: AGSE109**	
	Paper ID – Paper Title	*Presenter (Affiliation)*
11:30 – 12:50	11:30 – 11:45	Paper ID: 16 - Graphene origami under nanoindentation and ballistic testing	Yi Wang (*RMIT University*)
	11:45 – 12:00	Paper ID: 31 - The Study on Switching Dynamics of Monolayer α-In2Se3 via Deep-Learning Molecular Dynamics	Dongyu Bai (*Queensland University of Technology*)
	12:00 – 12:15	Paper ID: 33 - Wave propagation of graphene origami/copper nanocomposites under ballistic impact	Wei Zhang (*RMIT University*)
	12:15 – 12:30	Paper ID: 47 - Moving impact-induced behaviours of the functionally graded graphene platelets reinforced porous plate	Yuhang Tian (*University of New South Wales*)
	12:30 – 12:45	Paper ID: 104 - Confined Diffusivity and Anisotropy in Nanopores Using Molecular Dynamics Simulation	Qingyun Wang (*The University of Sydney*)

Time	Parallel Session II – 2 – 3	
	Theme: Computational Aspects of Manufacturing **Session chairs: Yuantong Gu, Shanqing Xu** **Room: AGSE110**	
	Paper ID – Paper Title	*Presenter (Affiliation)*
11:30 – 12:50	11:30 – 11:45	Paper ID: 38 - Finite Element Simulation of Thermal Field in 3D Printed Functionally Graded Materials	Cunxu Wang (*RMIT University*)
	11:45 – 12:00	Paper ID: 49 - On the assessment of the direction-dependent ductile fracture model for metal	Sepideh Aghajani (*University of Technology Sydney*)
	12:00 – 12:15	Paper ID: 50 - Phase field fracture model and its application to additively manufactured metallic materials	Cunyi Li (*University of Technology Sydney*)
	12:15 – 12:30	Paper ID: 51 - Numerical Modelling of 3D Concrete Printing Using Tracing Element Approach	Dong An (*Western Sydney University*)
	12:30 – 12:45	Paper ID: 75 - Micromechanical RVE modelling of 3D printed polymeric composites	Tusharbhai Gajjar (*Western Sydney University*)

Day 3: Friday – 8th December 2023 (Afternoon) – HDR Sessions

Time	Parallel Session II – 3 – 1	
	Theme: Modelling and Simulation of Structures **Session chairs: Yunlong Tang, Shanqing Xu** **Room: AGSE108**	
	Paper ID – Paper Title	*Presenter (Affiliation)*
14:30 – 15:50	14:30 – 14:45	Paper ID: 40 - Machine Learning Aided Multi-Physical Modelling for the Assessment of Structural Fragility under Wildfire Scenario	Zhiyi Shi (*University of New South Wales*)
	14:45 – 15:00	Paper ID: 56 - Non-dimensionalization and scaling of quasi-brittle structures using phase-field model	Penghao Zhang (*University of New South Wales*)
	15:00 – 15:15	Paper ID: 58 - Shape Control Capability of a Loaded Cable Dome Structure	Haiying Zhang (*RMIT University*)
	15:15 – 15:30	Paper ID: 32 - Surrogate Model-Assisted Structural Reliability Analysis Method for Engineering Structures with Polymorphic Uncertainty	Enyong Zhao (*University of New South Wales*)
	15:30 – 15:45	Paper ID: 84 - Graded infill optimization of complex surfaces by conformal mapping	Hao Li (*Huazhong University of Science and Technology*)

Time	Parallel Session II – 3 – 2	
	Theme: Computational Fluid Dynamics **Session chairs: Yingyan Zhang, Manyu Xiao** **Room: AGSE109**	
	Paper ID – Paper Title	*Presenter* (*Affiliation*)
14:30 – 15:50	14:30 – 14:45	Paper ID: 19 - Effect of Surface Tension Variation on Surface Shear Stress in a Closed-End Pipe Representing a Lung Acinus	Isabella Francis (*University of Technology Sydney*)
	14:45 – 15:00	Paper ID: 69 - Effects of the disorder and porosity in porous media on the permeability	Jiachen Zhao (*Queensland University of Technology*)
	15:00 – 15:15	Paper ID: 72 - Energy Dissipation of Reciprocating Pipe Flows in a Curved Bend	Fanrui Cheng (*Swinburne University of Technology*)
	15:15 – 15:30	Paper ID: 86 - In silico modelling of arterial fluid dynamics in a patient-specific aorta during extracorporeal life support treatment	Dhayananth Kanagarajan (*Griffith University*)
	15:30 – 15:45	Paper ID: 96 - Smoothed-Particle Hydrodynamic (SPH) Modeling on Interaction of Explosive Reactive Armor (ERA) and Rocket Propelled Grenade (RPG)	Arief Nur Pratomo (*Swinburne University of Technology*)

Time	Parallel Session II – 3 – 3	
	Theme: Modelling and simulation of structures **Session chairs: Kazem Ghabraie, Xiaoshan Lin** **Room: AGSE110**	
	Paper ID – Paper Title	*Presenter* (*Affiliation*)
14:30 – 15:50	14:30 – 14:45	Paper ID: 61 - Understanding Uncertainties Related to the Random Positions and Shapes of Coarse Aggregates in Multiscale Analysis of Concrete Beams	Welington Vieira (*University of Sao Paulo*)
	14:45 – 15:00	Paper ID: 89 - The Influence of the disturbing effect of roadway through faults on the faults Stability	Shuaifeng Lu (*University of Tasmania*)
	15:00 – 15:15	Paper ID: 94 - Numerical Simulation Study on the Mechanism of Impact-induced Coal Burst and Design of Anti-impact Measures	Keke Xing (*China University of Mining and Technology*)
	15:15 – 15:30	Paper ID: 15 - Cross-plane Thermal Transport in Multiplayer Graphene/h-BN van der Waals Heterostructures: The Role of Interface Morphology	Youzhe Yang (*RMIT University*)
	15:30 – 15:45	Paper ID: 36 - Numerical Study on Punching Failure Behaviour of Post-tensioned Slab-Column Joints with High-performance Concrete Shear Heads	Ziqi Zhao (*Griffith University*)

Notes

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