

The International Symposium on Advanced Metallurgy and Materials

16-18 August 2026, Wollongong, Australia



Conference Chair

Prof Alan Rowan, DVC(R), University of Wollongong, Australia

Conference Convenors

Prof Geoff Wang, The University of Queensland, Australia,

Prof Zhengyi Jiang, University of Wollongong, Australia

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Preface

On behalf of the Organising Committee, it is our great pleasure to welcome you to the International Symposium on Advanced Metallurgy and Materials (ISAMM 2026), taking place from 16-18 August 2026 in Wollongong, Australia. ISAMM 2026 brings together leading professors, researchers and students from around the world to exchange knowledge, share cutting-edge research, and explore emerging challenges and opportunities in metallurgy and advanced materials. As the global metals and materials sectors undergo rapid transformation driven by sustainability imperatives, cross-disciplinary collaboration has never been more essential.

The theme of ISAMM 2026 reflects the growing urgency to develop sustainable, intelligent, and efficient metallurgical processes and materials systems. Advances in computational modelling, data-driven technologies, and green manufacturing are reshaping the future of the metals industry, supporting the transition toward carbon-neutral production while maintaining economic competitiveness and resource efficiency. We hope that the discussions and exchanges throughout this symposium will help accelerate innovation and strengthen international cooperation in these critical areas.

We extend our sincere gratitude to all speakers, authors, reviewers, and committee members whose dedication and contributions have made this symposium possible. We also warmly thank all participants for joining us and for sharing your expertise, insights and enthusiasm.

We trust that you will find the technical program stimulating, informative, and inspiring. Beyond the formal sessions, we encourage you to take advantage of the many opportunities to connect with colleagues, forge new collaborations, and enjoy the vibrant atmosphere of Wollongong and the stunning Australian coastline.

Professor Geoff Wang
Convenor of ISAMM-2026
The University of Queensland



Date: 22 July 2026

Program of the ISAMM 2026

16-18 August 2026, Wollongong, Australia

Day 1, Sunday, 16 August 2026	
16:00-18:00	Gathering & Registration (Venue: Brighton Lawn Reserve near Levendi coffee shop and Harbourfront Seafood Restaurant)
18:00-21:00	Welcome Dinner (Harbourfront Seafood Restaurant, 2 Endeavour Dr, Wollongong NSW 2500)
Day 2, Monday, 17 August 2026	
Aspire Events Centre (Ocean Room), University of Wollongong Innovation Campus	
9:00-10:15	Session 1 (Chairs Geoff Wang and Aibing Yu)
9:00-9:02	Opening Announcement
9:02-9:10	Welcome Speech Prof. Alan Rowan, Deputy Vice-Chancellor, University of Wollongong
9:10-9:15	Break for group photo
9:15-9:35	The Influence of Remnants and Alloying Elements on Corrosion and Mechanical Properties in Recycled Steel Prof. En-hou Han
9:35-9:55	Theoretical Analysis of Solidification Behavior with Various AM Processes in IN939W Alloy Prof. Jehyun Lee
9:55-10:15	Numerical Modelling of the Effect of H ₂ Self-heating by Cooling the Reduced DRI in the Lower Part of the Shaft Furnace Prof. Govind Sharan Gupta
10:15-10:30	Coffee/Tea Break
10:30-12:10	Session 2 (Chairs Paul Zulli and Govind Sharan Gupta)
10:30-10:50	Mechanism of improving solidification structure of super austenitic stainless steel by feeding strip of continuous casting mold Prof. Zhouhua Jiang
10:50-11:10	Green Ironmaking R&D: New Computational Methods, Progress and Challenges Prof. Yansong Shen

11:10-11:30	Dissolution behavior of $\text{CaO-P}_2\text{O}_5\text{-SiO}_2\text{-Fe}_2\text{O}_3$ phosphosilicate glasses derived from converter slag for marine fertilizer applications Prof. Jung-Wook Cho
11:30-11:50	Low-Carbon Ironmaking in China: Process Innovations from Blast Furnace to Hydrogen-Based Routes Prof. Jianliang Zhang
11:50-12:10	Multiscale Modeling of Hydrogen-Based Direct Reduction of Iron Ore: From Ab Initio Atomistic Simulations to Shaft Furnace Process Prof. Kejiang Li
12:10-13:30	Lunch Break
13:30-15:00	Session 3 (Chairs Jehyun Lee and Yansong Shen)
13:30-13:45	Towards Low-Emission Iron & Steelmaking: Exploring Insights and Our Contributions through a New Pathway Dr. Xuefeng Dong
13:45-14:00	Kinetic Simulation of BOF Tapping and Argon Rinsing Processes for the Refinement of Molten Steel A/Prof. Zhimin You
14:00-14:15	An advanced DEM-PBM coupling with coarse-grained particle model for wet granulation simulation A/Prof. Dongling Wu
14:15-14:30	Towards Low-Carbon Ironmaking and Steelmaking: Integrated Process Modelling Approaches Dr. Xiaobing Yu
14:30-14:45	CO_2 -assisted Hydrogen Cycle of NaBH_4 Dr. Rui Han
14:45-15:00	Controllable Aluminothermic Reduction of Vanadium Oxides for Critical Minerals Processing Dr. Meng Sun
15:00-15:20	Coffee/Tea Break
15:20-16:20	Session 4 (Chairs Jianliang Zhang and Zhengyi Jiang)
15:20-15:35	Phase Equilibria in the $\text{CaO-MgO-Al}_2\text{O}_3\text{-SiO}_2$ System with Fixed $\text{Al}_2\text{O}_3/\text{SiO}_2$ Ratios of 0.4 and 0.5 for Blast Furnace Slags

	A/Prof. Jinfa Liao
15:35-15:50	Enhanced Surface Engineering Strategies for Optimising Performance of Metallic Materials in Customized Service Environments Dr. Jian Han
15:50-16:05	A computational study on the melting dynamics of a cementite pellet Dr. Ai Wang
16:05-16:20	Physics-Based Simulation of Additive Manufacturing Processes: CFD-DEM Predictions Across LPBF, BJ, and FFF Dr. Erlei Li
16:20-16:30	Break
16:30-17:30	Panel Discussion (Chairs Yansong Shen and Geoff Wang) Panellists: Prof. Aibing Yu Prof. En-hou Han Prof. Jehyun Lee Prof. Yunzhi Wang Prof. Jianliang Zhang Prof. Paul Zulli Prof. Govind Sharan Gupta
17:30	Wrap-Up and Conclusion by Prof. Geoff Wang
18:00-21:00	Conference Dinner

Day 3, Tuesday, 18 August 2026	
Campus Tour	

International Advisory Committee

Prof Jung-Wook Cho, Pohang University of Science and Technology, South Korea

Prof Leora Dresselhaus-Marais, Stanford University, USA

Dr Tim J Evans, Rio Tinto, Australia

Prof Michael Ferry, University of New South Wales, Australia

Prof Govind S Gupta, India Institute of Science, India

Prof Enhou Han, South China University of Technology, China

Prof Zhengyi Jiang, University of Wollongong, Australia

Prof Zhouhua Jiang, Northeastern University, China

Prof Je-Hyun Lee, Changwon National University, South Korea

Prof Zushu Li, University of Warwick, UK

Dr Dennis D Lu, ArcelorMittal Global RDEC & RDSF, USA

Prof Jian-feng Nie, Monash University, Australia

Prof Yansong Shen, University of New South Wales, Australia

Prof Geoff Wang, The University of Queensland, Australia

Prof Aibing Yu, Great Bay University, China

Prof Jianliang Zhang, University of Science and Technology Beijing, China

Prof Paul Zulli, University of Wollongong, Australia

Organising Committee

Chairman

Prof Alan Rowan, DVC(R), University of Wollongong, Australia, Chair

Prof Geoff Wang, The University of Queensland, Australia, Convenor

Prof Zhengyi Jiang, University of Wollongong, Australia, Co-Convenor

Members

Dr Erlei Li, The University of Queensland, Australia

Dr Yuchen Dai, The University of Queensland, Australia

Dr Ping Chen, The University of Queensland, Australia

Dr Yinxuan Qiu, The University of Queensland, Australia

Dr Ai Wang, The University of Queensland, Australia

Dr Mingwei Hu, The University of Queensland, Australia

Dr Xuefeng Dong, University of Wollongong, Australia

Symposium Secretariat

Dr Erlei Li, The University of Queensland, Australia

Ms. Cathy Yuan, The University of Queensland, Australia

Ms. Hellen Jiang, University of Wollongong, Australia

Co-organisers

The University of Queensland

University of Wollongong

The Baosteel-Australia Joint Research and Development Centre

HBIS-UQ Innovation Centre for Sustainable Steel

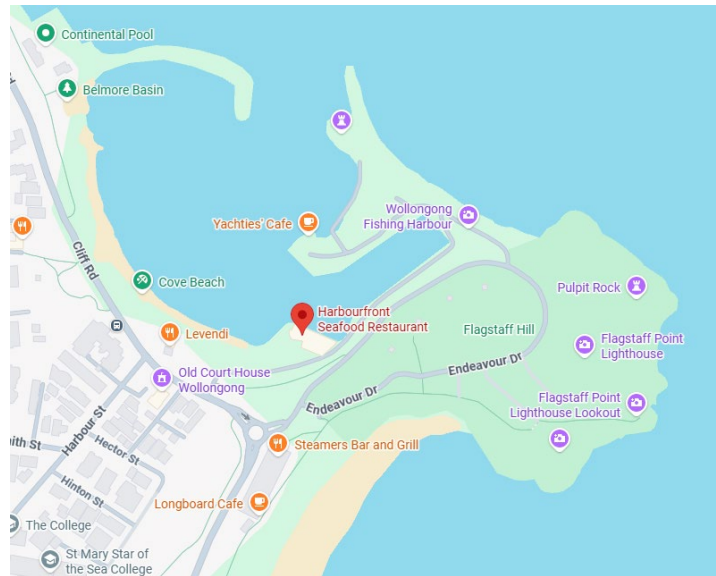
ARC Industrial Transformation Training Centre for Innovative Composites for the Future of Sustainable Mining Equipment



Conference Venue

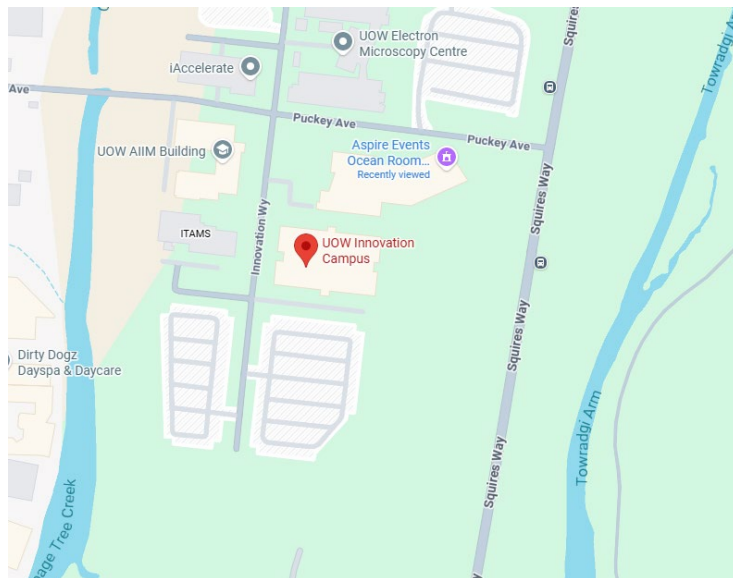
Welcome Dinner Address, 16 August 2026

Harbourfront Seafood Restaurant, 2 Endeavour Dr, Wollongong NSW 2500



Conference Address, 17 August 2026

Aspire Events Centre (Ocean Room), The Central (Building 230), University of Wollongong
Innovation Campus, Innovation Way, North Wollongong NSW 2500



Conference Dinner Address, 17 August 2026

Aspire Events Centre (City Room), The Central (Building 230), University of Wollongong
Innovation Campus, Innovation Way, North Wollongong NSW 2500

List of Abstracts

(To be included in the printed Conference Handbook)

List of Attendees

(To be included in the printed Conference Abstract Handbook)

Recommended Accommodation & Travel

Accommodation (suggested)

Novotel Wollongong Northbeach

Sage Hotel Wollongong

Travel

Sydney International/Domestic Airport to the Novotel Wollongong Northbeach

Driving (Rental Car/Rideshare/Taxi)

Time: Approximately 1 hour and 10 minutes (79.2 km) depending on traffic.

If you prefer using apps like Uber, a standard ride from the airport to Wollongong typically averages around A\$150 to A\$180, depending on real-time demand and traffic surge pricing

Public Transport (Train)

Time: Approximately 1 hour and 42 minutes.

Route:

1. Board the **T8 Airport & South Line** train at the International/Domestic Airport station
2. Change at **Wolli Creek Station** to catch the **South Coast Line (SCO)** train heading towards Wollongong or Kiama
3. Get off at **North Wollongong Station**. From there, the Novotel is either a 15-minute walk (approx. 1.2 km) down Flinders Street and Cliff Road, or you can take a short taxi/rideshare ride to the beachfront

Sydney International/Domestic Airport to the Sage Hotel Wollongong

Driving (Rental Car/Rideshare/Taxi)

Time: Approximately 1 hour and 14 minutes (81.5 km) depending on traffic.

If you prefer using apps like Uber, a standard ride from the airport to Wollongong typically averages around A\$150 to A\$180, depending on real-time demand and traffic surge pricing

Public Transport (Train)

Time: Approximately 1 hour and 50 minutes.

Route:

1. Take the **T8 Airport & South Line** train from the International/Domestic Airport station
2. Change trains at **Wolli Creek Station** onto the **South Coast Line (SCO)** heading south
3. Get off at **Wollongong Station** (this is one stop past North Wollongong, putting you closer to the southern side of the city center)
4. From Wollongong Station, the hotel is about a 15-to-20-minute walk (approx. 1.5 km) east down Burelli Street, or a very quick 3-minute taxi/rideshare ride, or bus 35 from Crown St opp Station St and drop off at Crown St opp WIN Entertainment Centre