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**2nd International Conference on Mineral Engineering
and Materials Science, Sydney, 2022 (iCMEMS-2022)
27-30 Nov 2022 Sydney, Australia**

6th GCSTMR World Congress

Western Sydney University, Parramatta South Campus, Sydney, Australia

[Corner of Victoria Road and James Ruse Drive (enter via Victoria Road), Parramatta]

Organised by:

School of Engineering, Design and Built Environment

Western Sydney University

and

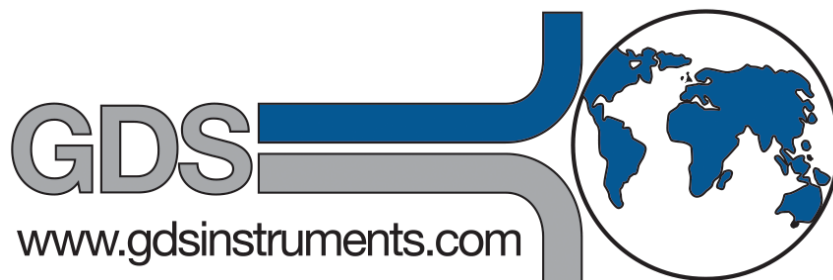
Global Circle for Scientific, Technological and Management Research (GCSTMR)

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Time: Australian Eastern Time (AEST)

Day 1 – Sunday 27 Nov 2022
(Room EA.G.32)

Time	Event	Remark
5:30-7:30 pm	Registration, Refreshments, and Networking (Room EA.G.32)	Delegates will be welcomed by the General Chair, Conference Chairs, and the Local Organizing Committee Members. General Chair: Prof. Ataur Rahman Conference Chairs: Prof. Ataur Rahman A/Prof. Fidelis Mashiri Prof. Zhong Tao Prof. Chin Leo Prof. Samanthika Liyanapathirana Prof. Henry Wong A/Prof. Qinghua Zeng Prof. Hao Ding Conference Secretaries: Dr. Muhit Rahman Dr. Md Kamrul Hassan Dr. Pan Hu Dr. Xuefeng Dong IT Services: Dr. Rezaul Bashar Conference Management Coordinator: Ms Jenis Islam

Day 2 – Monday 28 November 2022
(Room EA.G.18)
Zoom ID: 842 7785 5984, Password: 264182

Time	Session
8:00 – 9:00 am	Registration Parramatta South Campus, Building EA Room PS-EB.G.33 Desk in charge: Ms Jenis Islam
9:00 – 9:30 am	Conference Opening Room EA.G.18, Parramatta South Campus Moderator: Prof. Aatur Rahman, Chair, GCSTMR Acknowledgment of Indigenous owners of the land Speech: Prof. Aatur Rahman, Chair (iCWEE-2022) Speech: A/Prof. Fidelis Mashiri, Chair (iCSER-2022) Speech: Prof. Chin Leo, Chair (iCGMGE-2022) Speech: A/Prof. Qinghua Zeng, Chair (iCMEMS-2022) Speech: Prof Mike Kagioglou Dean, School of Engineering, Design and Built Environment Speech: Mr Jihad Dib, MP Shadow Minister for Emergency Services, and Shadow Minister for Energy and Climate Change Housekeeping: Prof. Aatur Rahman
	Plenary Session 1- Chair: A/Prof. Fidelis Mashiri and Prof. Zhong Tao (Room EA.G.18)
9.30-10.00 am	Plenary 1: Prof. Brian Uy, The University of Sydney, Australia
	Plenary Session 1- Chair: Prof. Aatur Rahman (Room EA.G.18)
10:00 –10:30 am	Plenary 2: Evolution of WSUD in Australia under a changing climate Prof. Dr. Tony Ladson, Victoria University, Australia
10:30-11:00 am	Morning Tea (Room PS-EB.G.33)
	Plenary Session 2 - Chair: Prof. Henry Wong and Prof. Samantha Liyanapathirana (Room EA.G.18)
11:00-11:30 am	Plenary 3: Prof. Nasser Khalili, University of New South Wales, Australia
	Plenary Session 2 - Chair: A/Prof. Qinghua Zeng and Prof. Hao Ding (Room EA.G.18)
11:30-12:00 pm	Plenary 4: Is it possible to Design a Magnesium Alloy that is Stronger than Steel and Titanium? Prof. Michael Ferry, University of New South Wales, Australia

	Plenary Session 2- Chair: Prof. Ataur Rahman (Room EA.G.18)
12:00-12:30 pm	Plenary 5: Quantitative Precipitation Estimates and Future of Hydrologic Design and Modeling Prof. Ramesh Teegavarapu, Florida Atlantic University, USA
12:30-1:30 pm	Lunch (Room PS-EB.G.33)
	Plenary Session 3- Chair: A/Prof. Fidelis Mashiri and Prof. Zhong Tao (Room EA.G.18)
1:30-2:00 pm	Plenary 6: Fatigue of High Strength and Ultra-High Strength Prof. Xiao-Ling Zhao, University of New South Wales, Australia
	Plenary Session 3 - Chair: Prof. Chin Leo and Prof. Samantha Liyanapathirana (Room EA.G.18)
2:00-2:30 pm	Plenary 7: Prof. David Airey, University of Sydney, Australia
	Plenary Session 3- Chair: Dr. Fazlul Karim (Room EA.G.18)
2:30- 3:00 pm	Plenary 8: Advanced wastewater treatment: past, present, and future in Australia Prof. Faisal Hai, University of Wollongong, Australia
3:00-3:30 pm	Afternoon Tea break (Room PS-EB.G.33)
	Plenary Session 4- Chair: A/Prof. Qinghua Zeng and Prof. Hao Ding (Room EA.G.18)
3:30-4:00 pm	Plenary 9: Computational design of composites for additive manufacturing Prof. Qing Li, University of Sydney
	Plenary Session 4- Chair: Prof. Ataur Rahman (Room EA.G.18)
4:00-4:30 pm	Plenary 10: Dr. Marlène van der Sterren, Manager Water Quality Modelling team at WaterNSW
	Plenary Session 4 – Chairs: A/Prof. Fidelis Mashiri and Prof. Zhong Tao (Room EA.G.18)
4:30-5:00 pm	Plenary 11: Prof. Jin Guan Teng, Hong Kong Polytechnic University, Hong Kong
	Plenary Session 4 - Chair: Prof. Chin Leo and Prof. Henry Wong (Room EA.G.18)
5:00-5:30 pm	Plenary 12: Prof. Antonin Fabbri, ENTPE, France
5:30-6:00 pm	Plenary 13: Dr. Suzanne van Eekelen, Deltares, Netherlands

Day 3 – Tuesday 29 Nov 2022
(Room: EB.G.22)

Zoom ID: 884 8211 3130, Password: icmems2022

Time	Session
8:00 – 9:00 am	Registration, Parramatta South Campus (Room PS-EB.G.33)
9:00-10:30 am	iCMEMS 2022: Technical Session 1 (Room-EB.G.22) Chair: Qinghua Zeng, Hao Ding
9:00 – 9:30 am	Keynote: Development and application of CFD model for multiphase complex flow systems in mineral processing industry (Dr. Yuqing Feng: CSIRO Mineral Resources) [Online]
9:30 – 9:50 am	Invited: Numerical modelling of wall erosion in centrifugal slurry pumps (Prof. Runyu Yang: UNSW)
9:50 – 10:10 am	Invited: Application of Volume of Fluid Method to liquid flow modelling in a blast furnace ironmaking field (Dr. Xue Feng Dong: University of Wollongong)
10:10-10:30 am	Contributed: Numerical study of the vortex eccentricity and the impacts of eccentric vortex finders on performance in a gas cyclone (Mr Qingyu Cai: Lanzhou University) [Online]
10:30 – 11:00 am	Morning Tea (Room PS-EB.G.33)
11:00-12:30 pm	iCMEMS 2022: Technical Session 2 (Room-EB.G.22) Chair: Runyu Yang, Yuqing Feng
11:00-11:30 am	Keynote: Critical role of heavy mobile equipment in mining to support net zero 2050 target (Dr. Kenneth Wong: Aurecon)
11:30-11:50 am	Invited: Multi-Scale Modelling of Granular Materials (Dr. Qijun Zheng: Monash University) [Online]
11:50-12:10 pm	Invited: CFD-DEM modelling of thermophysical behaviours of chip-like particles flow in solar panel recycling (Dr. Shuai Wang: UNSW)
12:10-12:30 pm	Contributed: Segregation Behavior of Particles with Gaussian Distributions in the Rotating Drum with Rolling Regime (Mr Meng Li: Northeastern University) [Online]
12:30-1:30 pm	Lunch (Room PS-EB.G.33)
1:30-2:50 pm	iCMEMS 2022: Technical Session 3 (Room-EB.G.22) Chair: Kenneth Wong, Xizhong An
1:30-1:50 pm	Invited: Modelling of complex particle-fluid flows including bonded particles (Prof. Kaiwei (Kevin) Chu: Shandong University) [Online]
1:50-2:10 pm	Invited: A continuum model with viscous and inviscid actions of material both considered for granular flow within 2D flat-bottomed packed bed (Prof. Chengshan Wang: Chongqing University) [Online]
2:10-2:30 pm	Contributed: Tunable magnetism in monolayer CrSi ₂ by biaxial tensile strain: A DFT study (Dr. Songli Dai: Hunan University) [Online]
2:30-2:50 pm	Contributed: Effects of Defects on Electronic Structure and Magnetic Properties of Fe ₂ Ge (110) Surface (Dr. Weifu Cen: Hunan University) [Online]
3:00-3:30 pm	Afternoon Tea (Room PS-EB.G.33)

3:30-4:50 pm	iCMEMS 2022: Technical Session 4 (Room-EB.G.22) Chair: Kaiwei Chu, Bo Wang
3:30-3:50 pm	Invited: Applications of Multi-scale Simulation and Modelling in PBF Additive Manufacturing of Metal Materials (Prof. Xizhong An: Northeastern University) [Online]
3:50-4:10 pm	Contributed: Investigation on Fine Particle Agglomeration and Separation Promoted by Different Bluff Bodies (Dr. Yumeng Zhang: Lanzhou University) [Online]
4:10-4:30 pm	Contributed: CFD Modelling of Phosphorus Removal by Coagulation-Flocculation in Wastewater Treatment (Mr Jie Zong: Monash University) [Online]
4:30-4:50 pm	Contributed: Hierarchical Effects of Multi-layer Powder Spreading in the Electron Beam Powder Bed Fusion Additive Manufacturing of Pure Tungsten Material (Mr Ju Wang: Northeastern University) [Online]
7:30-9:30 pm	CONFERENCE DINNER (Only for the CONFERENCE DINNER ticket holders)

Day 4: Wednesday 30 Nov 2022

(Room: EB.G.22)

Zoom ID: 884 8211 3130, Password: icmems2022

Time	Event
8:00-9:00 am	Registration Parramatta South Campus, Building EA Room PS-EB.G.33
9:00-10:20 am	iCMEMS 2022: Technical Session 5 (Room-EB.G.22) Chair: Xuefeng Dong, Shuai Wang
9:00-9:20 am	Invited: Modeling of non-Newtonian suspension flows (Dr. Shibo Kuang: Monash University) [Online]
9:20-9:40 am	Contributed: Numerical investigation of the effect of soil particle cohesion on landslides by DEM (Miss Mengqi Wu: Western Sydney University)
9:40-10:00 am	Contributed: Experimental Modelling of Australian (NSW) limestone dissociation reaction (Mr Ravi Mehrotra: Western Sydney University)
10:00-10:20 am	Contributed: Modelling the wear behaviour of HPGR based on the discrete element method (Mr Yudong Zou: UNSW)
10:30-11:00 am	Morning Tea (Room PS-EB.G.33)
11:00 -12:20 pm	iCMEMS 2022: Technical Session 6 (Room-EB.G.22) Chair: Kaiwei Chu, Shibo Kuang
11:00-11:20 am	Contributed: Composite Recycle Plastic for 3D Printing – A Review Paper (Dr. Tosin Famakinwa: Western Sydney University)
11:20-11:40 am	Contributed: Developing a physics-informed machine learning model to predict granular flow in a rotating drum (Mr Yaoyu Li: UNSW)
11:40-12:00 pm	Contributed: Discrete element simulation of gold nanosphere self-assembly with molecular dynamics-derived interparticle force models (Mr Pan Yang: Western Sydney University)
12:00-12:20 Pm	Contributed: DEM modelling of selective laser sintering of binary particles (Mr Zi Wang: UNSW)
12:30-1:30 pm	Lunch (Room PS-EB.G.33)

1:20-3:00 pm	iCMEMS 2022: Technical Session 7 (Room-EB.G.22) Chair: Qijun Zheng, Chengshan Wang
1:20-1:40 pm	Contributed: A universal physical framework of active matter system—particle interaction, alignment rules and active behaviour: a review (Mr Ruizhi Jin: Western Sydney University)
1:40-2:00 pm	Contributed: Experimental study of the effect of a Novel Vortex Core Broken Wing on Tornado-like Flow (Mr Pengfei Lv: Lanzhou University) [Online]
2:00-2:20 pm	Contributed: Adsorption of NaOH solution on montmorillonite surface: a molecular dynamics study (Mr Yixing Xu: Western Sydney University)
2:20-2:40 pm	Contributed: Separation of Copper-Molybdenum Flotation Concentrate by Superconducting High-Gradient Magnetic Separation (Mr Zekai Wang: Jiangxi University of Science and Technology) [Online]
2:40-3:00 pm	Contributed: Preparation of Nano-TiO ₂ -Coated SiO ₂ Microsphere Composite Material and Evaluation of Its Self-Cleaning Property (Ms Han Zhang: China University of Geosciences (Beijing)) [Online]
3:00-3:30 pm	Afternoon Tea (Room PS-EB.G.33)
3:30-4:50 pm	iCMEMS 2022: Technical Session 8 (Room-EB.G.22) Chair: Qinghua Zeng, Hao Ding
3:30-3:50 pm	Contributed: Preparation and Photocatalytic Properties of Nano-TiO ₂ Supported on Fly Ash (Mr Yu Tu: China University of Geosciences (Beijing)) [Online]
3:50-4:10 pm	Contributed: Highly selective recovery of REE Gd(III) by benzimidazole- and benzoxazole-linked 3D porous polymers (Dr. Lijinhong Huang: Jiangxi University of Science and Technology) [Online]
4:10-4:30 pm	Contributed: SiO ₂ @GO Core-shell Structure Modified Reverse Osmosis Membranes (Ms Yilin Li: Lanzhou University) [Online]
4:30-4:50 pm	Contributed: Adsorption of Gd ³⁺ in Water by N, S Co-doped La-based Metal Organic Frameworks: Experimental and Theoretical calculation (Mr Wenhao Li: Jiangxi University of Science and Technology) [Online]
5:00-5:30 pm	Conference Closing and Awards (Room EA.G.18)

Day 4: Wednesday 30 Nov 2022

(Room: EA.G.18)

Zoom ID: 823 8855 2084, Password: icmems2022

Time	Event
8:00-9:00 am	Registration Parramatta South Campus, Building EA Room PS-EB.G.33
11:00-12:20 pm	iCMEMS 2022: Technical Session 9 (Room EA.G.18) Chair: Qinghua Zeng, Yumeng Zhang
11:00-11:20 am	Contributed: Experimental and numerical study of the discharge dynamics of cement clinker from a mill feeding hopper (Mr Xinyu Liu: Monash University) [Online]

11:20-11:40 am	Contributed: Preparation of CaCO ₃ /Al(OH) ₃ composites via heterogeneous nucleation method (Yan Xu: China University of Geosciences (Beijing)) [Online]
11:40-12:00 pm	Contributed: Effect of graphene on solid-liquid coexistence in Cu nano droplets (Dr. Quan Zheng: Hunan University) [Online]
12:00-12:20 Pm	Contributed: Structure Evolution for Hidden Phase Transitions During Alloy Vitrification (Dr. Xiefu Zhang: Hunan University) [Online]
12:30-1:30 pm	Lunch (Room PS-EB.G.33)
1:20 pm-3:00 pm	iCMEMS 2022: Technical Session 10 (Room EA.G.18) Chair: Xuefeng Dong, Xizhong An
1:20-1:40 pm	Contributed: Adsorption of Y(III) on the Interface of Kaolinite-H ₂ O: A DFT Study (Dr. Xiangrong Zeng: Jiangxi University of Science and Technology) [Online]
1:40-2:00 pm	Contributed: Composite of wollastonite and TiO ₂ particles and their pigment properties (Xuefeng Bai: China University of Geosciences (Beijing)) [Online]
2:00-2:20 pm	Contributed: Tannic acid/Fe ³⁺ interlayer for preparation of high-permeability polyetherimide organic solvent nanofiltration membranes for organic solvent separation (Mr Haike Li: Jiangxi University of Science and Technology) [Online]
2:20-2:40 pm	Contributed: Superhydrophilic wollastonite-nanoTiO ₂ composite photocatalyst prepared by a wet grinding method: The effects of carriers and their application in the self-cleaning coatings (Mr Run Zhou: China University of Geosciences (Beijing)) [Online]
2:40-3:00 pm	
3:00-3:30 pm	Afternoon Tea (Room PS-EB.G.33)

List of Zoom IDs and links:

Day 1 – Sunday 27 Nov 2022 (Room EA.G.32)

Day 2 – Monday 28 November 2022 (Room EA.G.18)

Zoom ID: 842 7785 5984, Password: 264182

Zoom link: <https://uws.zoom.us/j/84277855984?pwd=aEl5OXZTTTBoMmdqMnZHN0xEeE1udz09>

Day 3 – Tuesday 29 Nov 2022 (Room: EB.G.22)

Zoom ID: 884 8211 3130, Password: icmems2022

Zoom link: <https://uws.zoom.us/j/88482113130?pwd=dmZ3aGlDc09ldFV0b3dCWGxkMXBPdz09>

Day 4: Wednesday 30 Nov 2022 (Room: EB.G.22)

Zoom ID: 884 8211 3130, Password: icmems2022

Zoom link: <https://uws.zoom.us/j/88482113130?pwd=dmZ3aGlDc09ldFV0b3dCWGxkMXBPdz09>

Day 4: Wednesday 30 Nov 2022 (Room: EA.G.18)

Zoom ID: 823 8855 2084, Password: icmems2022

Zoom link: <https://uws.zoom.us/j/82388552084?pwd=NDA5aDk3UWJMd1FVZnJYK0ZPNkdnUT09>

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- **Materials:** [Advances in Materials, Chemical and Computational Sciences](#)