

**Second International Symposium on
Computational Particle Technology
and
Thirteenth International Conference on
CFD in the Minerals and Process
Industries**



MONASH
University



4-8 December 2018, Melbourne, Australia

CONFERENCE PROGRAM

Outline

Day 0 - Tuesday, 4 December 2018	
15:00 – 20:00	Registration/Cocktail Reception (Intercontinental Hotel: 495 Collins Street, Melbourne CBD)
Day 1 - Wednesday, 5 December 2018	
08:30 – 09:00	Conference Opening
09:00 – 10:30	Plenary Session
10:30 – 11:00	Poster Session/Morning Tea
11:00 – 12:30	Parallel Sessions
12:30 – 13:30	Lunch
13:30 – 15:30	Parallel Sessions
15:30 – 16:00	Poster Session/Afternoon Tea
16:00 – 18:00	Parallel Student Sessions
18:00 – 19:00	Poster Session And Happy Hour
Day 2 - Thursday, 6 December 2018	
08:30 – 10:00	Plenary Sessions
10:00 – 10:30	Poster Session/Morning Tea
10:30 – 12:30	Parallel Sessions
12:30 – 13:30	Lunch
13:30 – 15:30	Parallel Sessions
15:30 – 16:00	Poster Session/Afternoon Tea
16:00 – 18:00	Parallel Student Sessions
18:00 – 22:00	Conference Dinner (CQ Functions - 123 Queen Street, Melbourne CBD)
Day 3- Friday, 7 December 2018	
08:30 – 10:30	Parallel Sessions
10:30 - 11:00	Morning Tea
11:00 – 12:30	Parallel Sessions
12:30 – 13:30	Lunch
13:30 – 15:00	Parallel Student Sessions
15:00 – 15:30	Poster Session/Afternoon Tea
15:30 – 17:00	Plenary Session
17:00 – 17:30	Award Presentation, Wrap-Up And Conclusion
17:30 – 18:30	Happy Hour And Farewell
Day 4- Saturday, 8 December 2018	
Post Conference Activities Are Cancelled Due To Lack Of Responses	

- NB: (1) Time Allocated For Plenary - 45 Minutes, Keynote – 30 Minutes, Regular – 15 Minutes, And Students – 10 Minutes.
 (2) Special Issues in Powder Technology for CPT /Applied Mathematical Modelling for CFD (may be limited to the presentations at the conference)

15:00-20:00	Day 0 (Tuesday, 4 December) Registration & Cocktail Reception (18:00-19:00) (Intercontinental Hotel)		
Day 1 (Wednesday, 5 December)			
08:30-09:00	Conference Opening Prof Aibing Yu (Monash University) Prof Robin Batterham (University Of Melbourne)		
	Plenary Session Chair: Peter Witt And Liejin Guo		
09:00-09:45	Discrete Simulation Of Granular And Particle-Fluid Systems (page:2) Professor Wei Ge Chinese Academy Of Sciences		
09:45-10:30	Modelling Subsea Gas Blowouts (page:5) Jan Erik Olsen SINTEF Industry		
10:30-11:00	Poster Session/Morning Tea		
	Laneway Room 1	Laneway Room 2	Laneway Room 3
	Simulation Methods Chair: Mikio Sakai, Qiang Zhou	Granular Dynamics Chair: Alain De Ryck, Paul Cleary	Fluid Bed Operations Chair: Peter Witt, Anthony B. Murphy
11:00-11:30	Keynote Using Failure Dynamics At The Mesoscale For Early Prediction Of Slope Failure From Data (page:7) <u>Antoinette Tordesillas</u> University Of Melbourne	Keynote Use Of 3D Printing For DEM Model Validation (page:45) <u>Karen Hapgood</u> Deakin University, Geelong Australia	Keynote Multi-Scale Modeling Of Reactive Dense Flows (page:190) <u>Kun Luo</u> Zhejiang University
11:30-11:45	12-Velocity Multiple-Relaxation-Time Lattice Boltzmann Model For Three Dimensional Incompressible Flows (page:9) <u>Jiayi Hua</u> , <u>Wenhuan Zhang</u> , <u>Shibo Kuang</u> , <u>Aibing Yu</u> , <u>Baochang Shi</u> , <u>Yihang Wang</u> (Ningbo University)	Segregation In Sheared Granular Matter (page:47) <u>Gerald G Pereira</u> And <u>Paul W Cleary</u> (CSIRO)	CFD-DEM Study of Mixing/Segregation of Particles in Fluidized Beds under Influence of Size, Density, and Shape (page:191) <u>Esmail Abbaszadeh Molaei</u> , <u>Aibing Yu</u> , <u>Zongyan Zhou</u> , <u>Michael Small</u> , <u>Phillip Fawell</u> (CSIRO)
11:45-12:00	A Solid-Stresses-Based Multiphase Particle-In-Cell Model For Gas-Particle Flow In Fluidized Beds (page:10) <u>Vikrant Verma</u> And <u>Johan T. Padding</u> (Delft University Of Technology)	Effect Of Vibrational And Geometrical Parameters On Granular Capillarity Induced By A Vibrating Tube (page:48) <u>Fengxian Fan</u> , <u>Huateng Zhang</u> , <u>Eric J R Parteli</u> , <u>Thorsten Pöschel</u> And <u>Mingxu Su</u> (University Of Shanghai For Science And Technology)	A Numerical Study Of The Solid Dispersion Behavior And Residence Time Distribution In A Circulating Fluidized Bed Methanation Reactor (page:196) <u>Yuli Zhang</u> , <u>Rui Xiao</u> , <u>Mao Ye</u> (Hohai University)
12:00-12:15	MP-PIC Simulation Of Blood Flow Across A LAD With High Stenosis (page:12) <u>Jian Liu</u> , <u>Fan Yu</u> , <u>Yu Zhang</u> (Tsinghua University)	Particle Based Modelling Of Metal Powder Flow In Additive Manufacturing Systems (page:49) <u>G.W. Delaney</u> , <u>S. Gulizia</u> , <u>V. Lemiale</u> , <u>C. Doblin</u> , <u>A.B. Murphy</u> (CSIRO)	System Design Of A Dual Fluidized Bed Pyrolysis Reactor (page:200) <u>Reinhard Seiser</u> And <u>Robert Cattolica</u> (University Of California San Diego)
12:15-12:30	Orientation Discretization In Discrete Modelling Of Non-Spherical Particles (page:14) <u>Kejun Dong</u> , <u>Kamyar Kildashti</u> , <u>Bijan Samali</u> And <u>Aibing Yu</u> (Western Sydney University)	Modeling Of Deformation Of Granular Pellet In Small-Scale "Unit Cell" DEM Simulations (page:50) <u>Intan Soraya Shamsudin</u> , <u>Li Ge Wang</u> And <u>Rachel M. Smith</u> (The University Of Sheffield)	EMMS Application In Rectangular Circulating Fluidized Beds (page:193) <u>Qiuya Tu</u> , <u>Haigang Wang</u> (Chinese Academy Of Sciences)
12:30-13:30 Lunch			
	Simulation Methods (Continued) Chair: Karen Hapgood, Alex Heath	Granular Dynamics (Continued) Chair: Jin Ooi, Fengxian Fan	Fluid Bed Operations (Continued) Chair: Vikrant Verma, Yansong Shen
13:30-14:00	Keynote Key Sub-Grid Quantities Affecting The Filtered Drag Force And The Derivation And Analysis Of Their Transport Equations (page:15) <u>Qiang Zhou</u> Xi'an Jiaotong University	Keynote DEM-FEM Coupled Modelling On The Compaction And Sintering Of Elemental And Composite Powders (page:51) <u>Xizhong An</u> Northeastern University	Keynote Application Of CFD For Operating Of Industrial Equipment: Take Ultra-Supercritical Coal Fired Power Plant Boiler For Example (page:197) <u>Wengi Zhong</u> Southeast University
14:00-14:15	Simulation of particle dissolution in RANS simulations of turbulent (page:44) <u>M. Philip Schwarz</u> (CSIRO Mineral Resources)	Keynote Wall Effects In Powder Flow In Continuum Mechanics Modeling (page:53) <u>Alain De Ryck</u> IMT Mines Albi, France	Keynote CFD Study Of Ironmaking Blast Furnace: Recent Model Development And Application (page:199) <u>Shibo Kuang</u> Monash University
14:15-14:30	Impact Energy Dissipation Analysis During Ship Loading Of Iron Ore By Large-Scale MPI-GPU-DEM Simulation (page:17) <u>Jieqing Gan</u> , <u>Tim Evans</u> And <u>Aibing Yu</u> (Monash University)		
14:30-14:45	Designer Granular Materials - A Combined Discrete Element Method And Evolutionary Algorithm Approach (page:18) <u>Gary Delaney</u> And <u>David Howard</u> (CSIRO)	Modelling Of Particle Breakage In Grinding (page:54), <u>Ebrahim Ghasemi Ardi</u> , <u>Cheng Lyu</u> , <u>Aibing Yu</u> And <u>Runyu Yang</u> (University Of New South Wales)	The Phase Separation In Multi-Stage Fluidized Bed Reactors (page:131) <u>Chenxi Zhang</u> , <u>Yao Wang</u> , <u>Weizhong Qian</u> And <u>Fei Wei</u> (Tsinghua University)
14:45-15:00	Local Contact Point Treatment In Sphere Packings (page:20)	The Forces On Cylinders In The Free Molecule Regime (page:55) <u>Jun Wang</u> , <u>Song Yu</u> , And <u>Guodong Xia</u> (Beijing University Of Technology, China)	On Pragmatism In Industrial Modelling Part VI: Management, Retrieval And Analysis Of CFD Cases (page:202)

	<u>Michael Harasek</u> , Mario Pichler, Bahram Haddadi Sisakht, Hamid Reza Norouzi And Christian Jordan (TU Wien, Austria)		<u>Josip Zoric</u> , Stig Urheim And Kristian E. Einarsrud (SINTEF)
15:00-15:15	Just-In-Time Training (JITT) Paradigm For Granular Processes (page:22) <u>Daniel N. Wilke</u> , Nicolin Govender, Patrick Pizette (University Of Pretoria, South Africa)	Study Of Rheological Behaviour Of Granular Non-spherical Particle Suspensions Via CFD-DEM (page:93) <u>Vinay V. Mahajan</u> , Junaid Mehmood, Yousef M. F. El Hasadi and Johan T. Padding (Delft University of Technology)	Numerical Investigation On The Wake Of NACA0015 Hydrofoil (page:228) <u>Sara Vahajii</u> , Jiang Han, Sherman C.P. Cheung, Guan H. Yeoh And Jiyuan Tu (Deakin University)
15:15-15:30	Experimentally Validated Computational Models To Predict The Impact Of Humidity On The Flow Of Granular Mixtures (page:24) Koyel Sen, Raj Mukherjee, Mao Chen, <u>Bodhisattwa Chaudhuri</u> (University Of Connecticut, USA)	Grain-Based Discrete Element Method Modelling of Multi-scale Fracturing in Geomaterials under Dynamic Loading (page:58) <u>Qianbing Zhang</u> , Xiaofeng Li, Kai Liu And Wanrui Hu (Monash University)	Coupling Of CFD-DEM And Reaction Model For 3D Fluidized Beds (page:194) <u>Jun Xie</u> And Wenqi Zhong (Southeast University)
15:30-16:00	Poster Session/Afternoon Tea		
	Simulation Methods (Continued) (Student Session) Chair: Yijiao Jiang, Shibo Kuang	Granular Dynamics (Continued) (Student Session) Chair: Roberto Moreno-Atanasio, Baojun Zhao	Fluid Bed Operations (Continued) (Student Session) Chair: Sutthichai Boonprasop, Reinhard Seiser
16:00-16:10	Liquid Redistribution Upon The Liquid-Bridge Rupture Between Two Unequal Particles With A Minimal Energy Method (page:25) <u>Dongling Wu</u> , Ping Zhou, Baojun Zhao, Tony Howes, Geoff Wang (Central South University)	DEM Simulation Of Powder Packing Process In 3D Printing (page:69) <u>Lin Wang</u> , Aibing Yu, Zongyan Zhou (Monash University)	Predicting Minimum Fluidization Velocity For Vacuum Fluidized Beds (page:206) Lanka Weerasari, <u>Vishwanath Kumar</u> , Subrat Das And Daniel Fabijanic (Deakin University)
16:10-16:20	Multi-Level Coarse-Grain Model In DEM And CFD-DEM Simulations (page:26) <u>Daniel Queteschiner</u> , Thomas Lichtenegger, Stefan Pirker, Simon Schneiderbauer (Johannes Kepler University Linz)	DEM Study of the Effects of Particle Shape and DRI-flap Shape on Burden Distribution in COREX Melter Gasifier (page:355) <u>Yang You</u> , Zhiguo Luo, Haifeng Li, Zongshu Zou, Runyu Yang (University of New South Wales)	A CFD-DEM Model For The Simulation Of Direct Reduction Of Iron Ore In Fluidized Beds (page:207) <u>Mustafa Efe Kinaci</u> , Thomas Lichtenegger, Simon Schneiderbauer (Johannes Kepler University)
16:20-16:30	A Numerical Study On The Reduction, Softening, And Melting Of Iron Ore Pellets And Dripping Of Molten Iron And Slag Using CFD-DEM (page:28) Mehdi Baniasadi, Maryam Baniasadi, Bernhard Peters (University Of Luxembourg)	Finite Element Investigation Of Briquetting Of Iron Ore Particles (page:63) <u>Md Tariqul Hasan</u> , C.L. Li, R.Y. Yang (University Of New South Wales)	Hydrogen Production In Fluidized Bed Membrane Reactors (page:209) Ramon J.W. Voncken, Ivo Roghair, <u>Martin Van Sint Annaland</u> (Eindhoven University Of Technology)
16:30-16:40	Numerical Study On Gas-Solid Two-Phase Flow In A Flue Gas Turbine (page:30) <u>Jingna Pan</u> , Jianjun Wang (China University Of Petroleum)	Experimental Study On Packing Densification Of Non-Spherical Particles Under Air Impact (page:64) <u>Dazhao Gou</u> , Xizhong An, Runyu Yang (Northeastern University)	Multiphase Direct Numerical Simulations (DNS) Of Oil-Water Flows Through Digitized Porous Rocks (page:211) <u>H.V. Patel</u> , J.A.M. Kuipers, E.A.J.F. Peters (Eindhoven University Of Technology)
16:40-16:50	Particle Scale Modelling To Study The Effect Of Bubble Dynamics On Orientation Of Ellipsoids (page:32) <u>Siddhartha Shrestha</u> And Zongyan Zhou (Monash University)	Shape Effects On Bulk Modulus Of Maximally Random Jamming Packing Of Intersecting Spherocylinders (page:65) <u>Wei Deng</u> , Lufeng Liu, Ye Yuan, Shuixiang Li (Peking University, China)	Determination Of The Minimum Fluidization Velocity In Fluidized Bed At Elevated Pressure And Temperature By CFD Simulation (page:223) Yingjuan Shao, <u>Jinrao Gu</u> , Wenqi Zhong, Aibing Yu (Southeast University)
16:50-17:00	A Continuum Model Of The Cohesive Avalanche Considering Stick-Slip Behaviours Of Granular Materials (page:34) <u>L.Y.M. Yang</u> , Q.J. Zheng and A.B. Yu (Monash University)	Multi-Particle FEM Modelling On Hot Compaction Of Tic-316L Composite Powders (page:67) <u>Defeng Wang</u> , Xizhong An, Peng Han, Qian Jia (Northeastern University)	Simulation Of Combustion In Coal-Fired Circulating Fluidized Bed Boiler For Supercritical CO ₂ Power Cycle (page:214) <u>Ying Cui</u> , Wenqi Zhong, Jun Xiang, Guoyao Liu (Southeast University)
17:00-17:10	Multi-Parameter Optimization Of Non-Catalytic Partial Oxidation Of Natural Gas Using Reduced Order Models And CFD (page:35) <u>Philip Rößger</u> , Yury Voloshchuk, Andreas Richter, Bernd Meyer (TU Bergakademie Freiberg)	Self-Assembly Of Granular Spheres Under One-Dimensional Vibration (page:68) <u>Reza Amirifar</u> , Kejun Dong, Qinghua Zeng (Western Sydney University)	Numerical Simulation Of Droplet Formation In Microfluidic Cross-Junction (page:221) <u>Wei Gao</u> , Wei Yu, Chengbin Zhang, Xiangdong Liu, Yongping Chen (Southeast University)
17:10-17:20	Modelling Biochemical Interactions In The Early Stage Formation Of Atherosclerosis Within The Arterial Wall (page:37) <u>Ratchanon Piemjaiswang</u> , Sargon A Gabriel, Yan Ding, Yuqing Feng, Pornpote Piumsomboon And Benjapon Chalermminsuan (Chulalongkorn University)	Waste-To- Energy Conversion Of Sewage Sludge Using Sorption-Enhanced Thermochemical Technology (page:57) <u>Xiaoxia Yang</u> And Yijiao Jiang (Macquarie University)	Direct Numerical Simulation Of Hot Spots In Packed Bed Reactors (page:217) <u>V. Chandra</u> , E.A.J.F. Peters And J.A.M Kuipers (Eindhoven University Of Technology)
17:20-17:30	On The Validity Of The Two-Fluid-KTGF Approach For Dense Gravity-Driven Granular Flows (page:38) <u>Alexander Busch</u> And Stein Tore Johansen (Norwegian University Of Science And Technology)	Shape Effects On Particle Segregation By Discrete Element Method (DEM) (page:70) <u>Zhouzun Xie</u> , Changxing Li, Xizhong An, Yansong Shen (University Of New South Wales)	Cluster-Induced Turbulence Closure Models For Momentum And Heat Transfer In Large-Scale Gas-Solid Flows (page:219) <u>Stefanie Rauchenzauner</u> And Simon Schneiderbauer (Johannes Kepler University)
17:30-17:40	Direct Numerical Simulations And Force Correlations Of Assemblies Of Non-Spherical Particles (page:41) Sathish K. P., Sanjeevi And <u>Johan T. Padding</u> (Delft University Of Technology)	Molecular Dynamics Simulation Of Silica Oligomerization (page:71) <u>Malgorzata Kaminska</u> , Frederic Gruy, Jules Valente (Ecole Des Mines De Saint-Etienne, France)	Numerical Investigation Of Gas Redistribution Effects By Raceways On The In-Furnace States And Performance Of Ironmaking Blast Furnace (page:220) <u>Lulu Jiao</u> , Shibo Kuang, Aibing Yu, Yuntao Li, Xiaoming Mao, Hui Xu (Monash University)
17:40-17:50	An Immersed-Grid Method For Simulation Of Viscous Flows (page:42)	Valid Local Quantities of Particle-fluid Flows for Constitutive Relations	A Numerical Approach For Generic Three Phases Flow Simulation (page:260)

	<u>T.T.V. Le</u> , N. Mai-Duy, K. Le-Cao, T. Tran-Cong (University Of Southern Queensland)	<u>Qinfu Hou</u> , Zongyan Zhou, Jennifer S. Curtis, and Aibing Yu (Monash University)	<u>Son Tung Dang</u> , Stein Tore Johansen And John Christian Morud (Norwegian University Of Science And Technology)
17:50-18:00	Oxy-Fuel Combustion Behaviors In Fluidized Bed: Studied By Experiment And CFD Simulation (page:43) <u>Qinwen Liu</u> , Wenqi Zhong, Aibing Yu (Southeast University)	Numerical Investigation On The Rebound Mechanism Of Spherical Fine Particle Impacting Several Blade Materials (page:72) <u>Juan Di</u> , Shun-Sen WANG, Yong-Hui XIE (Xi'an Jiaotong University)	CFD Modelling Of Gas-Solid Fluidised Bed With Eulerian Single Phase Air Coupled Explicitly With Eulerian Solid Phase (page:213) Mst Farhana Diba, Md. Rezwanul Karim, <u>Jamal Naser</u> (Swinburne University Of Technology)
18:00-19:00	Poster Session & Happy Hour		

Day 2 (Thursday, 6 December)			
	Plenary Session Chair: Wei Ge, Hans Kuipers		
08:30-09:15	Using DEM To Develop Constitutive Models For CFD Simulations Of Particulate Flows (page:1) Professor Jennifer Curtis University of California, Davis		
09:15-10:00	DEM-CFD Analysis Of Contact Electrification Processes (page:3) Professor Chuan-Yu Wu University of Surrey		
10:00-10:30	Poster Session/Morning Tea		
	Laneway Room 1	Laneway Room 2	Laneway Room 3
	Particle-Fluid Flow & Multiphase Flow Chair: Runyu Yang, Hao Zhang	Granular Dynamics (Continued) Chair: David Pinson, Xizhong An	Multiphase, High-Temperature And Complicated Operations Chair: Benjapon Chalermisnuwan, Yuqing Feng
10:30-11:00	Keynote Simulation And Modelling Of Ellipsoids In Particulate Systems (page:94) <u>Zongyan Zhou</u> Monash University	Keynote Reduced Stiffness Model For Cohesive Particles (page:73) <u>Toshitsugu Tanaka</u> Osaka University	Keynote The Mucky Zone In A Model Of Arc Welding Of Aluminium Alloys (page:224) <u>Anthony B. Murphy</u> CSIRO Manufacturing
11:00-11:15	Detachment Of Droplets On Solid Surface In The Surfactant Solution (page:95) <u>Xinglong Shang</u> , Zhengyuan Luo, Bofeng Bai (Xi'an Jiaotong University)	Keynote Transient Simulation Of Particle Segregation By Coupling Granular Flow Model And Diffusive, Segregating Fluxes (page:74) <u>Qiun Zheng</u> Monash University	Computational Models For Pyrometallurgical Phase Separation Problems (page:226) <u>Quinn G. Reynolds</u> , O.F. Oxtoby, M.W. Erwee, And P.J.A. Bezuidenhout (Mintek)
11:15-11:30	Computational Particle Fluid Dynamics Modeling Of Gas-Solids Flow In A Downer (page:96) <u>Xingying Lan</u> , Yingya Wu, Liqing Qin, Jinsen Gao (China University Of Petroleum, Beijing)		The Optical Properties And Electrical Field Enhancement Of Gold Nanospheres (page:204) <u>Bin Chen</u> , Linzhuang Xing, Dong Li, Wenjuan Wu (Xi'an Jiaotong University)
11:30-11:45	Interaction modelling for CFD-DEM simulations of floating particles (page:145) <u>T.M.J. (Tim) Nijssen</u> , K.A. (Kay) Buist, J.A.M. (Hans) Kuipers, J. (Jan) van der Stel and A.T. (Allert) Adema (Eindhoven University of Technology)	Advances in DEM simulations using GPU: A focus on particle shape and number (page:16) <u>Nicolin Govender</u> , Charley Wu, Daniel Wilke, Johannes Kinhast (University of Surrey)	Mesoscale Modeling Of Drop Size Distribution In Rotor-Stator Devices (page:234) <u>Ning Yang</u> , Chao Chen, Xiaoping Guan, Ying Ren (Chinese Academy Of Sciences)
11:45-12:00	DEM-CFD Analysis On The Influence Mechanism Of Electrostatics On Single Bubble In Gas-Solid Fluidized Bed (page:100) <u>Zhen Tan</u> , Cai Liang, Junfei Li (Monash University)	Numerical Simulation Of Granular Flow Using Combined Discrete Element Model (page:78) <u>Yongzhi Zhao</u> , Huaqing Ma, Zihan Liu, Ying You, Changhua Xie, Yuan Zhao (Zhejiang University)	Characterization Of Size Resolved Atmospheric Particles In The Vicinity Of Iron And Steelmaking Industries In China (page:157) Vladimir Strezov, Tao Kan, Tim Evans, Xiaoxia Yang And <u>Yijiao Jiang</u> (Macquarie University)
12:00-12:15	Distribution Homogeneity Of Solid Particles In Slurry Taylor Flow (page:101) <u>Zhengbiao Peng</u> , Mohd. Mostafizur Rahman, Behdad Moghtaderi And Elham Doroodchi (The University Of Newcastle)	Liquid Film Modeling Within An Eulerian Multiphase Framework (page:79) Kshitij Neroorkar, <u>Mohit Tandon</u> , S. Jagan Mohan, And Raghavendra Krishnamurthy (Siemens Industry Software Computational Dynamics India Pvt Ltd)	Numerical Analysis Of The Component Interaction In A Hydrocyclone Treating Heterogeneous Mixture Using Multi-Phase CFD Model (page:230) <u>Mandakini Padhi</u> , <u>Narasimha Mangadoddy</u> (Indian Institute Of Technology)
12:15-12:30	TBA	TBA	TBA
12:30-13:30 Lunch			

	Particle-Fluid Flow & Multiphase Flow (Continued) Chair: Qianbing Zhang, Nicolin Govender	Multiphase, High-Temperature And Complicated Operations (continued) Chair: Toshitsuga Tanaka, Qinfu Hou	Multiphase, High-Temperature And Complicated Operations Chair: G.W. Delaney, Josip Zoric
13:30-14:00	Keynote Multi-Scale Modeling Of Multiphase Complex Flows: Bridging The Gap Between Fundamentals And Industrial Applications (page:104) <u>Yuging Feng</u> CSIRO Mineral Resources	Keynote Key Technologies For Industrial Granular Flow Simulations (page:147) <u>Mikio Sakai</u> The University Of Tokyo	Keynote Bubble Dynamics In Hydrogen Production By Photocatalytic Water Splitting (page:236) <u>Liejun Guo</u> Xi'an Jiaotong University
14:00-14:15	Keynote Modelling And Optimisation Of Reacting Particle Flow: Examples In Ironmaking Industry (page:105) <u>Yansong Shen</u> University Of New South Wales	Keynote Particle Size Segregation For Fun And (Hopefully) Profit (page:148) <u>David Pinson</u> Bluescope Steel	High-Resolution Large Time-Step Schemes for Inviscid Fluid Flow (page:238) <u>Sigbjørn Løland Bore</u> and <u>Tore Flåtten</u> (Norwegian University of Science and Technology)
14:15-14:30			Euler-Lagrangian Simulations On Pyrolysis Oil Spray And Viscosity Effects On A High-Pressure Multi-Hole Injector Nozzle (page:247) <u>Carlos Varas</u> , A.E., Buist, K.A., And Kuipers, J.A.M (Eindhoven University Of Technology)
14:30-14:45	Numerical Prediction On The Drag Force And Heat Transfer Of Various Particles In Supercritical Water (page:109) <u>Hao Zhang</u> , Bo Xiong, Xizhong An (Northeastern University)	Predictive Optimization Of SAG Mill Performance Using DEM (page:149) <u>Peter Rizkalla</u> , Rahul Bharadwaj And Lucilla Almeida (LEAP Australia Pty Ltd)	Numerical Simulation On Flow Field Characteristics Of Backflow Controller (page:242) <u>Huaizhong Shi</u> , Jingfeng Tao, Heqian Zhao (China University Of Petroleum (Beijing))
14:45-15:00	An Investigation On Interactions Between Ultrasonic Waves And Particles Based On The Monte Carlo Method (page:108) <u>Mingxu Su</u> , Bingfa Huang, Fengxian Fan, Huinan Yang, Jun Chen And Xiaoshu Cai (University Of Shanghai For Science And Technology)	Numerical Investigation On Heat Transfer Characteristics Of Particle In Supercritical Water (page:152) <u>Zhengun Wu</u> , Hui Jin, Liang Zhao, Liejun Guo (Xi'an Jiaotong University)	Strengthening Of Microalloying Spring Steels By Secondary Particles (page:158) <u>Xiaodong Ma</u> , Zongze Huang, Zan Yao, Zhouhua Jiang, Geoff Wang, <u>Baojun Zhao</u> (University Of Queensland)
15:00-15:15	A Multi-Scale Modelling Of Oscillatory Blood Flow And Mass Transportation In A Human Coronary <u>Sargon A. Gabriel</u> , Yan Ding, John A. Gear, <u>Yuging Feng</u> (CSIRO)	Lattice Boltzmann investigation on the interactions between non-Newtonian fluid and ellipsoid particles <u>Zheng Qi</u> , Shibo Kuang, Aibing Yu (Monash University)	Numerical investigation of the effects of oxygen enrichment on an ironmaking blast furnace <u>Haiqi Nie</u> , <u>Zhaoyang Li</u> , Shibo Kuang and Aibing Yu (Monash-SEU JRI)
15:15-15:30	Numerical Investigation On Erosion Characteristics Of Double Elbows For Gas-Solid Flow (page:151) <u>Yu Wang</u> , Rongtang Liu, Ming Liu, <u>Junjie Yan</u> (Xi'an Jiaotong University)	Numerical Investigation On The Impacts Of The Evaporation Process On Cough Droplets Dispersions In An Enclosed Environment (page:154) <u>Yihuan Yan</u> , Xiangdong Li And Jiyuan Tu (RMIT University)	An Experimental Study Of Enhanced Heat Transfer Of Nano-Encapsulated Phase Change Material Slurry Embedded In Metal Foam (page:243) <u>Wenqiang Li</u> , Hao Wan, Peijun Liu, Guoqiang He, Fei Qin (Northwestern Polytechnical University)
15:30-16:00	Poster Session/Afternoon Tea		
	Particle-Fluid Flow & Multiphase Flow (Continued) (Student Session) Chair: David Howard, Zhengbiao Peng	Granular Dynamics (Continued) (Student Session) Chair: Wenjing Yang, Jieqing Gan	Multiphase, High-Temperature And Complicated Operations (Student Session) Chair: Baoyu Cui, Yan Ding
16:00-16:10	A DNS-DEM Coupling Methodology For Turbulent Non-Newtonian Suspension Flow (page:113) <u>E.Z. Zheng</u> , M. Rudman, S.B. Kuang, A. Chryss (Monash University)	Shape Optimization Of Axial Symmetrical Hoppers In The Discharging Of Granular Materials (page:80) <u>Xingjian Huang</u> , Qijun Zheng, Aibing Yu And Wenyi Yan (Monash University)	CFD Modelling Of A Lime Kiln Burner (page:249) <u>Brad Wilson</u> , Roger Hassold, <u>Yvonne Yu</u> , Renata Favalli, Jordan Parham (FCT Combustion Pty Ltd)
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