

Monday 7th December - QUT Gardens Point Campus						
7:30	Virtual Portal OnAIR Open Delegates formulate their personal agenda by favouritising presentations					
08:55-09:00	Housekeeping [Room P514]					
09:00-09:10	Introduction & Welcome by Conference Hosts Prof. Hubert Chanson & Prof. Richard Brown including Welcome to Country					
09:10-09:15	Welcome by AFMS President Prof. Tony Lucey					
09:15-09:30	Welcome by QUT Vice Chancellor Prof Margaret Sheil Official Opening					
09:30-09:40	Housekeeping					
09:40-09:42	Transition to next presentation - 2min					
09:42-10:45	Keynote Speaker: Prof Lidia Morawska The Flow Physics of Covid-19: Implications for Infection Control [Room P514] Moderator: Prof. YT Gu					
10:45-11:13	Morning Tea Break - 28mins					
11:13-11:15	Transition to next presentation - 2mins					
Concurrent Session 1						
11:15-12:35	Session 1A P514 BIOMEDICAL (1)	Session 1B P421 ATMOSPHERE	Session 1C P512 JETS & WAKES (1)	Session 1D P419 COMPUTATIONAL METHODS (1)	Session 1E P506 EXPERIMENTAL METHODS & FACILITIES (1)	Session 1F P413 FLOW CONTROL
Moderator	Tracie Barber	Matthew Mason	Garry Brown	Anand Veeraragavan	Hubert Chanson	Jimmy Philip
11:15-11:35	[ID: 70] Lattice Boltzmann modelling of a regularised Kuang-Luo fluid in a carotid artery <i>Bryce Hill, Travis Mitchell and Christopher Leonardi</i>	[ID: 6] The dynamics and vortex structures of the stratopause semi-annual oscillation <i>Terence O'Kane, Vassili Kitsios and Mark Callier</i>	[ID: 88] Two-Point Velocity Measurements in Turbulent Round Jets <i>Milad Samie, Philippe Lavoie and Andrew Pollard</i>	[ID: 94] An Investigation into the Numerical Robustness of High-order Lattice Boltzmann Models <i>Vedod Dzanic, Christopher Fram and Emilie Sauret</i>	[ID: 21] Applications of optical flow technique in air-water flows <i>Rui Shi, Davide Wüthrich and Hubert Chanson</i>	[ID: 124] Modeling the Transient Response to Momentum Injection on an Airfoil <i>Katherine Asztalos and Scott Dawson</i>
11:35-11:55	[ID: 177] Hemodynamics of stented coronary arteries: Experimental and numerical investigations <i>Navid Freidoonmehri, Maziar Arjomandi, Anthony Zander and Rey Chin</i>	[ID: 49] Direct numerical simulation of fog formation within the surface layer <i>Michael MacDonald, Marcin J. Kurowski and Joao Teixeira</i>	[ID: 159] Free Jet Analysis of a 2 m diameter Axial Flow Fan <i>Richard Flay and Daniel Cato</i>	[ID: 65] A-priori evaluation of data-driven models for large-eddy simulations in natural convection <i>Liyuan Liu, Chitrarth Lav and Richard Sandberg</i>	[ID: 57] An experimental framework to capture droplets expelled during various respiratory exhalations. <i>Prateek Bahi, Charitha M. de Silva, C. Raina MacIntyre, A. Chughtal and C. Doolan</i>	[ID: 138] The Effects of Open-Loop Control on a Two-Dimensional Bluff Body <i>Gersham Esganesan, David Burton and Mark Thompson</i>
11:55-12:15	[ID: 187] Impact of Curvature, Bifurcation and Stenting on Secondary Flow in Idealised and Realistic Coronary Arteries <i>Chi Shea, Tejas Conchi, Ramtin Gharleghi and Susann Beier</i>	[ID: 62] A grid sensitivity study of the Weather Research and Forecasting (WRF) model for simulating surface winds over the small island state of Fiji <i>Kunal Dayal, John Cater, Michael Kingan, Gilles Bellon and Rajnish Sharma</i>	[ID: 257] Direct Numerical Simulations of Free Jets Emerging from A Precessing Nozzle <i>Kentaro Echigo, Koichi Tsujimoto, Toshiko Shakouchi, T. Ando, T. Mamoru</i>	[ID: 102] Data-driven RANS Turbulence Closure Models for Vertical Natural Convection <i>Xiaoqian Xu, Andrew Ooi and Richard Sandberg</i>	[ID: 117] Simultaneous planar measurements of gas and particle velocities in particle-laden flows: proof-of-concept <i>Xiangpeng Bi, Zhiwei Sun, Timothy Lau, Zeyad Alwahabi and Graham Nathan</i>	[ID: 167] Analysis of Air Curtains for Natural Convection Heat-Loss Mitigation <i>Razon Mandal, Juan Felipe Torres, Graham Hughes and John Pye</i>
12:15-12:35	[ID: 222] A numerical investigation of a stented arteriovenous fistula <i>Sanjiv Gunasekera, Olivia Ng, Shannon Thomas, Ramon Varcoe, Charitha de Silva and Tracie Barber</i>	[ID: 203] Numerical Simulations of Laboratory-Scale Buoyancy Vortices <i>Theresa Bischof, Michael MacDonald, John E. Cater and Richard G. J. Flay</i>	[ID: 256] Mixing Enhancement of Free Jet using Deep Reinforcement Learning <i>Koichi Tsujimoto, and Tsubasa Tanoue</i>	[ID: 110] New Conservation Laws Based on Generalised Reynolds Transport Theorems <i>Robert K. Niven, Laurent Cordier, Eurika Kaiser, Michael Schlegel and B. Noack</i>	[ID: 20] Introducing a single bubble event detection technique for air-water interfacial velocity measurements in unsteady turbulent bore <i>Rui Shi, Davide Wüthrich and Hubert Chanson</i>	[ID: 209] High Reynolds number backward-facing step flow control <i>Thomas McQueen, David Burton, John Sheridan and Mark Thompson</i>
12:35-13:43	Lunch - 68mins					
12:50-13:20	Facilitated Networking Session with Professor Lidia Morawska - 30mins [Room P512]					
12:40-13:30	COVID Clean Breakout Rooms - 50mins					
13:43-13:45	Transition to next presentation - 2mins					
Concurrent Session 2						
13:45-15:05	Session 2A P514 BIOMEDICAL (2)	Session 2B P421 OCEANS	Session 2C P512 JETS & WAKES (2)	Session 2D P419 COMPUTATIONAL METHODS (2)	Session 2E P506 EXPERIMENTAL METHODS & FACILITIES (2)	Session 2F P413 COMBUSTION (1)
Moderator	Charith Rathnayaka	Kabir Suara	Vincent Wheatley	Justin Leontoni	Hubert Chanson	Assaad Masri
13:45-14:05	[ID: 233] Numerical Study of the Flow Behaviour of Discocyte Red Blood Cell Through a Non-uniform Capillary <i>Dinushika Karandeniya, David Holmes, Emilie Sauret and Yuantong Gu</i>	[ID: 11] Interactions of plane solitary waves in the oceans <i>Lev Ostrovsky and Yury Stepanyants</i>	[ID: 23] Secondary Vortex Street in the Wake of a Thin Rectangular Cylinder <i>Hongyi Jiang, Xiaoying Ju and Yucen Lu</i>	[ID: 147] Supercritical Ethylene Gas Model for use in Internal Flow Paths <i>Matthew Trudgian, Will Landsberg and Anand Veeraragavan</i>	[ID: 208] Design and Testing of a Low-speed Rotating Wind Tunnel <i>Andrew Lock, Kamel Hoaman and Zhiqiang Guan</i>	[ID: 190] Comparison of hydrogen port injection and direct injection (DI) in a single-cylinder dual-fuel diesel engine <i>Xinyu Liu, Ales Srna, Ha Lung Yip, Sanghoon Kook, Qing Nian Chan and E. Hawkes</i>
14:05-14:25	[ID: 148] Calcification Effect on the Wall Shear Stress Distribution of the Aortic Valve Leaflets <i>Araz R. Kivi, N. Sedaghatzadeh, B. Cazzolato, A. Zander, et al.</i>	[ID: 95] Identifying material repelling areas in coastal water systems through Lagrangian coherent structures <i>Anusmriti Ghosh, Kabir Suara and Richard J. Brown</i>	[ID: 71] Energy transfer mechanisms and resolvent analysis in the cylinder wake <i>Bo Jiu, Sean Symon and Simon Illingworth</i>	[ID: 235] A Comparative Study of High-Resolution Upwind Methods in Unsteady Low Mach Number Flows <i>Michael Groom and Ben Thornber</i>	[ID: 10] Noise Cancellation Techniques for Single-Point Wind-Tunnel Measurements <i>Jesse McCarthy</i>	[ID: 83] Cyclic variations of in-cylinder pressure and turbulent flame propagation in an optical direct-injection spark-ignition engine <i>Yuwei Lu, Dongchan Kim and Sanghoon Kook</i>
14:25-14:45	[ID: 74] A clinical predictive indicator for arteriovenous fistula (AVF) failure <i>Olivia Ng, Sanjiv Gunasekera, Shannon Thomas, Ramon Varcoe and Tracie Barber</i>	[ID: 224] Experiments on extreme waves in quasi-linear seas near reflective beaches <i>Yuchen He, Ana Vilo-Concejo, Alexander V. Babanin and Amin Chabchoub</i>	[ID: 155] Effect of surface roughness heights on circular cylinder wakes <i>Chenlin Sun, Tongming Zhou, Hongwei An, Hongjun Zhu and Liang Cheng</i>	[ID: 157] Quantitative Comparison of Numerical Errors for High-Speed Flux Schemes <i>Lachlan Whyborn, Rowan Gollan and Peter Jacobs</i>	[ID: 54] Tracer Particle Selection and Sizing in Closed-Circuit DST Wind Tunnels <i>Paul Gulotta, Peter Manovski, Reece Brown and Milan Jamriska</i>	[ID: 175] A numerical simulation of an under-expanded jet issued from a prototype injector <i>Mohammad Reza Yazdi, Mohsen Talei, Robert Gordon, Michael Brear and J. Lacey</i>
14:45-15:05	[ID: 204] Three-dimensional CFD Simulation of Blood Flow in Aortic Dissection <i>Qingdi Wang, Xiaojing Guo, Eric King Wai Poon, Andrew Ooi and Ruth P Lim</i>	[ID: 218] Strong stratification in the Makarov Basin, Arctic Ocean, observed via intimate means <i>Adrian McCallum and Kabir Suara</i>	[ID: 174] Turbulent Flow Over a Confined Cylinder at Re=3,900 <i>Andrew Ooi, Leon Chan, Wilson Lu, Yicheng Cao, Jimmy Philip, Justin Leontini and Alex Skvortsov</i>	[ID: 244] Dynamical System Identification by Bayesian Inference <i>Robert K. Niven, Ali Mohammad-Djafari, Laurent Cordier, Markus Abel and Markus Quade</i>	[ID: 197] High-Speed PIV Measurements of a Turbulent Boundary Layer at 80 kHz <i>Peter Manovski, Paul Gulotta, Matteo Giacobello, Charitha de Silva, Nicholas Hutchins and Ivan Marusic</i>	[ID: 151] Structural characterisation of soot particles for cold-start and hot-start operation of a diesel engine <i>Priyanka Arora, Faisal Lodi, Puneet Verma, M. Jafari, A. Zare, et al.</i>
15:05-15:33	Afternoon Tea Break - 28mins					
15:10-15:30	COVID Clean Breakout Rooms - 20mins					
15:33-15:35	Transition to next presentation - 2mins					
Concurrent Session 3						
15:35-17:15	Session 3A P514 BIOMEDICAL (3)	Session 3B P421 GEOPHYSICAL	Session 3C P512 JETS & WAKES (3)	Session 3D P419 HIGH-SPEED	Session 3E P506 EXPERIMENTAL METHODS & FACILITIES (3)	Session 3F P413 COMBUSTION (2)
Moderator	Charith Rathnayaka	Mike Meylan	Andrew Ooi	Rowan Gollan	Azadeh Jafari	Assaad Masri
15:35-15:55	[ID: 234] A Diffused Interface Immersed Boundary-Lattice Boltzmann Method for Simulation of Channel Flow <i>Qixiang Huang, Fangbo Tian, John Young and Joseph Lai</i>	[ID: 238] Describing Lava Rheology using Flow Dynamics Information <i>James Hewett, Mathieu Sellier, Dale Cusack, Ben Kennedy, Miguel Moyers-Gonzalez and Jerome Monnier</i>	[ID: 195] Hydrodynamic simulation of submarine far field flow <i>Ciaran Chisholm, Bogus Nugroho, Kevin Kevin and Rey Chin</i>	[ID: 219] The Effect of Wall and Fuel Temperature in a Mach 6 Scramjet Engine <i>Damian Curran, Vincent Wheatley, and Michael Smart</i>	[ID: 79] Assessment of Surf Amenity using Computer Vision with Convolutional Neural Networks to Track Wave Pockets <i>Michael Thompson, Evan Watterson and Tom Baldock</i>	[ID: 55] On-grid location-by-location variations of transmission electron microscope imaged in-flame soot particles in a small-bore diesel engine <i>Rongying Tian, Yilong Zhang and Sanghoon Kook</i>
15:55-16:15	[ID: 143] Airflow dynamic and particle deposition in age-specific human lungs <i>Md Mizanur Rahman, Ming Zhao, Mohammad Saidul Islam, Kejun Dong and Suvash C Saha</i>	[ID: 64] Quantification of inertial effect on the transport of macro-plastics in a tidal embayment <i>Kabir Suara, Mohammadreza Khanarmuei and Richard Brown</i>	[ID: 200] Rotorcraft and Ship Airwakes Simulations Using Immersed Boundary Method <i>Hee Sung Park, Daniel Linton and Ben Thornber</i>	[ID: 253] Numerical Investigation of Supersonic Flow over Aero-Disk Spiked Ballistic Bodies <i>Vianesh Sundarraj, Lohith Porwal, Naveen Raj, Karthik Sundarraj and P. Kulkarni</i>	[ID: 31] A UAV 'mobile buoy' for measuring surface waves <i>Andrew Cook, Alex Babanin, Daniel Sparioto, Peter Graham, Jenny Mathew, Alex Skvortsov, Richard Manasseh and Danica Tothova</i>	[ID: 77] Optimisation of driving-parameters and emissions of a diesel-vehicle using principal component analysis (PCA) <i>G.M Hasan Shaharior, Timothy A. Badisco, Thuy Chu Van, Nicholas Surawski, et al.</i>
16:15-16:35	[ID: 166] Effect of Particle Diameter and Density on Acoustic Drug Delivery to Maxillary Sinus – a Sensitivity Study <i>Oveis Pourmehrzan, Maziar Arjomandi, Benjamin Cazzolato and Zhao Tian</i>	[ID: 34] ENKF parameter estimation of heat transfer in a coupled GCM <i>Vassili Kitsios, Paul Sandery, Terence O'Kane and Russell Fiedler</i>	[ID: 170] Turbulent Flow Over a Mounted Fence Confined in a Channel <i>Leon Chan, Alex Skvortsov and Andrew Ooi</i>	[ID: 248] Transition-Length Predictions for Hypersonic Flows with an Adverse Pressure Gradient <i>Isaac Conway-Brien, Sreekanth Raghunath and David Mee</i>	[ID: 35] In-cylinder flow structure of a production spark-ignition engine at cold start conditions <i>Dongchan Kim, Lingzhe Rao, Heechang Oh and Sanghoon Kook</i>	[ID: 237] Imaging the ignition of dense, inhomogenous liquid fuel sprays at elevated temperatures and pressures <i>Minchao Han, Robert Gordon, Mohsen Talei, Michael Brear and Joshua Lacey</i>
16:35-16:55	[ID: 109] Conditional turbulence in the reciprocating flow in a bifurcating pipe <i>Chinthaka Jacob, David Tingay and Justin Leontini</i>	[ID: 45] Free-surface viscous flow over a depression <i>Edward Hinton, Andrew Hogg and Herbert Huppert</i>	[ID: 84] Influence of a Hemispherical Noise Reduction Reflector on Transonic Jet Flows <i>Jesse Coombs, Anthony Zander and Tyler Schembri</i>	[ID: 85] Direct Numerical Simulations of a Hypersonic Flow on a Cold-Wall Compression Corner with Controlled Surface Roughness <i>Giuseppe Chiapparing and Christian Stemmer</i>	[ID: 216] An investigation of cold-wire spatial resolution using a DNS database <i>Yu Xia, Wagih Rowin, Tom Jelly, Daniel Chung, Ivan Marusic and Nicholas Hutchins</i>	[ID: 99] Simulation of mild auto-ignition initiated by a hot spot <i>Xinbei Day, Mohsen Talei and Yi Yang</i>
16:55-17:15	[ID: 226] Mixing in deformable alveolar cavity <i>Jun Dong, Hulmin Lv, Yue Yang and Yanqiang Zhu</i>	[ID: 107] Simulating Jupiter's Great Red Spot with Discrete Exterior Calculus <i>Pankaj Jagad, and Ravi Samtaney</i>	[ID: 194] Effect of vortex gas on the anode arc attachment behaviour inside the plasma torch: Numerical study <i>Jyothikrishna Perambalur, P. Shukla, K. Alexander, V. Rudolph and R. Kandasamy</i>	[ID: 89] Investigation of vortical structures in the wake of pseudo-random roughness surfaces in hypersonic reacting boundary-layer flows <i>Friedrich Ulrich and Christian Stemmer</i>	[ID: 254] Developing a Transient Drive Cycle Representing Ship Acceleration and Mapping the Effect of External Drag Forces with Test-bed Engine <i>Mojibul Sajjad, G.M Hasan Shaharior, Thuy Chu-Van, Kabir Adewale Suara, et al.</i>	
17:15-19:00	BBQ Hub - Brisbane - QUT GP					
End Day 1						

Tuesday 8th December - QUT Gardens Point Campus							
8:00 Virtual Portal OnAIR Open Delegates formulate their personal agenda by favouritising presentations							
9:00-10:00 Keynote Speaker: Prof Assaad Masri The Dynamics of Atomization and Combustion in Turbulent Spray Flows [Room P514] Moderator: Prof. Richard Brown							
10:00-10:28 Morning Tea Break - 28mins							
10:28-10:30 Transition to next presentation - 2mins							
Concurrent Session 4							
Session 4A P514		Session 4B P421		Session 4C P512		Session 4D P419	
Session 4E P506		Session 4F P413					
INDUSTRIAL FLOWS Anand Veeragavan		RENEWABLES (1) Jay Goit		JETS & WAKES (4) Vincent Wheatley		HYDRODYNAMICS (1) James Venning	
BOUNDARY LAYERS (1) Sharon Stephen		VEHICLE & SPORT AERODYNAMICS Matt Mason					
Moderator		Moderator		Moderator		Moderator	
[ID: 131] Modelling and Simulation of Spin Coating on a Spherical Substrate Ross Shepherd, Mathieu Sellier and Edouard Boujo		[ID: 215] Tidal Energy Feasibility Study and Turbine Design for Malolo Island Naomi Joyce, Ashneel Deo and M. Rafiuddin Ahmed		[ID: 28] Vortex-Induced Vibration of a Sphere Close to or Piercing a Free Surface Methma Rajamani, Mark Thompson and Kerry Hourigan		[ID: 66] Development and Testing of a Buoyant Parabolic Beach As an Efficient Floating Breakwater Carlos H. Fernandez, Tom E. Baldock and Matthew Richter	
[ID: 180] Numerical Simulation of Milk Droplet Drying Process Ali Mohammadi Sefidan, Mathieu Sellier, James Hewett, Geoff Willmott and Sid Becker		[ID: 193] Time-Variations of Wave-Energy and Forecasting Power Availability using Different Techniques Avikesh Kumar, M. Rafiuddin Ahmed and M.G.M. Khan		[ID: 104] Flow-induced vibrations in cylinder arrays are moderated by convective instabilities Negar Hosseini, Martin Griffith and Justin Leontini		[ID: 103] Hydrodynamic analysis of wave and cylinder fish cage interactions Minyuan Ma, Hong Zhang and Dong-Sheng Jeng	
[ID: 173] Linear Stability Analysis of Pulsatile Quasi-Two-Dimensional Duct Flows under a Transverse Magnetic Field Christopher Cambreco, Alban Potherat and Gregory Sheard		[ID: 139] Arm position and its effect on steady and unsteady cycling aerodynamics Timothy Crouch, David Burton, Mark Thompson and John Sheridan		[ID: 123] Experimental study on vortex characteristic of screen cylinders with different porosity Difei Xiao, Chenlin Sun, Azlin Mohd Azmi, Hongjun Zhu and Tangming Zhou		[ID: 15] CFD-Based Boundary Layer Prediction of Axisymmetric Bodies of Revolution Harshal Akolekar, David Pook and Dev Ranmuthugala	
[ID: 189] Stability Analysis of Controlled Diffusion Airfoil Flows at Varying Mach Numbers Shubham and Richard Sandberg		[ID: 53] Crossflow fluid-structure instabilities in wind belts for energy harvesting Jarred Taylor, Lachlan Wilson, Richard Howell, Konstantinos Tsigklifis and Tony Lucey		[ID: 178] The upper-bound limit of Stokes-Wang solution for oscillatory flow around a circular cylinder Chengqiao Ren, Liang Cheng and Tingqiao Chen		[ID: 211] The Effects of Free Stream Turbulence on Bistability of the Ahmed Body Wake Shibo Wang, Harry Scott, Tim Crouch, Mark Thompson and David Burton	
11:50-13:18 Lunch - 88mins Tours at QUT							
12:00-12:30 Facilitated Networking Session with Professor Assaad Masri - 30mins [Room P512]							
12:00-13:10 Tours at QUT - 2x 35mins							
12:00-13:00 COVID Clean Breakout Rooms - 60mins							
13:18-13:20 Transition to next presentation - 2mins							
Concurrent Session 5							
Session 5A P514		Session 5B P421		Session 5C P512		Session 5D P419	
Session 5E P506		Session 5F P413					
MICROFLUIDS Emilie Sauret		RENEWABLES (2) Matthew Mason		BUBBLES (1) Robert Niven		HYDRODYNAMICS (2) Scott McCue	
BOUNDARY LAYERS (2) Ivan Marusic		COMBUSTION (3) Richard Brown					
Moderator		Moderator		Moderator		Moderator	
[ID: 116] Modelling of selective nanofluids under radiation in a CPV/T collector Juwel Chandra Mojumder, Salied Aminoadati and Christopher R. Leonardi		[ID: 243] Large-eddy Simulation of Nearshore Offshore Wind Farms Jay Goit and Asim Omer		[ID: 44] Nucleation Effects on Tip Vortex Cavitation Inception Location Matthew Khoo, James Venning, Bryce Pearce and Paul Brandner		[ID: 207] Comparison of experimental and numerical ship wakes using time-frequency analysis Nicholas Buttle, Ravindra Pethiyagoda, Timothy Moroney, Brian Winship, et al.	
[ID: 228] A Numerical Study on the Electrochemical Sensing Properties of Micropillar Array Electrodes in a Microfluidic Chip Bo Liu, Chuanwen Lv, Chaozhan Chen, Bin Ran, Huaying Chen and Yongqiang Zhu		[ID: 214] Seasonal variability of Offshore Wind Turbine Wakes Warit Chanprasert, Rajnish Sharma, John Cater and Stuart Norris		[ID: 111] Control of Cloud Cavitation through Microbubbles James Venning, Bryce W Pearce and Paul A Brandner		[ID: 27] Numerical Modelling Techniques on Ship-Tug Hydrodynamic Interaction Effects Nirman Jayarathne, Dev Ranmuthugala and Zhi Leong	
[ID: 230] Optimal Operating Conditions for Capillary Breakup Rheometry Based on Half-times of Liquid Bridges Joseph Connell, Murray Rudman and Ranganathan Prabhakar		[ID: 196] Wind Speed Forecasting using Regression, Time Series and Neural Network Models: A Case Study of Suva Arieni Arzu, M. Rafiuddin Ahmed and M.G.M. Khan		[ID: 186] Characterization of microbubble generation in a confined turbulent jet Luka Barbaca, Patrick Russell, Bryce Pearce and Paul Brandner		[ID: 43] Validated numerical simulation of surfaced underwater vehicle at drift angles Alexander Conway, Gregory Seil, Chetan Kumar and Anthony Fowler	
[ID: 241] Combined effect of roughness and suction/blowing in a laminar micro-channel flow Marzieh Khezerloo and Lyazid Djenidi		[ID: 240] Numerical simulation of two-stages contra-rotating vertical axis wind turbine Ben Ko, Sien Liu, Zhou Fang, Yayon Ahmudiarto, Bagus Nugroho and Rey Chin		[ID: 112] Scale Effects on Cavitation about a Sphere James A Venning, Bryce W Pearce and Paul A Brandner		[ID: 13] Modelling Hydrodynamic Loads for Manoeuvring Simulations of Underwater Vehicles Sargan A. Gabriel, Alexander Cameron, Anthony Fowler and David A. Pook	
[ID: 12] IB-LBM study of non-Newtonian flexible capsule flows in contraction-expansion microchannels Jingtao Ma, Li Wang and Fanao Bao Tian		[ID: 19] Meanline Design and Off-Design Performance Prediction for Supercritical CO2 Radial Inflow Turbines Sangkyoung Lee, David Mee, Zhiqiang Guan and Hal Gurgenci		[ID: 223] Nucleation Effects on Tip-Gap Cavitation Patrick Russell, Luka Barbaca, James Venning, Bryce Pearce and Paul Brandner		[ID: 97] VIV Strouhal Number for Long Slender Structures Douglas Potts, Hayden Marcollo and Kanishka Jayasinghe	
15:00-15:28 Afternoon Tea Break - 28mins							
15:05-15:25 COVID Clean Breakout Rooms - 20mins							
15:28-15:30 Transition to next presentation - 2mins							
Concurrent Session 6							
Session 6A P514		Session 6B P421		Session 6C P512		Session 6D P419	
Session 6E P506		Session 6F P413					
BIOLOGICAL Tony Lucey		TURBULENCE & PUMPS Julien Cisonni		BUBBLES (2) James Venning		HYDRODYNAMICS (3) Scott McCue	
BOUNDARY LAYERS (3) Ivan Marusic		COMBUSTION (4) Richard Brown					
Moderator		Moderator		Moderator		Moderator	
[ID: 210] Modelling 3-D cellular microfluidics of different plant cells for the prediction of cellular deformations under external mechanical compression Charith Rathnayaka, Chaminda Karunasena, Wijtha Senadeera and Yuanrong Gu		[ID: 61] Numerical Study of Compressible Turbulent Mixing in Spherical Implosions Comparing Different Initial Perturbations Moutassem El Rafai and Ben Thorber		[ID: 38] Analysis of Taylor bubble dynamics via high-fidelity numerical modelling Travis Mitchell and Christopher Leonardi		[ID: 56] Towed Vertical Surface-Piercing Cylinders Douglas Potts, Jonathan Binns and Hayden Marcollo	
[ID: 163] Is Hydrodynamic Interaction Important in Beating Patterns in Internally-driven Microfilaments? Shibani Veeragavan and Ranganathan Prabhakar		[ID: 232] Aerodynamically-driven rupture of a liquid film by turbulent shear flow Melissa Kozul, Pedro S. Costa, James R. Dawson and Luca Brandt		[ID: 16] Sensitivity analysis in air-water measurements under highly unsteady flow conditions in a strong bore Davide Wüthrich, Rui Shi and Hubert Chanson		[ID: 191] Wave Induced Plume and Hydrodynamic Loads Over Vertical Circular Cylinder Piercing Surface - Numerical Investigation Ahmed Shama, Ahmed Swidan, John Young and Dev Ranmuthugala	
[ID: 220] Hydraulic resistance and inertance of multi-port vessels Sam Mallinson, Geordie McBain, Olivia Ng, Sanjiv Gunasekera and Tracie Barber		[ID: 5] CFD Analysis of a Pressure Compensator for Variable Displacement Pumps Massimo Rundo and Paola Fresio		[ID: 14] Air-water flows on stepped spillways with inclined steps Yvan Arasqupa Nina, Davide Wüthrich and Hubert Chanson		[ID: 108] Numerical Simulations of the flow around a Confined Flat Plate at low Reynolds numbers Danish Saleh H Aljubaili, Andrew Ooi and Leon Chan	
[ID: 236] Stigmatic furrowing by an active suspension in a soft substrate Imaran Mohammad, Prabhakar Ranganathan, Raghunath Chelakkot and Mandar M Inamdar				[ID: 144] Evaluation of Computational Models for Simulations of Multiperforated Bubble Column Shuang Zhu, Andrew Ooi, Richard Manasseh and Alex Skvortsov		[ID: 140] Effects of Geometric Porosity in the Trailing Edge of a Flexible Pitching Plate Sean Hanrahan, Vaibhav Joshi and Rajeev Jaiman	
				[ID: 258] Bubble Dynamics in a Diesel Exhaust Wet Scrubber Ahmed Abdulwahid, Bang Situ, Richard Brown and Wenxian Lin		[ID: 152] Numerical Simulation of Steady Flow Past a D-shaped Cylinder at Low Reynolds Numbers Ze Shao, Hongjun Zhu, Wenhua Zhao and Tangming Zhou	
17:10-17:20 COVID Clean Breakout Rooms Transition to next presentation - 10mins							
17:20-18:30 Young Professionals Networking Session 1 [Room P512] Moderator: Prof Richard Manasseh. Panel: Prof Ivan Marusic, Prof Hubert Chanson, Prof Lidia Morawska & Prof Tony Lucey							
End Day 2							

Wednesday 9th December - UQ St Lucia Campus					
8:00	OnAIR System Open Delegates formulate their personal agenda by favouritising presentations				
8:58-9:00	Transition to next presentation - 2mins				
Concurrent Session 7					
9:00-10:20	Session 7A 50-T203 PIPES Moderator Andrew Ooi	Session 7B 50-N201 POROUS MEDIA (1) Emilie Sauret	Session 7C 50-N202 PARTICLE FLOWS (1) Fang-Bao Tian	Session 7D 49-313A TURBULENCE (1) Anand Veeraragavan	Session 7E 49-316 HEAT TRANSFER (1) Steve Armfield
9:00-9:20	[ID: 217] Vorticity Transport in Turbulent Pipe Flow <i>Garry Brown, Rey Chin and Jimmy Philip</i>	[ID: 63] Towards a stochastic model of the permeability of rough fractures <i>Lukasz Laniewski-Wollk and Christopher Leonardi</i>	[ID: 188] Modelling pheromone flow from insect traps <i>Shuying Chen, Rachael Horner, Max Suckling, Tara Strand and Mark Jermy</i>	[ID: 125] Acceleration Reversal Effects on Buoyancy-Driven Homogeneous Variable-Density Turbulence <i>Denis Aslangil, Daniel Livescu and Arindam Banerjee</i>	[ID: 81] Surface boundary conditions strongly affect the dynamics of rotating horizontal convection <i>Zhi Na and Gregory Sheard</i>
9:20-9:40	[ID: 149] Investigation of Sound Inducing Fluid Dynamics at Pipe Leak and It's Influence on Acoustic Emission Signals <i>Fatematus Zahara, David Holmes, Michael Cholette and Yuantong Gu</i>	[ID: 199] Coupling Fluid Flow and Porous Media Flow <i>Balaje Kalyanaraman, Michael Meylan and Bishnu Lamichhane</i>	[ID: 39] Initial Characterisation of Droplet Dynamics in Flow Blurring and Flow Focusing Atomization <i>Othman J. Jaber, Agisilaos Kourmatzis and Assaad R. Masri</i>	[ID: 69] On the turbulence-generated free-surface waves in open-channel flows <i>Aman Kidanemariam and Ivan Marusic</i>	[ID: 67] Natural convection in a cavity with time-dependent flux boundary <i>Linjing Zhou, Steven Armfield and Wenxian Lin</i>
9:40-10:00	[ID: 52] Investigation of the Effects of Base Flow on the Interaction of Off-line Air Pockets with Fluid Transients <i>Jane Alexander, Pedro Lee and Zhao Li</i>	[ID: 80] Capturing Local Fluid Characteristics in Porous Media using Pore Network Models <i>Adnan Sufjan, Christopher Knight, Catherine O'Sullivan, B. van Wachem and D. Dini</i>	[ID: 171] Stereo PIV study of multirotor UAV downwash and spray dispersion <i>Ilija Chyrva, Natalia Kabaliuk, Christina Dunker, Tara Strand, Patrick Geoghegan and Mark Jermy</i>	[ID: 73] Resolvent analysis predictions of energy transfer in turbulent channel flow <i>Sean Symon, Simon Illingworth and Ivan Marusic</i>	[ID: 87] Shallow Enclosure Horizontal Convection: Insights from Asymptotic Expansion Analysis <i>Sajjad Hossain, Tony Vo and Gregory Sheard</i>
10:00-10:20	[ID: 192] Designing Suction-Inducing Geometries for Flow Control using CFD-Coupled Artificial Neural Networks <i>James Ramsay, Mathieu Sellier and Wei Hua Ho</i>	[ID: 164] Modelling Ballast Scour in Rail Tracks due to Flood Water <i>Michael Meylan and Robert McKibbin</i>	[ID: 92] Two-dimensional Numerical Simulation of Inkjet Print-zone Flows <i>Andre Aquino, Sam Mallinson, Geordie D. McBain, Glenn Horrocks, Charita de Silva and Tracie Barber</i>	[ID: 32] Modelling the third-order velocity structure function in the scaling range at finite Reynolds numbers <i>Lyazid Djenedj and Robert Antonia</i>	[ID: 179] Onset of Horizontal Convection <i>Tzekih Tsoi and Gregory J. Sheard</i>
10:20-10:58	Morning Tea Break - 28mins				
10:25-10:45	COVID Clean Breakout Rooms - 20mins				
10:58-11:00	Transition to next presentation - 2mins				
Concurrent Session 8					
11:00-12:20	Session 8A 50-T203 WIND ENGINEERING (1) Moderator Hubert Chanson	Session 8B 50-N201 POROUS MEDIA (2) Sarah Razaqi	Session 8C 50-N202 PARTICLE FLOWS (2) Fang-Bao Tian	Session 8D 49-313A AERODYNAMICS (1) Rowan Gollan	Session 8E 49-316 HEAT TRANSFER (2) Nima Nadim
11:00-11:20	[ID: 76] Experimental and Numerical Simulation of Wind Characteristics Behind Wedge-shaped Windbreak <i>Junwei Lyu, Chien Ming Wang and Matthew S. Mason</i>	[ID: 130] Autonomous Solar-Powered Desalination of Seawater using Low Pressure and Temperature <i>Amit Thapa, Bisan Tamang, Naveen Ojha and B. Phuoc Huynh</i>	[ID: 169] Hydrodynamic and electrostatic jamming of microparticles in narrow channels <i>Nathan Di Vaio, Lukasz Laniewski-Wollk, R. Johnson, S. Aminossadati, C. Leonardi</i>	[ID: 4] Experimental Investigation of the Mean Pressure Field at Airfoil-Wall Junctions <i>Yuchen Ding, Danielle Moreau, Charitha de Silva and Con Doolan</i>	[ID: 114] Studying the natural convection problem in a square cavity by a new vorticity-stream-function approach <i>Peyman Mavelli, Tzekih Tsoi and Gregory Sheard</i>
11:20-11:40	[ID: 82] Generating equivalent static wind loads for a tall building using base moment spectra <i>M Mahad Salehinajad and Richard Flay</i>	[ID: 86] Capillary trapping of CO2 in a heterogeneous horizontal aquifer <i>Edward Hinton and Andrew Woods</i>	[ID: 101] A numerical study of gravity effects on horizontal particle-laden pipe flows <i>Matthew Xinchen Zhang, Graham Nathan, Zhao Feng Tian and Rey Cheng Chin</i>	[ID: 33] Pitching Hydrofoil: Inviscid Analysis and Scaling Parameters <i>Md. Mahbub Alam and Zaka Muhammad</i>	[ID: 93] Wedge shaped protrusions in duct flows for heat transfer enhancement <i>Sneha Murali and Gregory J. Sheard</i>
11:40-12:00	[ID: 255] Wind Loads on the CAARC High-Rise Building Subject to Non-Traditional Boundary Layer Profiles <i>Matthew Mason, Yang Li and Yuan-Lung Lo</i>	[ID: 249] Desalination Using Simple Materials <i>Darren To and B. Phuoc Huynh</i>	[ID: 165] Effect of Particle Volume Fraction on Turbulence in Pipes and Channels <i>Tony Zahtla, Leon Chan, Andrew Ooi and Jimmy Philip</i>	[ID: 185] Curved leading edges and wing tips help enhance the lift on insect wings <i>Shantanu Bhat, Leon Chan, and Mark Thompson</i>	[ID: 96] Characteristics of a Buoyant Plume in a Channel with Crossflow <i>Yicheng Cao, Jimmy Philip and Andrew Ooi</i>
12:00-12:20	[ID: 251] An assessment of Atmospheric Boundary Layer Effects on the Ship Air-wake <i>Heri Setiawan, Kevin and Jason P. Monty</i>		[ID: 168] Turbulence Modification Due to Inertial Particles in a Rough-Wall Pipe <i>Leon Chan, Tony Zahtla, Andrew Ooi and Jimmy Philip</i>	[ID: 225] Automotive Aerodynamics Prediction using a Fast Transient Solver for Low-Mach Number Compressible Flow <i>Liang Yu, Sammy Diasinos and Ben Thornber</i>	[ID: 259] Impact of Yaw angle on the Effectiveness of an Air Curtain for Solar Cavity Receivers <i>Etham Alipourzarangh, Alfonso Chinnici, Zhao Tian, G. Nathan and B. Dally</i>
12:20-13:48	Lunch - 88 mins				
12:30-13:00	Facilitated Networking Session with Professor Ivan Marusic - 30mins [Room 49-313A]				
12:30-13:40	Tours at UQ - 2x 35mins				
12:25-13:25	COVID Clean Breakout Rooms - 60mins				
13:48-13:50	Transition to next presentation - 2mins				
Concurrent Session 9					
13:50-15:10	Session 9A 50-T203 WIND ENGINEERING (2) Moderator Matthew Mason	Session 9B 50-N201 RIVERS/CHANNELS(1) Kabir Suara	Session 9C 50-N202 PARTICLE FLOWS (3) Thuy Chu Van	Session 9D 49-313A AEROACOUSTICS (1) Richard Manasseh	Session 9E 49-316 HEAT TRANSFER (3) Nima Nadim
13:50-14:10	[ID: 68] A Comparison of FDS, ANSYS-CFX and Caelus for Car Park CO Ventilation <i>Martin Leahy, Daniel Lansell-Kenny, Darrin Stephens, Tom Harvey and Corey Leb</i>	[ID: 25] Unsteady surge characteristics in semi-circular channels <i>Emelia Dara Soecharto, Davide Wuthrich and Hubert Chanson</i>	[ID: 126] Effect of Turbulence on the Performance of a Gas Cyclone <i>Ruizhi Jin, Erfan Keshavarzian, Kejun Dong, Sijie Dong and Bo Wang</i>	[ID: 100] Numerical study of sound generation by three-dimensional flapping wings during hovering flight <i>Li Wang and Fang-Bao Tian</i>	[ID: 7] Heat transfer enhancement in phase change materials for thermal energy storage in concentrated solar power plants <i>Michael Opatol, Chunrong Zhao and Kamel Hooman</i>
14:10-14:30	[ID: 246] Study of Natural Ventilation Performance Relative to Different Wind Directions <i>Reza Jamatifar, Lyazid Djenedj and Michael Ostwald</i>	[ID: 26] Hydrodynamic Instabilities in Open-Channel Flow past Lateral Cavities <i>Youkai Li and Hubert Chanson</i>	[ID: 201] Three-dimensional numerical simulation of air-flow in inkjet print-zones <i>Sam Mallinson, Andre Aquino, Geordie McBain, Glenn Horrocks, Tracie Barber, Charitha de Silva and Guang Yeoh</i>	[ID: 78] Prediction of small-scale UAS rotor noise <i>Li Chen, Trevor Batty, Ronny Wijaya and Matteo Giacobello</i>	[ID: 198] Experimental study on the thermal performance of straight and oblique finned, polymer heat sinks <i>Kalen Timbs, Mehdi Khatamifard, Wenxian Lin and Elsa Dos Santos Antunes</i>
14:30-14:50	[ID: 136] CFD Study of Evaporative Cooling System Integrated to a Windcatcher <i>Amirjavad Ahmadian Housseini, Maryam Ghodrati, Seyyed Hossein Housseini, Behzad Galparvar, John Kaiser Calautit and Goodarz Ahmadi</i>	[ID: 72] Impact of sensor location on assimilated hydrodynamic model performance <i>Mohammadreza Khanarmuei, Neda Mardani, Kabir Suara, Julius Sumihar, Adrian McCallum, Roy Sidle and Richard Brown</i>	[ID: 91] CFD analysis to estimate the best validation approach for reverse flow hydrocyclone <i>Shuvam Mohanty and Jong Leng Liow</i>	[ID: 106] The Serrated Trailing Edge Influence on Flapping-wing Acoustics <i>Xueyu Ji, Li Wang, Fang-Bao Tian, Joseph Lai and John Young</i>	[ID: 252] Thermodynamic Analysis of a Diesel Exhaust Wet Scrubber <i>Ahmed Abdulwahid, Rang Situ, Richard Brown and Wenxian Lin</i>
14:50-15:10	[ID: 46] Loading on rounded square foundation elements of offshore structures with marine growth at incidence <i>Annika Frede and Nils Paul van Hinsberg</i>	[ID: 202] A numerical investigation of dynamics of a shallow intermittently closed and open lake and lagoon (ICOLL) <i>Neda Mardani, Kabir Suara, M. Khanarmuei, R. Brown, A. McCallum and R. Sidle</i>	[ID: 48] Effect of varying inflow conditions on pharmaceutical powder dynamics in inhaler-like flows <i>Albyn Lowe, Agisilaos Kourmatzis and Gajendra Singh</i>	[ID: 137] Resolvent Method Surface Pressures for Airfoil Trailing-Edge Noise Prediction <i>Georges Wagner and Richard Sandberg</i>	[ID: 118] Heat Transfer Investigation on Under-expanded Supersonic Impinging Jets by Large Eddy Simulation <i>Minghang Li, Richard Sandberg, Julio Soria and Andrew Ooi</i>
15:10-15:38	Afternoon Tea Break - 28mins				
15:10-15:30	COVID Clean Breakout Rooms - 60mins				
15:38-15:40	Transition to next presentation - 2mins				
Concurrent Session 10					
15:40-16:20	Session 10A 50-T203 AERODYNAMICS (2) Moderator Shantanu Bhat	Session 10B 50-N201 RIVERS/CHANNELS(2) Youkai Li	Session 10C 50-N202 PARTICLE FLOWS (4) Thuy Chu Van	Session 10D 49-313A AEROACOUSTICS (2) Tony Lucey	Session 10E 49-316 HEAT TRANSFER (4) Steve Armfield
15:40-16:00	[ID: 105] Resolvent analysis of co-existing periodic-flow solutions around a NACA0012 airfoil <i>Olivier Marquet, Justin S Leontini, Jisheng Zhao and Mark C Thompson</i>	[ID: 22] Modelling of tsunami wave overtopping in a converging channel <i>Ananth Wuppukondur and Tom Baldock</i>	[ID: 247] Application of Eulerian Multi-Phase Models to Investigate Rheology of Slurries <i>Nima Nadim and Mustafa Javed</i>	[ID: 250] LES Simulation of Sound Generated by a Cylinder Wake and its Interaction with Shock Waves <i>Ramandeep Kaur, Vincent Wheatley, Anand Veeraragavan and Con Doolan</i>	[ID: 41] The Role of Compressibility in the Linear-stability of Centrifugal Buoyancy-induced Flow <i>Deepak Saini and Richard Sandberg</i>
16:00-16:20	[ID: 8] Investigation of Stationary Vanes Aerodynamic Performance under Different RDC Exhaust <i>Majid Asil, Panagiotis Stathopoulos and Christian Oliver Paschereit</i>	[ID: 98] The Influence of Sharp Meanders on Thermally Stratified Open Channel Flow <i>Duy Nguyen and Michael Kirkpatrick</i>	[ID: 42] Aerosol Generation by Condensation in Laminar Boundary Layers for Inhalers <i>Patrick Scheuermann, David Schadow, Paul Stephenson and Mark Jermy</i>	[ID: 60] Acoustic and Thrust Measurements of Small-Scale Uninhabited Aerial System (UAS) Rotors in a Low Speed Wind Tunnel <i>Hurmat Ain, Peter Manovski, Jesse McCarthy and Paul Jacquemin</i>	[ID: 213] Heat Transfer Coefficient Estimation for Turbulent Boundary Layers <i>Sicong Wang, Yu Xia, Wajih Abu Rowin, Ivan Marusic, Richard Sandberg, Daniel Chung and Nicholas Hutchins</i>
16:20-16:30	Transition to next presentation - 10mins				
16:30-16:35	Introduction & Welcome by UQ EAIT Faculty Executive Dean Prof Vicki Chen [Room 50-T203]				
16:35-17:05	Invited Speaker: Dr Xinqian (Sophia) Leng CFD Modelling of Surface Wave Breaking in a Long Channel Moderator: Prof. Hubert Chanson				
17:05-17:35	Invited Speaker: Dr Sarah Razaqi Australian Excellence in High Mach Number Science Moderator: Prof. Hubert Chanson				
17:35-17:40	Transition to next presentation - 5mins				
17:40-19:00	Young Professionals Networking Session 2 [Room 49-313A] Moderator: Prof Richard Manasseh. Panel: Dr Xinqian (Sophia) Leng & Dr Chandan Kumar				
End Day 3					

Thursday 10th December - QUT Gardens Point Campus

9:00-10:00

Keynote Speaker: Prof Ivan Marusic
Active and Inactive Motions in Wall Turbulence [Room P514]
Moderator: Prof. Tony Lucey

10:00-10:30

AFMS Fellowship
New Fellows

10:30-10:58

Coffee Break - 28mins

10:35-10:50

COVID Clean Room - 20mins

10:58-11:00

Transition to next presentation - 2mins

11:00-11:45

Australasian Fluid Mechanics Society
General Meeting - 45mins

11:45-12:05

Student Awards
AFMC2020 Student Presentations

12:05-12:15

AFMC2022 Presentation
Sydney

12:15-12:30

AFMC2020 Closing Ceremony

12:30-13:30

Lunch - 60mins

End Day 4