



Seventh International Conference on Computational Fluid Dynamics in the Minerals and Process Industries

9-11 December 2009

Rydges, Melbourne, Victoria, Australia

OFFICIAL PROGRAM



Day 1 - Wednesday, 9 December				
8.30	REGISTRATION	Conference Foyer, Rydges Melbourne		
PLENARY SESSION (Chairman Phil Schwarz)		Conference Rooms 1,2,3		
9.00	Welcome from CSIRO	Phil Schwarz, CSIRO		
	Opening	Dr Robin Batterham, Group Chief Scientist, Rio Tinto Limited		
9.20	Keynote Lecture Larry Hackman (Syncrude)	<i>THE USE OF CFD AT SYNCRUDE: SUCCESSES AND CHALLENGES</i>		
	SESSION 1 (Legends Room)	SESSION 2 (Conference Room 1)	SESSION 3 (Conference Room 2)	SESSION 4 (Conference Room 3)
	High Temperature Processing - Symposium (Chairman Andrew Campbell)	Industrial Applications (Chairman Larry Hackman)	Pipeline Flows (Chairman Jiyuan Tu)	Stirred Tanks (Chairman Jamal Naser)
10.15 Session Lead Paper	Toh, T. , Takeuchi, E. and Yamamura, K. (Nippon Steel Corporation) MULTI-PHYSICS ANALYSIS FOR ELECTROMAGNETIC PROCESSING IN CONTINUOUS CASTING OF STEEL BY FINITE VOLUME METHOD APPROACH	Haywood, R.J. , Taylor, W., Pliakas, T., Tedford, N. and Warnica, D. (Hatch) ENHANCED PROBLEM SOLVING; THE INTEGRATION OF CFD AND OTHER ENGINEERING APPLICATIONS	Issa, R. (Imperial College, UK) SIMULATION OF INTERMITTENT FLOW IN MULTIPHASE OIL AND GAS PIPELINES	Derksen, J. (University of Alberta) SIMULATIONS OF THIXOTROPIC LIQUIDS
10.40	Kadkhodabeigi, M. , Tveit, H. and Johansen, S.T. (Norwegian University of Science and Technology) MODELLING THE TAPPING OF SILICON MELT FROM THE SUBMERGED ARC FURNACES	Naser, J. (Swinburne University of Technology) INDUSTRIAL APPLICATION OF CFD – A REVIEW OF FEW EXAMPLES	Dickenson, P. (Cambridge University) THE FEASIBILITY OF SMOOTHED PARTICLE HYDRODYNAMICS FOR MULTIPHASE OILFIELD SYSTEMS	Syrjänen, J. , Haavisto, S., Koponen, A. and Manninen, M. (VTT technical Research of Finland) PARTICLE VELOCITY AND CONCENTRATION PROFILES OF SAND - WATER SLURRY IN STIRRED TANK - MEASUREMENTS AND MODELLING
11.00	MORNING TEA	Conference Foyer & Broadway Room, Rydges Melbourne		

	SESSION 1 (Legends Room)	SESSION 2 (Conference Room 1)	SESSION 3 (Conference Room 2)	SESSION 4 (Conference Room 3)
	High Temperature Processing Mini-Symposium (Chairman Mark Davis)	Industrial Process Flows (Chairman Ross Haywood)	Flow Past Objects (Chairman Kris Ryan)	Alumina Processing (Chairman David Fletcher)
11.30	Runstedtler, A. , Boisvert, P., Tisdale, D., Greenfield, M., Chui, E. and Majeski, A. (Natural Resources Canada) COMPUTATIONAL FLUID DYNAMICS MODEL OF ELECTRIC FURNACE FOR SMELTING NICKEL CALCINE	Tabib, M. , Lane, G., Yang, W. and Schwarz, M.P. (CSIRO) CFD SIMULATION OF A SOLVENT EXTRACTION PUMP MIXER UNIT: EVALUATING LARGE EDDY SIMULATION AND RANS BASED MODELS	Hussam, W.K. , Sheard, G.J. and Thompson, M.C. (Monash University) A QUASI-TWO-DIMENSIONAL INVESTIGATION OF UNSTEADY TRANSITION IN SHALLOW FLOW PAST A CIRCULAR CYLINDER IN A CHANNEL	Kumaresan, T. , Thakre, S.S., Basu, B., Kaple, K., Gupta, H.P., Bandi, A., Chaturvedi, P., Roy, N.N., Gararia, S.N., Sapra, V. and Shah, R.P. (Aditya Birla Science & Technology Co Ltd.) PERFORMANCE IMPROVEMENT OF ALUMINA DIGESTERS
11.50	Alam, M. , Naser, J. and Brooks, G.A. (Swinburne University of Technology) CFD SIMULATION OF SUPERSONIC OXYGEN JET BEHAVIOUR INSIDE A HIGH TEMPERATURE FIELD	Icardi, M. , Gavi, E., Marchisio, D.L., Olsen, M.G., Fox, R.O. and Lakehal, D. (Politecnico di Torino) VALIDATION OF LES PREDICTIONS FOR TURBULENT FLOWS IN A CONFINED IMPINGING JET REACTOR	Ali, M.S.M. , Doolan, C.J. and Wheatley, V. (The University of Adelaide) GRID CONVERGENCE STUDY FOR A TWO-DIMENSIONAL SIMULATION OF FLOW AROUND A SQUARE CYLINDER AT A LOW REYNOLDS NUMBER	Bremhorst, K. and Brennan, M.S. (JKMRC University of Queensland) CFD MODELING OF ALUMINA SLURRY HEAT EXCHANGER HEADERS: (i) COMPARISON OF CFD APPROACHES
12.10	Prakash, M. , Pereira, G.G., Cleary, P.W., Rohan, P. and Taylor, J.A. (CSIRO) VALIDATION OF SPH PREDICTIONS OF OXIDE GENERATED DURING AI MELT TRANSFER	Feng, Y.Q. , Yang, W., Cooksey, M.A. and Schwarz, M.P. (CSIRO) DEVELOPMENT OF BUBBLE DRIVEN FLOW CFD MODEL APPLIED FOR ALUMINIUM SMELTING CELLS	Ariff, M., Salim, S.M. and Cheah, S.C. (Nottingham University, Malaysia) WALL Y ⁺ APPROACH FOR DEALING WITH TURBULENT FLOW OVER A SURFACE MOUNTED CUBE: PART 1 - LOW REYNOLDS NUMBER	Marsh, C. (CFD Design & Engineering) CFD MODELLING OF ALUMINA CALCINER FURNACES
12.30	LUNCH Conference Foyer & Broadway Room, Rydges Melbourne			

PLENARY SESSION (Chairman Malcolm Davidson)		Conference Rooms 1,2,3
1.30	Keynote Lecture A. Passalacqua, and Rodney O. Fox , (Iowa State University)	<i>MULTIPHASE CFD FOR GAS-PARTICLE FLOWS: BEYOND THE TWO-FLUID MODEL</i>

	SESSION 1 (Legends Room)	SESSION 2 (Conference Room 1)	SESSION 3 (Conference Room 2)	SESSION 4 (Conference Room 3)
	High Temperature Processing Mini-Symposium (Chairman Allan Runstedtler)	Heat Transfer (Chairman Ida Wierzba)	Fluid Dynamics (Chairman Malcolm Davidson)	Hydrocyclones (Chairman Rodney Fox)
2.25	Pan, Y. , Witt, P.J. and Xie, D. (CSIRO) CFD SIMULATION OF FREE SURFACE FLOW AND HEAT TRANSFER OF LIQUID SLAG ON A SPINNING DISC FOR A NOVEL DRY SLAG GRANULATION PROCESS	Campbell, A.P. , Abdel-Jawad, M., Appleby, S. and Servant, G. (Worley Parsons) CFD MODELLING OF A SUBTERRANEAN BUSBAR FOR THERMAL PERFORMANCE	Poon, K.W. , Iaccarino, G., Ooi, A. and Giacobello, M. (The University of Melbourne) NUMERICAL STUDIES OF HIGH REYNOLDS NUMBER FLOW PAST A STATIONARY AND ROTATING SPHERE	Chu, K.W. , Wang, B., Yu, A.B. and Vince, A. (The University of New South Wales) MODELLING THE MULTIPHASE FLOW IN DENSE MEDIUM CYCLONES
2.45	Bhatelia, T.J., Utikar, R.P., Pareek, V.K. and Tade, M.O. (Curtin University of Technology) CHARACTERIZING LIQUID FILM THICKNESS IN SPINNING DISC REACTORS	Sun, W.H., Huang, C.J., Wu, C.Y. and Miao, J.M. (National Defense University, Taiwan) NUMERICAL STUDY ON THE EFFUSION COOLING PERFORMANCE OVER THE WALLS OF AN ANNULAR BURNER	Dhopade, P. and Sheard, G.J. (Monash University) SHEAR LAYER REATTACHMENT ON A SQUARE CYLINDER WITH INCIDENCE ANGLE VARIATION	Stephens, D.W. and Mohanarangam, K. (CSIRO) TURBULENCE MODEL ANALYSIS OF FLOW INSIDE A HYDROCYCLONE
3.05	White, R.B. and King, D. (CSIRO) COMBINED EXPERIMENTAL AND SIMULATION (CFD) ANALYSIS ON PERFORMANCE OF A HORIZONTAL TUBE REACTOR USED TO PRODUCE CARBON NANOTUBES	Knoerzer, K. and Versteeg, C. (CSIRO) A CFD MODEL FOR SIMULATING HIGH PRESSURE THERMAL (HPT) PROCESSING - IMPACT OF MATERIAL PROPERTIES AND PROCESSING CONDITIONS ON PREDICTION ACCURACY	So, J., Ryan, K. and Sheard, G.J. (Monash University) SHORT-WAVE INSTABILITIES ON A VORTEX PAIR OF UNEQUAL STRENGTH CIRCULATION RATIO	Brennan, M.S. , Holtham, P.N. and Narasimha, M. (JKMRC University of Queensland) CFD MODELLING OF HYDROCYCLONES: VALIDATION AGAINST PLANT HYDRODYNAMIC PERFORMANCE
3.25	AFTERNOON TEA Conference Foyer & Broadway Room, Rydges Melbourne			

	SESSION 1 (Legends Room)	SESSION 2 (Conference Room 1)	SESSION 3 (Conference Room 2)	SESSION 4 (Conference Room 3)
	High Temperature Processing Mini-Symposium (Chairman Takehiko Toh)	Wall Effects (Chairman Wei Ge)	Bubbly Flows (Chairman Raad Issa)	
3.55	Zhang, S.J., Li, R.B. , Wei, J.J. and Guo, L.J. (Xi'an Jiaotong University) NUMERICAL SIMULATION OF MAGNESIUM PRODUCTION BY THE PIDGEON PROCESS PART II: COUPLING OF THE MAGNESIUM REDUCTION IN THE RETORTS WITH THE SURROUNDING THERMAL-FLOW FIELDS IN A COAL-FIRED FURNACE	Johnsen, S.G. and Johansen, S.T. (SINTEF Materials and Chemistry) DEVELOPMENT OF A BOUNDARY CONDITION WALL FUNCTION FOR PARTICULATE FOULING CFD MODELING	Cheung, S.C.P., Yeoh, G.H. and Tu, J.Y. (RMIT University) DIRECT QUADRATURE METHOD OF MOMENTS FOR ISOTHERMAL BUBBLY FLOWS	
4.15	Solnordal, C.B. , Jorgensen, F.R.A. and Russell, R. (CSIRO) THE EFFECT OF PARTICLE SIZE AND COMPOSITION ON THE PERFORMANCE OF THE COMPOSITE PARTICLE MODEL IN PREDICTING COMBUSTION BEHAVIOUR IN A FLASH FURNACE REACTION SHAFT	Jafar, F.A. , Thorpe, G.R. and Turan, O.F. (Victoria University) FLOW MODE CHARACTERISATION OF LIQUID FILMS FALLING ON HORIZONTAL PLAIN CYLINDERS	Duan, X. , Cheung, S.C.P., Yeoh, G.H., Tu, J.Y., Krepper, E. and Lucas, D. (RMIT University) AN OVERALL ASSESSMENT OF ABND MODEL FOR LARGE-SCALE BUBBLY FLOWS	
4.35	Higgins, D. , Gray, N. and Davidson, M.R. (The University of Melbourne) SIMULATING AGGLOMERATION OF MOLTEN PARTICLES IN THE FLASH SMELTING REACTION SHAFT	Sharma, S. and Gupta, A.V. (Birla Institute of Technology & Science Pilani) NUMERICAL SIMULATION OF HEAT TRANSFER OF NANOFLUIDS IN AN ENCLOSURE		
4.55	BREAK			

5.00	Panel Discussion – Future Challenges and Opportunities for CFD (Chairman Phil Schwarz)		CONFERENCE ROOMS 1,2,3	
5.30	POSTER SESSION	Broadway Room, Rydges Melbourne		
	Choi, H.S., Choi, Y.S. and Kim, S.J. (Korea Institute of Machinery and Materials) NUMERICAL SIMULATION FOR FAST PYROLYSIS OF WOODY BIOMASS IN A BUBBLING FLUIDISED BED REACTOR	Sheard, G.J. and King, M.P. (Monash University) THE INFLUENCE OF HEIGHT RATIO ON RAYLEIGH-NUMBER SCALING AND STABILITY OF HORIZONTAL CONVECTION	Ariff, M., Salim, S.M. and Cheah, S.C. (Nottingham University, Malaysia) WALL Y^+ APPROACH FOR DEALING WITH TURBULENT FLOW OVER A SURFACE MOUNTED CUBE: PART 2 - HIGH REYNOLDS NUMBER	Hou, Q.F., Guo, B.Y., Li, L.F. and Yu, A.B. (The University of New South Wales) NUMERICAL SIMULATION OF GAS FLOW IN AN ELECTROSTATIC PRECIPITATOR
	Sonavane, Y. and Specht, E. (Otto von Guericke University) NUMERICAL ANALYSIS OF THE HEAT TRANSFER IN THE WALL OF ROTARY KILN USING FINITE ELEMENT METHOD ANSYS	Pereira, G.G., Pucilowski, S., Liffman, K. and Cleary, P.W. (CSIRO) STREAK PATTERNS IN BINARY GRANULAR MEDIA IN A ROTARY CLASSIFIER	Mossad, R., Yang, W. and Schwarz, M.P. (University of Southern Queensland) NUMERICAL PREDICTION OF AIR FLOW IN SHARP 90° ELBOW	Mohanaragam, K., Stephens, D.W. and Nguyen, T.V. (CSIRO) EVALUATION OF TWO-EQUATION TURBULENCE MODELS IN A LABORATORY-SCALE THICKENER FEEDWELL

	Butler, C.J., Sheard, G.J. and Ryan, K. (Monash University) MODELLING VARIATIONS IN SHEAR-RATE AROUND A GEOMETRICALLY SIMILAR THROMBUS IN-VITRO	Rudman, M. and Cleary, P.W. (CSIRO) MODELLING SLOSHING IN LNG TANKS	Pan, Y. and Langberg, D. (CSIRO) PHYSICAL AND MATHEMATICAL MODELLING INVESTIGATIONS OF THE MECHANISMS OF SPLASH GENERATION IN BATH SMELTING FURNACES	Fahmy, M., Sun, Z. and Molteno, T. (University of Otago, New Zealand) RESTRICTED REGIONS OF RAYLEIGH-BÉNARD-MARANGONI CONVECTION IN SOLUTE TRANSFER BETWEEN GAS-LIQUID PHASES
	Trujillo, F.J. and Knoerzer, K. (CSIRO Food Science) CFD MODELLING OF THE ACOUSTIC STREAMING INDUCED BY AN ULTRASONIC HORN REACTOR	Pereira, G.G., Prakash, M. and Cleary, P.W. (CSIRO) SPH MODELLING OF FLUID FLOW AT THE GRAIN LEVEL IN A POROUS MEDIUM	Stephens, D.W., Gorissen, D. and Dhaene, T. (CSIRO) SURROGATE BASED SENSITIVITY ANALYSIS OF PROCESS EQUIPMENT	Abbaszadeh, A. and Hosseini, S.H. (Islamic Azad University, Ilam Branch) CFD SIMULATION OF GAS-SOLID FLOW IN A SPOUTED BED WITH A NON-POROUS DRAFT TUBE
	Burström, P.E.C., Lundström, T.S., Marjavaara, B.D. and Töyrä, S. (Lulea University of Technology) CFD-MODELLING OF SELECTIVE NON-CATALYTIC REDUCTION OF NO _x IN GRATE-KILN PLANTS	Brennan, M.S. and Bremhorst, K. (JKMRC University of Queensland) CFD MODELING OF ALUMINA SLURRY HEAT EXCHANGER HEADERS: (ii) PARAMETRIC STUDIES	Li, S., Muddle, B., Jahedi, M. and Soria, J. (Monash University) NUMERICAL INVESTIGATION OF THE COLD SPRAY PROCESS	Seyedinezhad, H. and Hormozi, F. (Semnan University, Iran) PREDICTION OF WAX DEPOSITION IN PIPELINE BY CFD TECHNIQUES
	Granström, B.R., Lundström, T.S., Marjavaara, B.D. and Töyrä, S. (Lulea University of Technology) CFD MODELLING OF THE FLOW THROUGH A GRATE-KILN	Gunjal, P. and Ramchandran, P. (Washington University in St Louis) TAILORING OXYGEN DISTRIBUTION IN 300MM CZOCHRALSKI CRYSTAL OF PURE SILICON USING CUSP MAGNETIC FIELD	Solnordal, C.B., Hughes, T., Gray, S. and Schwarz, M.P. (CSIRO) CFD MODELLING OF A NOVEL GRAVITY SEPARATION DEVICE	Khaleghi, H. and Nabifar, M.R. (Tarbiat Modares University) NUMERICAL MODELING OF IN-CYLINDER FLUID FLOW IN INTERNAL COMBUSTION ENGINES USING REYNOLDS STRESS TURBULENCE MODEL
	Kolaitis, D.I. and Founti, M.A. (National Technical University of Athens) A 3D CFD MODELLING STUDY OF A DIESEL OIL EVAPORATION DEVICE OPERATING IN THE "STABILIZED COOL FLAME" REGIME	Prakash, M., Korman, B. and Cleary, P.W. (CSIRO) VISCIOUS LIQUID AIR-MIXING: INFLUENCE OF LIQUID DENSITY RATIO	Mohanaragam, K., Yang, W., Zhang, H.J. and Tu, J.Y. (RMIT University) EFFECT OF PARTICLES IN A TURBULENT GAS-PARTICLE FLOW WITHIN A 90° BEND	Shanbghazani, M., Heidarpour, V. and Mirzaee, I. (Islamic Azad University, Iran) COMPUTER-AIDED ANALYSIS OF FLOW IN A ROTATING SINGLE DISK
	Li, R.B., Wei, J.J., Guo, L.J. and Zhang, S.J. (Xi'an Jiaotong University) NUMERICAL SIMULATION OF MAGNESIUM PRODUCTION BY THE PIDGEON PROCESS PART I: A NEW MODE FOR MAGNESIUM REDUCTION PROCESS IN A HORIZONTAL RETORT	Cummins, S. and Cleary, P.W. (CSIRO) USING DISTRIBUTED CONTACTS IN DEM TO MODEL GRANULAR SHEAR FLOWS	Guo, B.Y., Dong, K.J. and Yu, A.B. (The University of New South Wales) SIMULATION OF LIQUID-SOLID FLOW IN A COAL DISTRIBUTOR: INHOMOGENEOUS MODEL VS HOMOGENEOUS MODEL	
5.30	Happy Hour - Drinks	Conference Foyer & Broadway Room, Rydges Melbourne		
7.00	FINISH			

Day 2 - Thursday, 10 December

8.30	REGISTRATION	Conference Foyer, Rydges Melbourne		
PLENARY SESSION (Chairman Hans Kuipers)		Conference Rooms 1,2,3		
9.00	Keynote Lecture GRK Reddy and JB Joshi (Institute of Chemical Technology, India)	<i>CFD SIMULATION OF FLUID-PARTICLE AND PARTICLE-PARTICLE INTERACTION IN PACKED AND FLUIDISED BEDS</i>		
	SESSION 1 (Legends Room)	SESSION 2 (Conference Room 1)	SESSION 3 (Conference Room 2)	SESSION 4 (Conference Room 3)
	Gas-Solid Flows Mini-Symposium (Chairman Hans Kuipers)	Non-Newtonian Flows (Chairman Klaus Brehmhorst)	Stirred tanks (Chairman Jos Derkson)	Welding (Chairman Christian Heschl)
9.55 Session Lead Paper	Karimipour, S. and Pugsley, T. (University of Saskatchewan) APPLICATION OF THE PARTICLE IN CELL APPROACH FOR THE SIMULATION OF BUBBLING FLUIDIZED BEDS OF GELDART A PARTICLES	Grecov, D. and Liu, K. (University of British Columbia) RHEOLOGICAL AND FLOW MODELLING OF VISCOELASTIC FLUIDS BETWEEN ECCENTRIC CYLINDERS	Olson, J.A. , Delfel, S., Ollivier-Gooch, C. and Gooding, R.W. (University of British Columbia) COMPUTATIONAL FLUID DYNAMICS IN THE PULP AND PAPER INDUSTRY - THE DESIGN OF A HIGH PERFORMANCE PULP SCREEN ROTOR	Murphy, A.B. , Tanaka, M., Yamamoto, K., Tashiro, S. and Lowke, J.J. (CSIRO) CFD MODELLING OF ARC WELDING - THE IMPORTANCE OF THE ARC PLASMA
10.20	Hou, Q.F. , Zhou, Z.Y. and Yu, A.B. (The University of New South Wales) COMPUTATIONAL STUDY OF HEAT TRANSFER IN BUBBLING FLUIDIZED BEDS WITH GELDART A POWDER	Guang, R.Y. , Rudman, M., Chryss, A. and Bhattacharya, S. (RMIT University) DNS OF TURBULENT NON-NEWTONIAN FLOW IN AN OPEN CHANNEL	Kandakure, M. , Vitankar, V., Basu, B., Srivatsan, R. and Nagaraj, H. (Aditya Birla Science & Technology Co Ltd.) CFD STUDY OF SLURRY HOMOGENIZER	Das, R. and Cleary, P.W. (CSIRO) INVESTIGATION OF FLOW DYNAMICS AND PLASTIC DEFORMATION IN ARC WELDING USING SPH
10.40	MORNING TEA	Conference Foyer & Broadway Room, Rydges Melbourne		

	SESSION 1 (Legends Room)	SESSION 2 (Conference Room 1)	SESSION 3 (Conference Room 2)	SESSION 4 (Conference Room 3)
	Gas-Solid Flows Mini-Symposium (Chairman JB Joshi)	Micro-Fluidics (Chairman Dana Grecov)	Slurry Flows (Chairman James Olson)	Coal Processing (Chairman Matthew Brennan)
11.10	Lu, B., Wang, W. and Li, J. (Chinese Academy of Sciences) CHOOSING THE MESH-INDEPENDENT SUB-GRID DRAG COEFFICIENT MODEL	Biscombe, C.J.C. , Davidson, M.R. and Harvie, D.J.E. (The University of Melbourne) ELECTRO-OSMOTIC EFFECTS IN LOW REYNOLDS NUMBER FLOW THROUGH A PLANAR MICROFLUIDIC CONTRACTION-EXPANSION	Sinnott, M.D. , Cleary, P.W. and Morrison, R.D. (CSIRO) SLURRY FLOW IN A TOWER MILL	Humphreys, D., Collecutt, G. and Proud, D. (BMT WBM Pty Ltd) CFD SIMULATION OF UNDERGROUND COAL DUST EXPLOSIONS AND ACTIVE EXPLOSION BARRIERS
11.30	Rokkam, R.G. , Fox, R.O. and Muhle, M.E. (Iowa State University) CFD MODELLING OF ELECTROSTATIC FORCES IN GAS-SOLID FLUIDIZED BEDS AND THE ROLE OF PROCESS UPSETS	Dhondi, S. and Pereira, G.G. (CSIRO) COMPLEX FLUID MIXING IN MICRO-FLUIDIC DEVICES: THEORY AND SIMULATIONS	Mohanarangam, K. and Stephens, D.W. (CSIRO) CFD MODELLING OF FLOATING AND SETTLING PHASES IN SETTLING TANKS	Luo, Y. , Coertzen, M. and Dumble, S. (Linc Energy) COMPARISON OF UCG CAVITY GROWTH WITH CFD MODEL PREDICTIONS
11.50	Didwania, A.K. and Cattolica, R.J. (University of California) CFD SIMULATION SCALE-UP OF A DUAL-FLUIDIZED BED GASIFIER FOR BIOMASS	Shimasaki, S. and Taniguchi, S. (Tokoku University) FORMATION OF UNIFORMLY-SIZED DROPLETS FROM CAPILLARY JET BY ELECTROMAGNETIC FORCE	Graham, L.J. W., Lester, D. and Wu, J. (CSIRO) SLURRY EROSION IN COMPLEX FLOWS: EXPERIMENT AND CFD	Mossad, R. , Valla, A. and Ballusu, R. (University of Southern Queensland) INERTISATION OF HIGHWALL MINING TO CONTROL METHANE CONCENTRATIONS AT THE MOURA MINE
12.10	Li, Z. , Kind, M. and Gruenewald, G. (University of Karlsruhe) MODELLING THE FLUID DYNAMICS AND THE GROWTH KINETICS OF FLUIDIZED BED SPRAY GRANULATION	Wei, Z. , Cao, M., Tang, Y. and Lu, B. (Xi'an Jiaotong University) TWO-PHASE FLOW ANALYSIS AND EXPERIMENTAL INVESTIGATION OF MICRO-PIV FOR EMITTER MICRO-CHANNELS		Ejlali, A. , Aminossadati, S.M. and Ejlali, A. (University of Qld) NUMERICAL ANALYSIS OF FLUID FLOW AND HEAT TRANSFER THROUGH REACTIVE COAL STOCKPILE
12.30	LUNCH Conference Foyer & Broadway Room, Rydges Melbourne			

PLENARY SESSION (Chairman Darrin Stephens)		Conference Rooms 1,2,3
1.30	Keynote Lecture Hrvoje Jasak (Wikki Ltd.)	<i>OpenFOAM: OPEN SOURCE IN COMMERCIAL AND ACADEMIC CFD USE</i>

	SESSION 1 (Legends Room)	SESSION 2 (Conference Room 1)	SESSION 3 (Conference Room 2)	SESSION 4 (Conference Room 3)
	Gas-Solid Flows Mini-Symposium (Chairman Jinghai Li)	Novel Applications (Chairman Hrvoje Jasak)	Aerodynamics (Chairman Darrin Stephens)	Combustion (Chairman Dionysios Kolaitis)
2.25	Godlieb, W., Gorter, S., Deen, N.G. and Kuipers, J.A.M. (University of Twente) DEM AND TFM SIMULATIONS OF SOLIDS MIXING	Schroeder, S. , Buckow, R. and Knoerzer, K. (CSIRO) NUMERICAL SIMULATION OF PULSED ELECTRIC FIELDS (PEF) PROCESSING FOR CHAMBER DESIGN AND OPTIMISATION	Ellis, C.L. , Ryan, K. and Sheard, G.J. (Monash University) TWO-DIMENSIONAL COMPUTATIONAL ANALYSIS OF "HIGH TAIL" CONFIGURATION AIRCRAFT WAKE VORTEX PAIRS	Shahamiri, S.A. and Wierzba, I. (University of Calgary) MODELING THE REACTIVE PROCESSES WITHIN A CATALYTIC POROUS MEDIUM
2.45	Zhou, Z.Y., Pinson, D., Zou, R.P. and Yu, A.B. (The University of New South Wales) CFD-DEM SIMULATION OF GAS FLUIDIZATION OF ELLIPSOIDAL PARTICLES	Hillier, D.R. , Ryan, K. and Sheard, G.J. (Monash University) IMPLEMENTATION OF MOVING BOUNDARIES IN SPECTRAL-ELEMENT SOFTWARE	Antiohos, A.A. , Semercigil, S.E. and Turan, O.F. (Victoria University) CFD DESIGN OF A GENERIC CONTROLLER FOR VORTEX-INDUCED RESONANCE	Xia, F., Liu, C. and Karim, G. (University of Calgary) THE 3-D SIMULATION WITH DETAILED CHEMICAL KINETICS OF THE TURBULENT COMBUSTION IN A PRE-CHAMBER INDIRECT INJECTION DIESEL ENGINE
3.05	Fernandez, J.W. , Cleary, P.W. and McBride, B. (CSIRO) EFFECT OF SCREW DESIGN AND PARTICLE SHAPE ON HOPPER DRAW DOWN BY A HORIZONTAL SCREW FEEDER	Hain, K., Wels, H. and Muhr, M. (University of Applied Science) SIMULATION OF THE FILLING OF POLYETHYLENE- TEREPHTHALATE-BOTTLES (PET) WITH A VOLUMETIC SWIRL CHAMBER VALVE (VODM 40355) ON THE BASIS OF CALCULATION MODELS AND EXPERIMENTS	Boustead, N. , Ryan, K. and Sheard, G.J. (Monash University) SHORT-WAVE INSTABILITY GROWTH IN CLOSELY SPACED VORTEX PAIRS	Mishra, K.B. , Wehrstedt, K.D. and Schönbacher, A. (BAM Federal Institute for Materials Research and Testing) PREDICTION OF BURNING RATE OF AN ACCIDENTALLY RELEASED FLAMMABLE FUEL BY MEANS OF CFD SIMULATION
3.25	AFTERNOON TEA Conference Foyer & Broadway Room, Rydges Melbourne			

	SESSION 1 (Legends Room)	SESSION 2 (Conference Room 1)	SESSION 3 (Conference Room 2)	SESSION 4 (Conference Room 3)
	Gas-Solid Flows Mini-Symposium <i>(Chairman Madhava Syamlal)</i>	Kilns <i>(Chairman Jan Eric Olsen)</i>		Combustion <i>(Chairman Ghazi Karim)</i>
3.55	Feng, Y.Q. and Yu, A.B. (CSIRO) CFD-DEM MODELLING OF GAS FLUIDIZATION OF PARTICLE MIXTURES WITH SIZE AND DENSITY DIFFERENCES	Macphee, J.E. , Sellier, M., Jermy, M. and Tadulan, E. (Canterbury University) CFD MODELLING OF PULVERIZED COAL COMBUSTION IN A ROTARY LIME KILN		Tierney, C. , Wood, S., Harris, A.T. and Fletcher, D.F (University of Sydney) COMPUTATIONAL FLUID DYNAMICS MODELLING OF POROUS BURNERS
4.15	de Jong, J.F. , van Gerner, J.H., van Sint Annaland, M. and Kuipers, J.A.M. (University of Twente) DEVELOPMENT OF A NOVEL HYBRID DISCRETE PARTICLE - IMMersed BOUNDARY MODEL FOR FLUIDIZED BED MEMBRANE REACTORS	Dragomir, S. , Sinnott, M.D., Semercigil, S.E. and Turan, O.F. (CSIRO) PREDICTING ENERGY DISSIPATION CHARACTERISTICS OF A TUMBLING GRANULAR-FLOW DAMPER USING DEM		Tian, Z.F. , Witt, P.J., Schwarz, M.P. and Yang, W. (CSIRO) NUMERICAL MODELLING OF BROWN COAL COMBUSTION IN A TANGENTIALLY-FIRED FURNACE
4.35	Hilton, J.E. , Mason, L.R. and Cleary, P.W. (CSIRO) THE EFFECT OF GAS DYNAMICS ON HOPPER DISCHARGE RATES	Larsson, I.A.S. , Lindmark, E.M., Lundström, T.S., Marjavaara, D. and Töyrä, S. (Lulea University of Technology) KILN AERODYNAMICS VISUALISATION OF MERGING FLOW BY USAGE OF PIV AND CFD		Kolaitis, D.I., Katsourinis, D.I. and Founti, M.A. (National Technical University of Athens) DROPLET EVAPORATION ASSISTED BY "STABILIZED COOL FLAMES": SCRUTINIZING ALTERNATIVE CFD MODELLING APPROACHES
4.55	FINISH			
6:30	PRE-DINNER DRINKS	Bobby McGee's, Roxy Bar, Rydges Melbourne		
7:00	CONFERENCE DINNER	Bobby McGee's Entertainment Lounge, Rydges Melbourne		

Day 3 - Friday, 11 December				
8.30	REGISTRATION	Conference Foyer, Rydges Melbourne		
PLENARY SESSION (Chairman Greg Sheard)		Conference Rooms 1,2,3		
9.00	Keynote Lecture Timothy Wick and Farooque, T. (University of Alabama at Birmingham)	<i>BIOREACTOR DEVELOPMENT FOR CARTILAGE TISSUE ENGINEERING: COMPUTATIONAL MODELLING AND EXPERIMENTAL RESULTS</i>		
	SESSION 1 (Legends Room)	SESSION 2 (Conference Room 1)	SESSION 3 (Conference Room 2)	SESSION 4 (Conference Room 3)
	Bio-Engineering Mini-Symposium (Chairman Greg Sheard)	DEM (Chairman Niels Deen)	Multiphase Flows (Chairman Mahesh Prakash)	2 Phase Pipe Flow (Chairman Ozden Turan)
9.55 Session Lead Paper	Secomb, T.W. , Barber, J.O. and Restrepo, J.M. (University of Arizona) COMPUTATIONAL SIMULATION OF RED BLOOD CELL MOTION IN MICROVESSEL BIFURCATIONS	Singh, V. and Lo, S. (CD-Adapco) PREDICTING PRESSURE DROP IN PNEUMATIC CONVEYING USING THE DISCRETE ELEMENT MODELING APPROACH	Zhou, L.X. (Tsinghua University) DEVELOPING MULTIPHASE AND REACTING TURBULENCE MODELS	Höhne, T. (Forschungszentrum Dresden-Rossendorf e.V.) EXPERIMENTS AND NUMERICAL SIMULATIONS OF HORIZONTAL TWO PHASE FLOW REGIMES
10.20	Liu, J.L. , Qian, Y., Umezu, M., Itatani, K. and Miyaji, K. (Waseda University) HEMODYNAMIC SIMULATION FOR CONGENITAL HEART DISEASE	Hilton, J.E. and Cleary, P.W. (CSIRO) THE ROLE OF PARTICLE SHAPE IN PNEUMATIC CONVEYING	Yang, N. , Chen, J., Ge, W. and Li, J. (Chinese Academy of Sciences) A CONCEPTUAL MODEL FOR GAS-LIQUID INTERACTION AND ITS INTEGRATION INTO CFD SIMULATION OF BUBBLE COLUMNS	de Boer, K. and Bahri, P.A. (Murdoch University) INVESTIGATION OF LIQUID-LIQUID TWO PHASE FLOW IN BIODIESEL PRODUCTION
10.40	MORNING TEA	Conference Foyer & Broadway Room, Rydges Melbourne		

	SESSION 1 (Legends Room)	SESSION 2 (Conference Room 1)	SESSION 3 (Conference Room 2)	SESSION 4 (Conference Room 3)
	Bio-Engineering Mini-Symposium (Chairman Timothy Wick)	DEM (Chairman Simon Lo)	Bubbly Flows (Chairman Thomas Höhne)	Fluid Structure Interaction (Chairman Greg Walker)
11.10	Inthavong, K. , Zhang, K. and Tu, J.Y. (RMIT University) MODELLING SUBMICRON AND MICRON PARTICLE DEPOSITION IN A HUMAN NASAL CAVITY	Kloss, C. , Goniva, C., Aichinger, G. and Pirker, S. (Christian Doppler Laboratory on Particulate Flow Modelling) COMPREHENSIVE DEM-DPM-CFD SIMULATIONS - MODEL SYNTHESIS, EXPERIMENTAL VALIDATION AND SCALABILITY	Li, C. , Cheung, S.C.P., Yeoh, G.H. and Tu, J.Y. (RMIT University) INFLUENCE OF DRAG FORCES OF A SWARM OF BUBBLES IN ISOTHERMAL BUBBLY FLOW CONDITIONS	Rudman, M. and Cleary, P.W. (CSIRO) USING SMOOTHED PARTICLE HYDRODYNAMICS TO STUDY WAVE IMPACT ON FLOATING OFFSHORE PLATFORMS: THE EFFECT OF MOORING SYSTEM
11.30	Sinnott, M.D. and Cleary, P.W. (CSIRO) EFFECT OF ROTOR BLADE ANGLE AND CLEARANCE ON BLOOD FLOW THROUGH A NON-PULSATILE, AXIAL, HEART PUMP	Owen, P.J. and Cleary, P.W. (CSIRO) SCREW CONVEYOR PERFORMANCE: COMPARISON OF DISCRETE ELEMENT MODELLING WITH LABORATORY EXPERIMENTS	Olsen, J.E. and Cloete, S. (SINTEF Materials and Chemistry) COUPLED DPM AND VOF MODEL FOR ANALYSES OF GAS STIRRED LADLES AT HIGHER GAS RATES	Gradinscak, M. , Semercigil, S.E. and Turan, O.F. (Victoria University) A FINITE ELEMENT BASED PREDICTION MODEL TO CONTROL LIQUID SLOSHING WITH CONTAINER FLEXIBILITY
11.50	Cogan, S.J. , Sheard, G.J. and Ryan, K. (Monash University) THE EFFECTS OF VORTEX BREAKDOWN BUBBLES ON THE MIXING ENVIRONMENT INSIDE A BASE DRIVEN BIOREACTOR	Adema, A. , Yang, Y. and Boom, R. (Delft University of Technology) COUPLED DEM - CFD MODELLING OF THE IRONMAKING BLAST FURNACE	Roghair, I. , van Sint Annaland, M. and Kuipers, J.A.M. (University of Twente) DRAG FORCE ON BUBBLES IN BUBBLE SWARMS	Cohen, R. , Cleary, P.W. and Mason, B. (CSIRO) SIMULATIONS OF HUMAN SWIMMING USING SMOOTHED PARTICLE HYDRODYNAMICS
12.10	Fung, M.C. , Inthavong, K., Yang, W. and Tu, J.Y. (RMIT University) EXTERNAL CHARACTERISTICS OF SPRAY ATOMISATION FROM A NASAL SPRAY DEVICE	Delaney, G.W. , Cleary, P.W., Hilden, M. and Morrison, R.D. (CSIRO) VALIDATION OF DEM PREDICTIONS OF GRANULAR FLOW AND SEPARATION EFFICIENCY FOR A HORIZONTAL LABORATORY SCALE WIRE MESH SCREEN		Marsh, A.P., Prakash, M. , Semercigil, S.E. and Turan, O.F. (Victoria University) PREDICTING THE DYNAMIC STRUCTURAL RESPONSE CONTROLLED BY A SLOSHING ABSORBER USING SPH
12.30	LUNCH Conference Foyer & Broadway Room, Rydges Melbourne			

PLENARY SESSION (Chairman Geoffrey Evans)		Conference Rooms 1,2,3		
1.30	Keynote Lecture Thomas Frank (ANSYS)	RECENT ADVANCES IN ANSYS CFD MULTIPHASE FLOW MODEL DEVELOPMENT, VALIDATION AND APPLICATION		
	SESSION 1 (Legends Room)	SESSION 2 (Conference Room 1)	SESSION 3 (Conference Room 2)	SESSION 4 (Conference Room 3)
	Bio-Engineering Mini-Symposium (Chairman Timothy Secomb)	Drag Forces (Chairman Thomas Frank)	Flotation (Chairman Geoffrey Evans)	Environmental Flows (Chairman Pat Jordan)
2.25	Nebauer, J.R.A. and Blackburn, H.M. (Monash University) STABILITY OF OSCILLATORY AND PULSATILE PIPE FLOW	Zhu, S.J. , Ooi, A., Blackburn, H. and Anderson, B. (The University of Melbourne) NUMERICAL SIMULATIONS OF BUBBLE DISPERSION OVER A HYDROFOIL	Koh, P.T.L. and Schwarz, M.P. (CSIRO) CFD MODELS OF MICROCEL AND JAMESON FLOTATION CELLS	Asimakopoulou, E., Kolaitis, D.I. and Founti, M.A. (National Technical University of Athens) CO DISPERSION IN A CAR-REPAIR SHOP: AN EXPERIMENTAL AND CFD MODELLING STUDY
2.45	Bui, A. , Manasseh, R., Šutalo, I.D. and Liffman, K. (CSIRO) MULTISCALE MODELLING OF CEREBRAL BLOOD FLOW	Bäumler, K. , Wegener, M., Bänsch, E. and Paschedag, A. (FAU Erlangen Nürnberg) 2D SIMULATIONS OF INTERFACIAL INSTABILITIES AT DEFORMABLE SINGLE DROPLETS	Wierink, G. , Tiitinen, J. and Heiskanen, K. (Helsinki University of Technology) MAPPING OF COLLISION REGIMES IN FLOTATION MODELLING	Heschl, C. , Sanz, W. and Lindmeier, I. (Fachhochschulstudiengänge Burgenland GmbH – University of Applied Science) DEMANDS ON TURBULENCE MODELLING FOR VENTILATED ROOM AIRFLOWS
3.05	Se, C.M.K., Inthavong, K. and Tu, J.Y. (RMIT University) UNSTEADY PARTICLE DEPOSITION IN A HUMAN NASAL CAVITY	Liovic, P. and Lakehal, D. (CSIRO) INTERFACE-TURBULENCE INTERACTIONS AND BUBBLE DYNAMICS	Song, T. , Zhou, J.W. and Shen, Z.C. (Beijing General Research Institute of Mining and Metallurgy) CFD SIMULATION OF GAS-LIQUID FLOW IN A LARGE SCALE FLOTATION CELL	Goniva, C. , Tukovic, Ž., Feilmayr, C., Bürgler, T. and Pirker, S. (Christian Doppler Laboratory on Particulate Flow Modelling) SIMULATION OF OFFGAS SCRUBBING BY A COMBINED EULERIAN-LAGRANGIAN MODEL
3.25		Kuan, B. (CSIRO) CFD MODELLING OF LIQUID JET BREAKUP IN CROSSFLOWS	Hasan, N. (The University of Newcastle) COMPARISON OF A COMPUTATIONAL MODEL OF SINGLE BUBBLE COLLECTION EFFICIENCY IN A HALLIMOND TUBE	Vun, S. , Campbell, A.P. and Horrocks, J. (Worley Parsons) INVESTIGATION OF ELECTROSTATIC PRECIPITATOR CHAR COLLECTOR DESIGNS USING COMPUTATIONAL FLUID DYNAMICS
3.50	Closing Ceremony (Conference Rooms 1,2,3) Presentation of Student Prizes – by, Dr Stephen Rogers, CEO Parker CRC for Integrated Hydrometallurgy Solutions			
4:00	AFTERNOON TEA Conference Foyer & Broadway Room, Rydges Melbourne			