CSIRO

SUNDAY
MONDAY
TUESDAY
WEDNESDAY

COMPUTATIONAL FLUID DYNAMICS IN THE MINERALS AND PROCESS INDUSTRIES

6-8 DECEMBER 1999

CARLTON CREST HOTEL
MELBOURNE, VICTORIA
AUSTRALIA

SEARCH
EXIT
MAIN MENU

PROGRAM

RETURN

Sunday Evening - 5 December		
5.00 - 7.00 pm	REGISTRATION & WELCOME DRINKS	State Ball Room, Carlton Crest Hotel

PROGRAM

RETURN MORE TIMES

Day 1 - Monday, 6 December

8.30	REGISTRATION	State Ball Room, Carlton Crest Hotel
PLENARY SESSION		State Ball Room, Carlton Crest Hotel
9.00	Opening	Dr. Robin Batterham, Chief Scientist of Australia
9.20	Keynote Lecture Mark Taylor (Comalco)	DIFFERENT DIMENSIONS IN FLUID DYNAMICS
10.10	MORNING TEA	State Ball Room, Carlton Crest Hotel

	SESSION 1 (State Ball Room)		SESSION 2 (Washington 3)	
	Pyrometallurgy		Fluidised Beds and Granular Flows I	
10.40	J. Pitkälä, J. Xia, A. Jokilaakso (Helsinki U.)	CFD MODELING OF NITROGEN DISSOLUTION INTO A STEEL BATH DURING GAS PURGING	D. Rong, M. Horio (Tokyo U. of Agriculture & Tech.)	DEM SIMULATION OF CHAR COMBUSTION IN A FLUIDIZED BED
11.00	V. Panjkovic, J. Truelove, O. Ostrovski (BHP)	ANALYSIS OF PERFORMANCE OF AN IRON-BATH REACTOR USING COMPUTATIONAL FLUID DYNAMICS	P. Cleary (CSIRO)	THE EFFECT OF PARTICLE SHAPE ON HOPPER DISCHARGE
11.20	P. Gardin, M. Brunet, J. Domgin, K. Pericleous (U. of Greenwich)	AN EXPERIMENTAL AND NUMERICAL CFD STUDY OF TURBULENCE IN A TUNDISH CONTAINER	V.V. Ranade (National Chemical Lab.)	MODELLING OF GAS-SOLID FLOWS IN FCC RISER REACTORS: FULLY DEVELOPED FLOW
11.40	S. Pirker, P. Gittler, H. Pirker, J. Lehner (Johannes Kepler U.)	CFD, A DESIGN TOOL FOR A NEW HOT METAL DESULFURIZATION TECHNOLOGY	K. Liffman, M. Nguyen, P. Cleary (CSIRO)	STRESS IN SANDPILES
12.00	J. Shokin, H. Miloshevich, A. Rychkov (Inst. Computational Techn.)	MODELING OF THE TOP BLOW-DOWN PROCESS IN OXYGEN STEEL-MAKING CONVERTERS	D. Achim, A. Easton, M.P. Schwarz, P. Witt, A. Zakhari (Swinburne U., CRC Clean Power, CSIRO)	COMPUTATIONAL AND EXPERIMENTAL STUDIES OF TUBE EROSION IN A FLUIDISED BED
12.20	LUNCH	State Ball Room, Carlton Crest Hotel		

PROGRAM

RETURN PREVIOUS TIMES MORE TIMES

	SESSION 1 (State Ball Room)		SESSION 2 (Washington 3)	
PLENARY SESSION	State Ball Room			
1.30	Keynote Lecture L. Nordell (Conveyer Dynamics)	NEW ANALYTICAL METHODS IMPROVE OUR UNDERSTANDING OF ORE GRINDING MILLS AND OTHER APPLICATIONS		
	Fluidised Beds and Granular Flows II		Environmental	
2.20	P. Cleary, M. Sawley (CSIRO)	THREE-DIMENSIONAL MODELLING OF INDUSTRIAL GRANULAR FLOWS	Y. Kawashima, K. Murai, T. Hosokawa (Himeji I. of Tech.)	A STUDY ON FLOW PATTERNS AND FLUID MIXING FOR WATER PURIFICATION IN A RECTANGULAR WATER TANK
2.40	M. Manickam, P.J. Witt, R.B. White, A Zakhari (CSIRO)	COMPARISON OF PHYSICAL AND NUMERICAL MODELING OF SOLIDS MOVEMENT NEAR THE DISTRIBUTOR IN A FLUIDISED BED CALCINER	S. Sciffer, G. Evans, J. Lucas (U. of Newcastle)	CFD MODELING OF ZINC VAPOUR FLOWS IN A CONTINUOUS STRIP COATING LINE
3.00	A. Godbole, P. Wypych, W.K. Soh, B. Matthews (U. of Wollongong, U. of NSW)	PSEUDO-SHOCK IN SUPERSONIC INJECTION FEEDER	R. Kickinger, P. Gittler, M. Javurek, J. Lehner (Johannes Kepler U.)	VENTILATION AND DEDUSTING OF MELTING SHOPS
3.20	J. Tyler, P. Mees (U. of Alberta)	USING CFD TO MODEL THE INTERACTION OF A HORIZONTAL FEED JET ON FLUIDIZED BED HYDRODYNAMICS	P. Witt, K. Carey, T. Nguyen (CSIRO)	PREDICTION OF DUST LOSS FROM CONVEYORS USING CFD MODELLING
3.40	AFTERNOON TEA	State Ball Room		

PROGRAM

RETURN PREVIOUS TIMES

	SESSION 1 (State Ball Room)		SESSION 2 (Washington 3)	
	Coal Combustion		Porous Media	
4.10	J. Hart, J. Naser, P. Witt, L. Mittoni (Swinburne U., CRC Clean Power, CSIRO)	NUMERICAL MODELLING OF ISOTHERMAL BURNER JETS	M. Prakash, Ö.F. Turan, Y. Li, G. Thorpe (Victoria U.)	A CFD STUDY OF NATURAL CONVECTION HEAT AND MASS TRANSFER IN RESPIRING HYGROSCOPIC POROUS MEDIA
4.30	A. Eghlimi, L. Lu, V. Sahajwallam, D. Harris (CANCES, U. of NSW, CSIRO)	COMPUTATIONAL MODELLING OF CHAR COMBUSTION BASED ON THE STRUCTURE OF CHAR PARTICLES	H. Suresh, K. Murugesan, P. A. Narayana, K. Seetharamu (Indian Inst. of Tech.)	DRYING OF POROUS MATERIAL USING FINITE ELEMENT METHOD
4.50	R. Vonderbank, M. T. Johnson (Fire3D, HRL)	METHODS, CAPABILITIES AND APPLICATION OF THE COMBUSTION SIMULATION PROGRAM FIRE3D/R4	P. Brown, X. Luo, J. Mooney G. Pantelis (ANSTO, CSIRO)	THE MODELLING OF FLOW AND CHEMICAL REACTIONS IN WASTE PILES
5.10	H. Miloshevich, A. Rychkov (Inst. Computational Techn.)	NUMERICAL MODELING OF LIGHTING PROCESS IN PULVERIZED-COAL BURNER OF A BOILER UNIT BY THE LOW-TEMPERATURE PLASMA JET	K. Tan,T. Sam (U. Putra)	SIMULATIONS OF THE ONSET OF TRANSIENT CONVECTION IN POROUS MEDIA UNDER FIXED SURFACE TEMPERATURE BOUNDARY CONDITION
5:30	FINISH			
6.00	HAPPY HOUR	State Ball Room, Carlton Crest Hotel		

PROGRAM

RETURN MORE TIMES

Day 2 - Tuesday, 7 December

8.30	REGISTRATION	State Ball Room, Carlton Crest Hotel
PLENARY SESSION		State Ball Room
9.00	Keynote Lecture Gordon Irons (McMaster Uni.)	DEVELOPMENTS IN MODELLING OF GAS INJECTION AND SLAG FOAMING

	SESSION 1 (State Ball Room)		SESSION 2 (Washington 3)		SESSION 3 (Washington 1)	
	Gas Injection		Dense Media Processes		Die Casting	
9.50	J. Domgin, P. Gardin, M. Brunet (IRSID)	EXPERIMENTAL AND NUMERICAL INVESTIGATION OF GAS STIRRED LADLES	D.J. Suasnabar, C.A.J. Fletcher (CANCES, U. of NSW)	A CFD MODEL FOR DENSE MEDIUM CYCLONES	J. Ha, P. Cleary, V. Alguine T. Nguyen (CAST, CSIRO)	SIMULATION OF DIE FILLING IN GRAVITY DIE CASTING USING SPH AND MAGMASOFT
10:10	J. Xia, T. Ahokainen, L. Holappa (Helsinki U.)	MODELING OF FLOWS IN A LADLE WITH GAS STIRRED LIQUID WOOD'S METAL	T. Dyakowski, A.F. Nowakowski, W. Kraipech, R.A. Williams (UMIST)	A THREE DIMENSIONAL SIMULATION OF HYDROCYCLONE BEHAVIOUR	B. Phuoc Huynh (U. of Techn.)	CONTRIBUTION TO EXTRUDATE SWELL FROM THE VELOCITY FACTOR IN NON-ISOTHERMAL EXTRUSION
10.30	S. Taniguchi, S. Kawaguchi, A. Kikuchi (Tohoku U.)	FLUID FLOW AND GAS-LIQUID MASS TRANSFER IN GAS-INJECTED VESSEL	B. Matthews, C.A.J. Fletcher, A.C. Partridge (CANCES, U. of NSW)	PARTICLE FLOW MODELLING ON SPIRAL CONCENTRATORS: BENEFITS OF DENSE MEDIA FOR COAL PROCESSING?	P. Cleary, J. Ha (CAST, CSIRO)	THREE-DIMENSIONAL MODELLING OF HIGH PRESSURE DIE CASTING
10:50	MORNING TEA	State Ball Room				

PROGRAM

RETURN PREVIOUS TIMES MORE TIMES

	SESSION 1 (State Ball Room)		SESSION 2 (Washington 3)		SESSION 3 (Washington 1)	
	Erosion		Free Surface Flows		Rotary Kilns and Grinding Mills	
11:20	A. Keating, S. Nesic (U. of Queensland)	PREDICTION OF TWO-PHASE EROSION-CORROSION IN BENDS	N. Chen, Y. Xu, J. Chen, X. Chen, M. Taylor, Z. Chen (Inst. of Eng. Thermophysics)	NUMERICAL SIMULATION OF ALUMINIUM METAL TAPPING	Y. Yang, J. Rakhorst, M. Reuter, J. Voncken (Delft U.)	ANALYSIS OF GAS FLOW AND MIXING IN A ROTARY KILN WASTE INCINERATOR
11:40	G. Brown (ALCOA)	EROSION PREDICTION IN SLURRY PIPELINE TEE-JUNCTIONS	P. Liovic, M. Rudman, J-L. Liow (GKW CRC, CSIRO, U. of Melb)	NUMERICAL MODELLING OF FREE SURFACE FLOWS IN METALLURGICAL VESSELS	G. LANE (CSIRO)	CFD MODELLING OF A STIRRED BEAD MILL FOR FINE GRINDING
12:00	M. Manickam, M. Schwarz, M. McIntosh (CSIRO, CRC Clean Power)	CFD ANALYSIS OF EROSION OF BIFURCATION DUCT WALLS	J. Lopez, A. Hirsa (Arizona State U., Rensselaer Poly. Tech.)	DYNAMICS OF SURFACTANT-INFLUENCED GAS/LIQUID INTERFACES	A. Eghlimi, R. Benito, C. Golab (CANCES, U of NSW)	THE CFD INVESTIGATION OF FLASH DRYER AND ROTATING KILN DESIGN
12.20	LUNCH	State Ball Room				

PROGRAM

RETURN PREVIOUS TIMES MORE TIMES

	SESSION 1 (State Ball Room)		SESSION 2 (Washington 3)		SESSION 3 (Washington 1)	
PLENARY SESSION	State Ball Room					
1.30	Keynote Lecture P. Stopford (AEA Technology)	RECENT APPLICATIONS OF CFD MODELING IN THE POWER GENERATION, METALS AND PROCESS INDUSTRIES				
	Furnaces and Combustion		Fluid Mechanics		MagnetoHydroDynamics	
2:20	V. Mehrotra, G. Silcox, P. Smith (Bechtel)	MONTE CARLO PARTICLE DISPERSION SIMULATION APPLICATION IN COAL FIRED FURNACES: COMPARISON WITH EXPERIMENTAL DATA	B. Adams, M. Jones, K. Hourigan, M. Thompson (Monash U.)	HYSTERESIS IN THE OPEN PIPE FLOW WITH VORTEX BREAKDOWN	L. Leboucher, K. Pericleous, I. Panaitescu, M. Repetto (U. of Greenwich)	A FINITE-VOLUME SHALLOW LAYER METHOD, FOR THE MHD INSTABILITIES IN AN ALUMINIUM PRODUCTION CELL
2:40	X. Zhang, H. Nogami, R. Takahashi, T. Akiyama, J. Yagi (Tohoku U.)	NUMERICAL ANALYSIS FOR MOVING BED IRON SCRAP MELTING FURNACE	D Stanbridge, J. Sullivan (CDS Eng., Sustainable Techn.)	ONE EXAMPLE OF HOW OFFSHORE OIL & GAS INDUSTRY TECHNOLOGY CAN BE OF BENEFIT TO HYDROMETALLURGY	T. Natarajan, N. El-Kaddah, (U. of Alabama, US Steel)	ELECTROMAGNETIC STIRRING OF STEEL: EFFECT OF STIRRER DESIGN ON MIXING IN HORIZONTAL EM STIRRING OF STEEL SLABS
3:00	P. Woodfield, J. Kent, V. Novozhilov, T. Dixon (U of Sydney, Sugar Res. Inst.)	PREDICTION OF UNSTABLE REGIMES IN THE OPERATION OF BAGASSE FIRED FURNACES	M. Maghrebi, S. Wade, J. Soria (Monash U.)	SELF-SIMILARITY OF SPATIALLY-DEVELOPING THREE-DIMENSIONAL PLANE WAKES	O. Raychenko, O. Derev'yanko, V. Popov (Ukrainian Nat. Academy of Sciences)	COMPUTER CALCULATIONS OF DIFFUSION FROM A SOLID INCLUSION IN THE SURROUNDING LIQUID CURRENT-CARRYING METAL UNDER ELECTRIC CURRENT ACTION
3:20	B. Ravary, S.T. Johansen (SINTEF)	2D MODELING OF THE COMBUSTION AND NOx FORMATION IN FURNACES PRODUCING FeSi	B. Guo, T. Langrish, D. Fletcher (U. of Sydney)	SIMULATION OF PRECESSION IN AXISYMMETRIC SUDDEN EXPANSION FLOWS		
3:40	AFTERNOON TEA State Ball Room					

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RETURN ═══ PREVIOUS TIMES

	SESSION 1 (State Ball Room)		SESSION 2 (Washington 3)		SESSION 3 (Washington 1)	
	Stirred Tanks		Heat and Mass Transfer		Blast Furnace & Welding Processes	
4:10	C. Bailey, S. Kumar, M. Patel, A. Piper, R. Forsdick, S Hance (U. of Greenwich, Britannia Refined Metals)	COMPARISON BETWEEN CFD AND MEASURED DATA FOR THE MIXING OF LEAD BULLION	Z. Chen, J. Chen (U. of Auckland)	HEAT TRANSFER FROM A DISCRETE HEATED SURFACE IN A 2D CHANNEL NEAR AN OSCILLATING INTERFACE	V. Panjkovic, J. Truelove (BHP)	COMPUTATIONAL FLUID DYNAMICS MODELLING OF IRON FLOW AND HEAT TRANSFER IN THE IRON BLAST FURNACE HEARTH
4:30	G. Lane, M. Schwarz, G. Evans (CSIRO, U. of Newcastle)	PREDICTING GAS-LIQUID FLOW IN A MECHANICALLY-STIRRED TANK	M. Sima, J. Harris (James Cook U.)	CFD MODELLING OF SUCROSE CRYSTALLISATION	G. Taylor, M. Hughes, N. Strousseviţc, K. Pericleous (U. of Greenwich)	FINITE VOLUME METHODS APPLIED TO THE COMPUTATIONAL MODELLING OF WELDING PHENOMENA
4:50	S. Peixoto, J. Nunhez (UNICAMP)	IMPROVING INTERNAL FLOW OF COILED STIRRED TANKS	T. Hosokawa, J. Entesari-Tatafi, K. Kawashima, F. Kimura (Himeji I. of Tech.)	HEAT TRANSFER CHARACTERISTICS ON LAMINAR FILMWISE CONDENSATION ALONG A FLAT VERTICAL PLATE WITH THREE DISTINCT COOLING ZONES	S. Zhang, A. Yu, P. Zulli, B. Wright, P. Austin (U of NSW, BHP)	NUMERICAL SIMULATION OF SOLIDS FLOW IN A BLAST FURNACE
5:10	P. Koh, F. Xantidis (CSIRO, Orica)	CFD MODELLING IN THE SCALE-UP OF A STIRRED REACTOR FOR THE PRODUCTION OF RESIN BEADS	D.W. Stephens, J.A. Harris (James Cook U.)	MODELLING CONVECTIVE BOILING OF MOLASSES	N. El-Kaddah, M. Arenas, V. L. Acoff (U. of Alabama)	HEAT TRANSFER AND FLUID FLOW IN STATIONARY GTA WELDING OF γ TiAl BASED ALLOYS: EFFECT OF THERMAL CAPILLARY FLOWS
5:30	FINISH					
6:30	PRE-DINNER DRINKS	The Terrace Reception Centre at The Royal Botanic Gardens				
7:00	CONFERENCE DINNER	The Terrace Reception Centre at The Royal Botanic Gardens				

PROGRAM

RETURN MORE TIMES

Day 3 - Wednesday, 8 December

8.30	REGISTRATION	State Ball Room, Carlton Crest Hotel
PLENARY SESSION		State Ball Room
9.00	Keynote Lecture Doug Kothe (Los Alamos Nat. Lab.)	

	SESSION 1 (State Ball Room)		SESSION 2 (Washington 3)	
	Continuous Casting		Gas-Solid Flows	
9.50	M. Brummayer, P. Gittler, J. Watzinger (Johannes Kepler U.)	STABILIZATION OF UNSTEADY TURBULENT FLOW IN THE MOLD REGION OF A WIDE SLAB CASTER BY SUBMERGED ENTRY NOZZLE DESIGN OPTIMIZATION WITH CFD	B. Xu, A. Yu, S. Chew, P. Zulli (U. of NSW, BHP)	A STUDY OF THE EFFECT OF LIQUID-INDUCED FORCES ON GAS-SOLID FLOW BY A COMBINED CONTINUUM AND DISCRETE MODEL
10:10	M. Davidson, N. Lawson (U. of Melbourne)	NUMERICAL PREDICTION OF SUBMERGED OSCILLATING JET FLOW	K Taylor, A.G. Smith, S Ross, M Smith (S&C Thermofluids)	THE PREDICTION OF PRESSURE DROP AND FLOW DISTRIBUTION IN PACKED BED FILTERS
10:30	MORNING TEA	State Ball Room		
11:00	VENDOR SESSION - New Developments in Software and Hardware	State Ball Room		
12.20	LUNCH	State Ball Room		

PROGRAM

RETURN PREVIOUS TIMES

	SESSION 1 (State Ball Room)		SESSION 2 (Washington 3)	
PLENARY SESSION	State Ball Room			
1.30	Keynote Lecture Chris Freitas (Southwest Research Inst.)	THE ISSUE OF NUMERICAL UNCERTAINTY		
	Numerical Methods		Swirling Flows	
2:20	S. Zhang, A. Yu, P. Austin, P. Zulli (U. of NSW, BHP)	PRECONDITIONED MULTIGRID METHOD FOR FLUID FLOW IN POROUS MEDIA	J. Chen, B. Haynes, D. Fletcher (U. of Sydney)	A NUMERICAL AND EXPERIMENTAL STUDY OF TANGENTIALLY INJECTED SWIRLING PIPE FLOWS
2:40	N. Chen, Y. Xu, W. Huang, J. Chen, X. Chen, Z. Chen (Inst. of Eng. Thermophysics)	A PRESSURE CORRECTION METHOD FOR CALCULATING THE FLOWS IN LOW SPEED AXIAL FANS AND COMPRESSORS	N. Kelson, D. McElwain (Queensland U. of Tech.)	COMPUTATION OF TURBULENT SWIRLING QUARL BURNER FLOW
3.00	M. Sawley, P. Cleary, J. Ha (CSIRO)	MODELLING OF FLOW IN POROUS MEDIA AND RESIN TRANSFER MOULDING USING SMOOTHED PARTICLE HYDRODYNAMICS	J.Q. Zhao, J. Abrahamson (Canterbury U.)	THE FLOW IN CONICAL CYCLONES
3.20	R. Morgans, B. Dally, G. Nathan, P. Lanspeary, D. Fletcher (U. Adelaide, U. of Sydney)	APPLICATION OF THE REVISED WILCOX (1998) k-w TURBULENCE MODEL TO A JET IN CO-FLOW	M. Rudman, H.M. Blackburn (CSIRO)	LARGE EDDY SIMULATION OF TURBULENT PIPE FLOW
3:40	CLOSING			