



14th Multiphase Flow Conference and Short Course:  
Simulation, Experiment and Application  
Dresden, 8 - 10 November 2016



Tuesday, 8 November 2016				
Short Course on Multiphase Flows				
Time		Lecturer	Affiliation	Title
08:30	09:15	Registration		
09:15	09:25	U. Hampel	Helmholtz-Zentrum Dresden-Rossendorf, Germany	Welcome
09:25	10:20	U. Hampel	Helmholtz-Zentrum Dresden-Rossendorf, Germany	Measurement Techniques and Experimental Investigations for Multiphase Flows
10:20	10:30	Break with Coffee, Tea & Beverages		
10:30	11:35	A. Burns	ANSYS UK	Mathematical Models for Multiphase Flows: Overview & Basic Equations
11:35	11:45	Break with Coffee, Tea & Beverages		
11:45	12:50	T. Esch	ANSYS Germany, Otterfing	Lagrangian Two-Phase Flow Modelling
12:50	14:00	Lunch		
14:00	15:05	A. Burns	ANSYS UK	Eulerian Multiphase Flow Modelling: Phase Interaction Models
15:05	15:15	Break with Coffee, Tea & Beverages		
15:15	16:20	E. Krepper	Helmholtz-Zentrum Dresden-Rossendorf, Germany	Interfacial Heat and Mass Transfer Models
16:20	16:30	Break with Coffee, Tea & Beverages		
16:30	17:30	T. Esch	ANSYS Germany, Otterfing	Practical Demonstration of Eulerian & Lagrangian CFD Simulation
17:30	18:15	All	Discussion, Questions & Answers	
18:15		Transfer to Dresden		
19:00		Short Course Dinner @ Restaurant "Schillergarten"		



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Short Course on Multiphase Flows - Simulation Branch				
Time		Lecturer	Affiliation	Title
09:00	09:50	E. Krepper	Helmholtz-Zentrum Dresden-Rossendorf, Germany	Dispersed Flow Modelling - Multiple-Size Group Modelling - MUSIG
09:50	10:00	Break with Coffee, Tea & Beverages		
10:00	10:50	T. Höhne	Helmholtz-Zentrum Dresden-Rossendorf, Germany	Stratified & Segregated Flow Modelling - Interfacial Area Density Models - AIAD
10:50	11:00	Break with Coffee, Tea & Beverages		
11:00	12:00	D. Lucas	Helmholtz-Zentrum Dresden-Rossendorf, Germany	Multi-Scale Modelling Techniques - GENTOP
12:00	13:00	Lunch		
Short Course on Multiphase Flows - Experimental Branch				
Time		Lecturer	Affiliation	Title
09:00	12:00	U. Hampel & E. Schleicher	Helmholtz-Zentrum Dresden-Rossendorf, Germany	Interactive Seminar on the Application of Two-Phase Flow Measuring Techniques - Wire-Mesh Sensors & Gamma CT
12:00	13:00	Lunch		
12:30	13:00	Registration Conference		



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Wednesday, 9 November 2016 - Multiphase Flow Conference - Session 1				
Chair:		D. Lucas	Helmholtz-Zentrum Dresden-Rossendorf, Germany	
Time		Lecturer	Affiliation	Title
13:00	13:10	D. Lucas	Helmholtz-Zentrum Dresden-Rossendorf, Germany	Welcome
13:10	13:50	S.T. Johansen	SINTEF, Trondheim, Norway	<u>Keynote:</u> Resolving industrial multiphase flow assurance challenges: Useful simulations of system evolution - the need for a pragmatic multi-level modelling approach
13:50	14:15	J. May	TU Darmstadt, Germany	Two-fluid Euler-Euler CFD simulation of 1 MWth Chemical Looping pilot plant: modelling and validation of air and fuel reactors
14:15	14:40	S. Muzaferija	CD-adapco, Nuremberg, Germany	Hybrid Liquid Film-VOF Multiphase Model
14:40	15:05	P. Ostermeier	TU München, Germany	Numerical simulation of gas-solid fixed bed reactors: approaches, sensitivity and verification
15:05	15:30	Poster with Coffee, Tea & Beverages		
Multiphase Flow Conference - Session 2				
Chair:		M. Braun	ANSYS Germany, Darmstadt	
Time		Lecturer	Affiliation	Title
15:30	15:55	J Vejrazka	Institute of Chemical Process Fundamentals of ASCR, Prague	Experiments on bubble breakup in a turbulent flow
15:55	16:20	A.K. Lesniak	Ruhr-Universität Bochum, Germany	Analysis of local phase distribution in packed bubble columns via wire mesh sensor
16:20	16:45	D Fletcher	University of Sydney, Australia	CFD Simulation of Bubble Columns at High Superficial Velocities
16:45	17:10	C. de Araujo Filho	Åbo Akademi University, Turku-Åbo, Finland	Continuous technology in the valorization of glycerol: the flow pattern changes radically inside the bubble column
17:10	17:35	N. N. Lafferty	ETH Zürich, Switzerland	Assessment of new finite size bubble simulation methods
17:35	18:45	Visit of the Experimental Facilities @ Institute of Fluid Dynamics		
18:45		Transfer to Dresden		
19:30	22:00	Conference Dinner @ Restaurant "Sophienkeller"		



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Thursday, 10 November 2016				
Multiphase Flow Conference - Session 3				
Chair:		E. Krepper	Helmholtz-Zentrum Dresden-Rossendorf, Germany	
Time		Lecturer	Affiliation	Title
08:30	09:10	H.-J. Odenthal	SMS Group GmbH, Düsseldorf	<u>Keynote</u> : Simulation of multiphase melt flows - applications and challenges from the industrial point of view
09:10	09:35	M. Vangö	Johannes Kepler University, Linz, Austria	CFD-DEM Modelling of blast furnace tapping
09:35	10:00	R. Martinez-Cuenca	Universitat Jaume I, Castelló, Spain	Modeling of bubble coalescence in Eulerian-Eulerian two-phase flow simulations: Eddy Transport Model
10:00	10:25	R. Farzad	Johannes Kepler University, Linz, Austria	Experimental Investigation of Liquid-Liquid System Drop Size Distribution in Taylor-Couette Flow and its application in the Stirred Tank Reactor CFD simulation
10:25	11:00	Poster Session with Coffee, Tea & Beverages		
Multiphase Flow Conference - Session 4				
Chair:		T. Esch	ANSYS Germany, Otterfing	
Time		Lecturer	Affiliation	Title
11:00	11:25	W. Zhou	Chongqing University, China	Two-phase flow detection based on electrical resistance tomography in nuclear rod bundle channels
11:25	11:50	T. Strömgren	Westinghouse Electric Company Sweden AB, Sweden	Prediction of critical heat flux and temperature mixing in fuel bundles
11:50	12:15	A. Kossolapov	Massachusetts Institute of Technology, Cambridge, U.S.A.	New Diagnostics and post-processing techniques capture subcooled flow boiling CHF
12:15	12:40	M. Braun	ANSYS Germany, Darmstadt, Germany	Multicomponent Film Condensation Model Development and Validation
12:40	13:30	Lunch		



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Multiphase Flow Conference - Session 5				
Chair:		T. Höhne	Helmholtz-Zentrum Dresden-Rossendorf, Germany	
Time		Lecturer	Affiliation	Title
13:30	13:55	Alain Liné	LISBP-INSA Toulouse, France	From 3D numerical simulation to 1D Unit Cell Model of slug flow: modelling of elongated bubble in horizontal and slightly inclined pipes
13:55	14:20	H. Heimel	Festo AG & Co.KG, Esslingen, Germany	Towards the simulation of a Taylor bubble microfluidic mixer
14:20	14:45	M. Pollack	TU Bergakademie Freiberg, Germany	Application of the Eulerian Quadrature Based Moment Methods in Multiphase Systems
14:45	15:10	B. Krull	TU Dresden, Germany	Simulation of deformable bubbles with an Immersed Boundary Method
15:10	15:35	C.S. Brown	North Carolina State University, Raleigh, U.S.A.	Advanced Analysis of Multiphase DNS and Multiphase Turbulence Model Development: An Overview of Active Research at NCSU
15:35	16:00	Poster with Coffee, Tea & Beverages		
Multiphase Flow Conference - Session 6				
Chair:		R. Rzehak	Helmholtz-Zentrum Dresden-Rossendorf, Germany	
16:00	16:25	M. P. Tandon	CD-adapco, Pune, India	Multiple flow regime modelling in Star-CCM+
16:25	16:50	K. Amend	Universität der Bundeswehr, Neubiberg, Germany	Simulation of Water Flow down inclined Containment Walls
16:50	17:00	Closing		



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Poster		
A. Stroh	TU Darmstadt, Germany	Numerical CFD simulation of 1 MWth circulating fluidized bed Carbonator with the discrete element method and comparison with experimental data
Th. Ziegenhein	Helmholtz-Zentrum Dresden-Rossendorf, Germany	Airlift Reactor - Experiment and CFD Simulation
Y.-J. Cho	KAERI, Korea	Assessment of CUPID Code using ROCOM Benchmark Data
E. Krepper	Helmholtz-Zentrum Dresden-Rossendorf, Germany	Baseline Model for CFD of Dispersed Bubbly Flow
T. Nowak	Brandenburgische Technische University Cottbus-Senftenberg, Germany	Coupling Effects during Thermo-Fluidic Analysis of Flip-Chip Devices with Peripheral Components - CFD Simulation and Experimental Study
R. Rzehak	Helmholtz-Zentrum Dresden-Rossendorf, Germany	Euler-Euler-Modeling of Reactive Bubbly Flows
M.R. Haghnegahdar	Helmholtz-Zentrum Dresden-Rossendorf, Germany	Experimental investigation on the influence of surfactant concentration on the bubble shape and mass transfer in a small channel
Th. Richter	TU Dresden, Germany	Measurement of bubble parameters in opaque fluids using ultrasound transit time technique
R. Martinez-Cuenca	Universitat Jaume I, Castelló, Spain	Modeling of aerated full-scale biological reactors: towards good-enough single-phase approaches
T. Ma	Helmholtz-Zentrum Dresden-Rossendorf, Germany	Modelling of turbulence modulation in bubbly flows with the aid of direct numerical simulation data
M. Ghafari	Sharif University of Technology, Tehran, Iran	On the Improvement of Turbulence Characteristics Prediction Near the Free Surface of Two-phase Stratified Flow
A. Moonesi	Helmholtz-Zentrum Dresden-Rossendorf, Germany	Three Dimensional Computational Fluid Dynamics Simulation of Condensation inside Inclined tubes
D. Lucas	Helmholtz-Zentrum Dresden-Rossendorf, Germany	Multiphase CFD activities at HZDR
V. Orava	Charles University, Prague, CZ	Multi-phase modelling of a reactive flow in fluidized bed reactors heated by internal tubes
N. Miskiv	Kutateladze Institute of Thermophysics SB RAS, Russia	New method for increasing the efficiency of mixture separation in the distillation columns with structured packing using the dynamically controlled liquid distributor
H. Yang	Forschungszentrum Jülich, Germany	Numerical simulation of binary collision between liquid copper droplets in a slag
D. Bauer	Helmholtz-Zentrum Dresden-Rossendorf, Germany	High Speed X-ray CT Imaging of a Cavitating Nozzle Flow
G. H. Lee	Korea Institute of Nuclear Safety, Korea	Numerical Study for Gas -Liquid Two-Phase Bubbly Flows in a C-Shaped Circular Pipe
S. Kriebitzsch	CIC Virtuhcon, TUBAF, Germany	Simulation of coal particle gasification up to Reynolds numbers of 1000