



15th Multiphase Flow Conference and Short Course:  
Simulation, Experiment and Application  
Dresden, 14 - 17 November 2017



Tuesday, 14 November 2017				
Short Course on Multiphase Flows				
Time		Lecturer	Affiliation	Title
08:30	09:15	Registration		
09:15	09:25	G. Gerbeth	Helmholtz-Zentrum Dresden-Rossendorf, Germany	Welcome
09:25	10:20	G. Scheuerer	ISimQ GmbH, Warngau, Germany	Mathematical Models for Multiphase Flows: Overview & Basic Equations
10:20	10:30	Break with Coffee, Tea & Beverages		
10:30	11:35	T. Esch	ANSYS Germany, Otterfing	Lagrangian Two-Phase Flow Modelling
11:35	11:45	Break with Coffee, Tea & Beverages		
11:45	12:50	T. Frank	ANSYS Germany, Otterfing	Eulerian Multiphase Flow Modelling: Phase Interaction Models
12:50	14:00	Lunch		
14:00	15:05	U. Hampel	Helmholtz-Zentrum Dresden-Rossendorf, Germany	Measurement Techniques and Experimental Investigations for Multiphase Flows
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 / T. Frank	ANSYS Germany	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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Wednesday, 15 November 2017				
Short Course on Multiphase Flows - Simulation Branch				
Time		Lecturer	Affiliation	Title
09:00	09:50	R. Rzehak	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, 15 November 2015 - Multiphase Flow Conference - Session 1				
Chair:		D. Lucas	Helmholtz-Zentrum Dresden-Rossendorf	
Time		Presenter	Affiliation	Title
13:00	13:10	R. Sauerbrey	HZDR, Germany	Welcome
13:10	13:35	E.J. Gelissen	Eindhoven University of Technology, Netherlands	Two-phase Flow Simulations with a Di use Interface Model
13:35	14:00	D. Obiso	TU Bergakademie Freiberg, Germany	Hydrodynamic characterization of Top Submerged Lance gas injection in cold systems
14:00	14:25	A. du Cluzeau	CEA, Université Paris-Saclay, France	Surface tension energy in bubbly flows: physical impact and modelling in RANS Eulerian-Eulerian two-fluid model
14:25	14:50	S. Ostmann	TU Bergakademie Freiberg, Germany	Conception of a new Experimental Facility for the deterministic Generation of Bubbly Flows
14:50	15:15	A. Kohlhepp	TU Munich, Germany	Evaporation at Near-Critical Pressures: Transients of Depressurization and Changes in Heat Flux in Evaporator Tubes
15:15	15:45	Coffee, Tea & Beverages		
Multiphase Flow Conference - Session 2				
Chair:		T. Esch	ANSYS Germany, Darmstadt	
Time		Presenter	Affiliation	Title
15:45	16:10	E.M.A. Frederix	NRG Petten, Netherlands	Reynolds-averaged simulation of turbulence at a large-scale interface
16:10	16:35	R. E. M. Morales	Multiphase Flow Research Center (NUEM) - Curitiba, Brazil	Numerical and experimental investigation of gas-liquid flows in centrifugal pumps
16:35	17:00	M. Thumfart	K1-MET GmbH Linz, Austria	PIV measurements of a continuous casting tundish with a line sparger
17:00	18:00	Visit of the Experimental Facilities @ Institute of Fluid Dynamics		
18:00		Transfer to Dresden		
19:00	21:30	Conference Dinner @ Restaurant "Sophienkeller"		

Thursday, 16 November 2017				
Multiphase Flow Conference - Session 3				
Chair:		R. Rzehak	Helmholtz-Zentrum Dresden-Rossendorf	
Time		Presenter	Affiliation	Title
09:00	09:45	D. Marchisio	Politecnico di Torino, Institute of Chemical Engineering, Italy	<u>Keynote</u> : Simulation of fluid-fluid multiphase systems with CFD and PBM: current possibilities and open challenges
09:45	10:10	A. Kajzer	Polish Academy of Sciences, Gdańsk, Poland	Two-phase flow modeling with Level Set in artificial compressibility approach
10:10	10:35	A. Fiedler	MAN Diesel & Turbo SE, Augsburg, Germany	Comparison of numerical performance numbers for flow-through filters
10:35	11:00	H. Kim	Kyung Hee University, Yongin, Korea	Integrated Visible- and Infrared Optical Techniques for High-Resolution Studies of Boiling
11:00	11:30	Coffee, Tea & Beverages		
Multiphase Flow Conference - Session 4				
Chair:		U. Hampel	ANSYS Germany, Otterfing	
Time		Presenter	Affiliation	Title
11:30	11:55	S. Jäger	LKR Leichtmetallkompetenzzentrum Ranshofen GmbH, Austria	Multiphase simulation and phase transformation with lattice Boltzmann method
11:55	12:20	R. Matz	PULS, Poznan, Poland	Entrainment of stagnant liquid by gas and its transport through short, tilted riser in a low-pressure pipeline
12:20	12:45	R. Guichard	INRS, Vandoeuvre, France	Simulation of the crossed aggregation of airborne nanoparticles using a CFD-QMOM approach
12:45	13:30	Lunch		



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Multiphase Flow Conference - Session 5				
Chair:		G. Scheuerer	ISimQ GmbH	
Time		Presenter	Affiliation	Title
13:30	13:55	A. Shakib-Manesh	Elomatic Ltd, Jyväskylä, Finland	Advanced multiphase CFD and FSI techniques for commercial real-world industries
13:55	14:20	B. Haut	Université libre de Bruxelles, Bruxelles, Belgium	On the dynamics of bubbles in linear microchannels: influence of buoyancy and interfacial contamination. Experimental, numerical and theoretical investigations
14:20	14:45	J. Pozorski	Polish Academy of Sciences, Gdańsk, Poland	Some issues in Smoothed Particle Hydrodynamics for two-phase flows
14:45	16:15	Poster Session with Coffee, Tea & Beverages - Votes for the Best Poster Award - see Poster list		
Multiphase Flow Conference - Session 6				
Chair:		E. Krepper	Helmholtz-Zentrum Dresden-Rossendorf	
16:15	16:40	G.H. Lee	University of Science and Technology, Daejeon, Korea	CFD Simulation of Unsteady Thermal Stratification in both Cold Legs and Downcomer by Emergency Core Cooling System Injection
16:40	17:05	P. Lobanov	Kutateladze Institute of Thermophysics, Novosibirsk, Russia	Dynamic processes during pulsed gas injection into liquid column filled by water and heavy liquid metal
17:05	17:30	K. R. Singh	Indian Institute of Technology Dhanbad, India	Effect of coalescence and breakage kernels in the population balance equation for the numerical modelling of polydispersed bubble columns using an adaptive-mesh finite element method
17:30		Transfer to Hotels		

Friday, 17 November 2017				
Multiphase Flow Conference - Session 7				
Chair:		T. Höhne	Helmholtz-Zentrum Dresden-Rossendorf	
Time		Presenter	Affiliation	Title
09:00	09:45	Ch. Hasse	TU Darmstadt, Simulation of reactive Thermo-Fluid Systems, Germany	<u>Keynote:</u> High-pressure engine sprays: the impact of multicomponent fuel modelings
09:45	10:10	B. Krull	TU Dresden, Germany	Progress in the simulation of bubble chains in liquid metal
10:10	10:35	T. Frank	ANSYS Germany, Otterfing, Germany	Prediction of convective boiling up to critical heat flux conditions for test facilities with vertical heaters
10:35	11:05	Coffee, Tea & Beverages		
Multiphase Flow Conference - Session 8				
Chair:		T. Frank	ANSYS Germany, Otterfing	
Time		Presenter	Affiliation	Title
11:05	11:30	E. Schmeyer	PTB, Berlin, Germany,	Modeling and simulation in multiphase flow metrology
11:30	11:55	E. V. Kuidjo	CEA, Université Paris-Saclay, France	Investigating the capabilities of the two-group interfacial area transport equation with a modified two-fluid model for simulating cap-bubbly and churn turbulent flows
11:55	12:20	D. Bauer	HZDR, Germany	High-speed imaging of a cavitating nozzle flow
12:20	12:30	Closure		