

52. European Two-Phase Flow Group Meeting

May 7 - 9, 2014
Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany

Programme

Wednesday May 7, 2014

8:00		Bus transfer	
9:00	G. Gerbeth	Welcome	
Session I - Chair: Dirk Lucas			
9:15	A. Tomiyama	Bubbly Flows in Two-Phase and Three-Phase Bubble Columns	Graduate School of Engineering, Kobe University, Kobe, Japan
10:00	<u>J. Fröhlich</u> , S. Heitkam, T. Kempe, C. Santarelli, and S. Schwarz	Simulations of bubbles in liquid metals with and without application of external fields	Institute of Fluid Mechanics, Technische Universität Dresden, Dresden, Germany
10:25	L. Scarbolo, and <u>A. Soldati</u>	Wall drag modification by large droplets in turbulent channel flow	Department of Elec, Manag. and Mechanical Engineering, University of Udine, Udine, Italy
10:50		Coffee	

Session II - Chair: Paolo Di Marco			
11:15	<u>S. Kastens</u> , S. Hosoda, M. Schlüter, and A. Tomiyama	Mass transfer from single Taylor bubbles in a mini channel	Institute of Multiphase Flows, Hamburg University of Technology, Hamburg, Germany Graduate School of Engineering, Kobe University, Kobe, Japan
11:40	<u>K. Zabkova</u> , S. Wagner, and A. Luke	Experimental investigations of the influence of aperture plate on horizontal two-phase flow	Institute of Thermodynamics, University of Kassel, Germany
12:05	Z. Rek, I. Zun, and <u>J. Gregorc</u>	CFD based mini vs. micro system delineation in elongated bubble flow regime	LFDT, Faculty of Mechanical Engineering, University of Ljubljana, Ljubljana, Slovenia
12:30		Lunch	
Session III - Chair: Akio Tomiyama			
13:30	<u>Y. Bracha</u> , D. Liberzon, and Y. Agnon	Investigation of parameters governing the onset of the two-phase Thermoacoustic engine	Faculty of Civil and Environmental Engineering, Technion, Haifa, Israel
13:55	H. Anglart	Influence of Flow Obstacles on Post-Dryout Heat Transfer	Department of Physics, AlbaNova University Center, Royal Institute of Technology, Stockholm, Sweden
14:20	<u>R. Rzehak</u> , E. Krepper, T. Ziegenhein, and D. Lucas	Baseline model for Euler-Euler simulations of bubbly flows	Institute of Fluid Dynamics, Helmholtz-Zentrum Dresden-Rossendorf (HZDR), Dresden, Germany
14:45	<u>Y. Taitel</u> , and D. Barnea	Transient Gas Liquid Flow in Hilly Terrain Pipelines	Tel-Aviv University, Israel

15:10	R. Sauerbrey	Welcome at HZDR	
15:25		Coffee	
Session IV - Chair: Alfredo Soldati			
15:50	<u>M. Magnini</u> , S Khodaparast, N. Borhani, and J. R. Thome	Experimental and numerical investigation of small and elongated gas bubbles within liquid flows through circular microchannels	Laboratory of Heat and Mass Transfer (LTCM), Ecole Polytechnique Federale de Lausanne (EPFL), Lausanne, Switzerland
16:15	<u>I. Zadrazil</u> , and C. N. Markides	On disturbance and ripple waves in downwards annular flow: Observations by simultaneous PLIF and PIV/PTV	Department of Chemical Engineering, Imperial College London, London, UK
16:40	S. Siedel	A novel method to predict EHD bubble deformation	Department of Mechanical and Manufacturing Engineering, Trinity College Dublin, Dublin, Ireland
17:05	<u>J.-C. Guillard</u> , J.-P. Matas, and A. Cartellier	Assisted atomization of a gas-liquid jet: effect of the volumic gas fraction in the inner jet on the spray characteristics	Laboratoire des Ecoulements Géophysiques et Industriels (LEGI), CNRS / Université de Grenoble Alpes, Grenoble, France
17:30		Adjourn	
17:45		Bus transfer	
19:30		Dinner on Dresden, Restaurant Barococo, Altmarkt 10	

Thursday May 8, 2014

8:00		Bus transfer	
Session V - Chair: Gretar Tryggvason			
9:00	P. Di Marco	Bubble and drop shapes under the action of force fields: commonalties and differences.	DESTEC University of Pisa, Pisa, Italy
9:45	U. Hampel	Two-phase flow measurements with ultrafast X-ray tomography	Institute of Fluid Dynamics, Helmholtz-Zentrum Dresden-Rossendorf (HZDR), Dresden, Germany
10:10	<u>A. Charogiannis</u> , R. Mathie, S. Kalliadasis, B. G. M. van Wachem, and C. N. Markides	Interfacial wave dynamics and liquid film velocity in falling films from simultaneous laser induced fluorescence and particle tracking velocimetry	Imperial College London, London, UK
10:35		Coffee	
Session VI - Chair: Panagiota Angeli			
11:00	D. Mikielwicz	Analysis of Non-Adiabatic Effect in Bubbly and Annular Flow in Flow Boiling and Flow Condensation in Minichannels	Faculty of Mechanical Engineering, Gdansk University of Technology, Gdansk, Poland
11:25	<u>B.C.F. Müller</u> , and A. Luke	Heat Transfer Mechanisms of Natural Refrigerants Boiling on Horizontal Tubes with Different Roughness	Institute of Technical Thermodynamics, University Kassel, Kassel, Germany
11:50	H. Vitoshkin, I. Barmak, R. Kushnir, A. Gelfgat, A. Ullmann, and <u>N. Brauner</u>	Stability analysis of stratified flow in inclined channels	Faculty of Engineering, Tel-Aviv University, Tel-Aviv, Israel

12:15	M. Pakhomov	Numerical Modelling of a Non-Isothermal Turbulent Bubbly Flow in a Vertical Pipe	Kutateladze Institute of Thermophysics, Novosibirsk, Russia
12:40		Lunch	
Session VII - Chair: Neima Brauner			
13:45	B. Kong, A. Passalacqua, and <u>R. O. Fox</u>	Numerical simulation of a polydispersed bubbly flow in a vertical pipe using a mass-velocity quadrature based moment method	Iowa State University, Ames, USA
14:10	A. Shmueli, T. Arnulf, M. Khatibi, and <u>O. J. Nydal</u>	Experiments on gas flow with wet pipe walls	Norwegian University of Science and Technology, Norway
14:35	<u>M. Chinaud</u> , A. Hernandez Barral, and P. Angeli	Wave characteristics and turbulence properties in stratified wavy oil-water flows	Department of Chemical Engineering, University College London, UK
15:00		Coffee	
15:30		Facilities visits	
17:00		Bus to Bautzen	

Friday May 9, 2014

8:00	Bus transfer		
Session VIII - Chair: Henryk Anglart			
9:00	G. Tryggvason	DNS of Multiphase Flows: What Now?	University of Notre Dame, Notre Dame, USA
9:45	J. Cotton	The Effect of High Voltage Electric Fields on Evaporators and Phase Change Thermal Storage Systems	McMaster University Department of Mechanical Engineering, Ontario, CANADA
10:10	C. Urban, and <u>M. Schlüter</u>	Condensation induced water hammer in horizontal pipes	Hamburg University of Technology, Germany
10:35		Coffee	
Session IX - Chair: Yehuda Taitel			
11:00	<u>S. Skusa</u> , and A. Luke	Condensing of Hydrocarbons with and without Inertgases in Tubes - Review and first Results by a new Experimental Method	Institute of Technical Thermodynamics – University of Kassel, Kassel, Germany
11:25	<u>N. Berdugo</u> , D. Liberzon, and Y. Agnon	Stable operation of a Two-Phase (Wet) Thermoacoustic engine using humid air	Faculty of Civil and Environmental Engineering, Technion, Haifa, Israel

11:50	K. Smith, R. Kempers, <u>A. Robinson</u> , S. Siedel	Two Phase Flow in Small Diameter Thermosyphons	Department of Mechanical & Manufacturing Engineering, Trinity College, Dublin, Ireland Alcatel Lucent, Blanchardstown Business & Technology Park, Dublin, Ireland
12:15		Lunch	
Session X - Chair: Dariusz Mikielewicz			
13:15	R. Mathie, <u>A. Charogiannis</u> , and C. N. Markides	Investigation of Unsteady Heated Film Flows by Combined PLIF-IR Imaging	Department of Chemical Engineering, Imperial College London, London, UK
13:40	<u>E. Brunazzi</u> , C. Galletti, and R. Mauri	Water-Ethanol Mixing in T-Shaped Microdevices	Department of Civil and Industrial Engineering, Laboratory of Reactive Multiphase Flows, University of Pisa, Pisa -Italy
14:05	T. Höhne	Numerical modeling of horizontal annular pipe flow using a droplet entrainment model	Institute of Fluid Dynamics, Helmholtz-Zentrum Dresden-Rossendorf (HZDR), Dresden, Germany
14:30		End	