

DAY 1 – Wednesday, May 16, 2012

09:00 – 09:40 Registration and Caffè

09:40 – 10:00 Welcome

SESSION 1		BUBBLES AND DROPLETS IN TURBULENCE	
CHAIR		P. di Marco	
TIME	SPEAKER	TITLE	
10:00 – 10:40	D. Marchisio	Comparison of different methodologies for the simulation of coalescence, breakup and mass transfer in gas-liquid stirred tanks and bubble columns (KEYNOTE)	
10:40 – 11:00	M. Sommerfeld	Experimental studies for allowing the modelling of droplet collisions with complex liquid properties	
11:00 – 11:20	C. Marchioli	Turbulence modulation and microbubble dynamics in vertical channel flow	

11:20 – 11:50 COFFEE BREAK

SESSION 2		BUBBLY FLOWS	
CHAIR		R. Mauri	
TIME	SPEAKER	TITLE	
11:50 – 12:10	V. Babin	Local and instantaneous temperature field around a Taylor bubble	
12:10 – 12:30	Y. Taitel	Rise velocity of a Taylor bubble in downward liquid flow	
12:30 – 12:50	V. Roig	Self-dispersion of high-Re bubbles rising within a thin gap	
12:50 – 13:10	I. Zun	Inlet condition effects on gas-liquid flow in mini-tubes	

13:10 – 14:30 LUNCH

SESSION 3		SURFACE TENSION DRIVEN PHENOMENA	
CHAIR		I. Zun	
TIME	SPEAKER	TITLE	
14:30 – 14:50	R. Mauri	Why do miscible liquids take so long to mix?	
14:50 – 15:10	H. Kuhlmann	Particle accumulation structures (PAS) in thermocapillary liquid bridges	
15:10 – 15:30	A. Delon	Break-up conditions of a flapping liquid jet	
15:30 – 15:50	P. Ern	Interaction and coalescence of two large bubbles rising in tandem in a thin-gap cell	
15:50 – 16:10	H. Anglart	On the onset of stable dryout conditions in annular two-phase flows in heated channels	

16:10 – 16:40 COFFEE BREAK

SESSION 4		TWO-PHASE FLOWS IN APPLICATIONS	
CHAIR		Y. Taitel	
TIME	SPEAKER	TITLE	
16:40 – 17:00	M. Postacchini	Small-scale dynamics and fluid-particle interaction around a cylinder placed over a porous seabed	
17:00 – 17:20	W. Angielczyk	Comparative analysis of 1D relaxation models calculations performed for carbon dioxide two-phase transonic flow through converging-diverging ejector motive nozzle	
17:20 – 17:40	F. Hatesuer	Effect of sorption phenomena on the pressure build-up in twin-screw multiphase pumps	
17:40 – 18:00	P. Angeli	Microchannel extractions using ionic liquids for spent nuclear fuel reprocessing	
18:00 – 18:20	P. Poesio	Heat transfer in spinodal decomposition: an experimental and numerical work	
18:20 – 18:40	L. Tadrist	Air-water two phase flow patterns in small tube diameters under different inlet conditions	

DAY 2 – Thursday, May 17, 2012

SESSION 5		BOILING
CHAIR		A. Tomiyama
TIME	SPEAKER	TITLE
09:00 – 09:40	J.R. Thome	New flow pattern based model for flow boiling in microchannels (KEYNOTE)
09:40 – 10:00	R. Revellin	Flow boiling of R-245fa at high reduced temperature
10:00 – 10:20	Y. Wang	Pool boiling heat transfer on low narrow finned mild steel tubes
10:20 – 10:40	M. Magnini	Numerical simulation of the flow boiling of elongated bubbles within microchannels

10:40 – 11:10 COFFEE BREAK

SESSION 6		BUBBLY FLOWS & HEAT TRANSFER
CHAIR		N. Brauner
TIME	SPEAKER	TITLE
11:10 – 11:30	P. Di Marco	Numerical simulation of bubble growth under the action of electric forces
11:30 – 11:50	D. Del Col	Condensation in minichannels: effect of channel shape and inclination
11:50 – 12:10	G. Rabello	3D ALE-FEM simulation of microscale two-phase flows with phase change
12:10 – 12:30	M. Milan	An entrainment mechanism map for a cocurrent adiabatic vertical downward air-water flow
12:30 – 12:50	A.J. Robinson	EHD augmentation and control of heat transfer rates during convective boiling

12:50 – 14:30 LUNCH

SESSION 7		HEAT & MASS TRANSFER
CHAIR		P.R. von Rohr
TIME	SPEAKER	TITLE
14:30 – 14:50	A. Ullmann	Enhancement of forced and free convection heat transfer rates during spinodal decomposition of equal-density binary liquid systems
14:50 – 15:10	M. Campolo	Minimal perfusion flow for cellular growth on lattice scaffolds
15:10 – 15:30	R. Visentini	Experimental investigation on heat transfer in transient boiling
15:30 – 15:50	D. Mikielwicz	Incorporation of non-adiabatic effects to pressure drop calculations in flow boiling and flow condensation

15:50 – 16:10 COFFEE BREAK

SESSION 8		EXPERIMENTAL METHODS
CHAIR		M. Lance
TIME	SPEAKER	TITLE
16:10 – 16:30	M. Schluter	Experimental investigation of local oxygen mass transfer in reactive gas-liquid flows
16:30 – 16:50	R.P. von Rohr	Measurement of hold-up and bubble size inside a porous structure by planar laser induced fluorescence using index matching
16:50 – 17:10	D. Lucas	Quantitative data from ultra-fast electron beam X-ray computer tomography measurements
17:10 – 17:30	A. Nir	A PIV study of sedimentation of drops in yield-stress fluid

DAY 3 – Friday, May 18, 2012

SESSION 9		PARTICLE-LADEN FLOWS
CHAIR		M. Sommerfeld
TIME	SPEAKER	TITLE
09:00 – 09:40	M.W. Reeks	Segregation of particles in incompressible random flows: singularities, intermittency and random uncorrelated motion (KEYNOTE)
09:40 – 10:00	S. Chibbaro	Recent advances in stochastic modelling of turbulent particle-laden flows
10:00 – 10:20	M. Lance	Lagrangian tracking of evaporating droplets in a homogeneous nearly isotropic turbulence using in-line digital holography
10:20 – 10:40	E. Pitton	Anisotropy in pair dispersion of inertial particles in turbulent channel flow

10:40 – 11:10 COFFEE BREAK

SESSION 10		NON-IDEAL PARTICLES IN COMPLEX FLOWS
CHAIR		A. Soldati
TIME	SPEAKER	TITLE
11:10 – 11:30	M. Sommerfeld	The Lattice-Boltzmann Method: A useful tool to study particle-scale phenomena
11:30 – 11:50	M. Vanni	Breakage and restructuring of agglomerates in shear and elongational flows
11:50 – 12:10	F. Lundell	Orientation of non-spherical particles with inertia in shear and extensional flow
12:10 – 12:30	A. Nir	Deformation of a viscous drop in compressional Stokes flow
12:30 – 12:50	L. Scarbolo	Turbulence modulation through the interface of a deformable drop

13:10 – 13:30 Closing

13:30 – 14:30 LUNCH