Program

Registration: 7th dec 2014 (Sunday) from 4.00 pm onwards
Day 1: 8th December (Monday)
Session 1: Phase Change 1 (Chair: S. Zaleski)

Time	Speaker	Title of the talk
8.30 am – 9.00 am	Chief Guest and Guest of Honour	Opening remarks
9.00 am – 9.35 am	G. Tryggvason (invited talk) U. Notre dame	Direct numerical simulations of flows with phase change
9.35 am – 9.55 am	J. C. Wells Ritsumeikan University, Japan	A front-tracking method for three-phase computations of solidification with volume change
9.55 am – 10.15 am	S. Prakash IISC Bangalore	Breakup of volatile liquid jet in hot cross flow

Tea and poster session (see the list below): 10.15 am – 11.00 am
Session 2: Climate and Geo Physics 1 (Chair: V. Eswaran)

Time	Speaker	Title of the talk
11.00 am – 11.20 am	E. Meiburg UC Santa Barbara	Sediment wave formation caused by erosional and depositional turbidity currents: A numerical investigation
11.20 am – 11.40 am	S. Toppaladoddi University of Oxford	Turbulent transport processes at rough surfaces with geophysical applications
11.40 am – 12 noon	C. S. Pant IIT Bombay	The effect of initial droplet size spectra on its evolution during turbulent condensational growth
12 noon – 12.20 pm	A. Lankadasu Fluidyn Consultancy (p) Ltd	Numerical modeling of supercritical CO_2 leaks and its subsequent dispersion in the ambient air

Lunch: 12.35 pm – 2.00 pm
Session 3: Drying and Solidification 1 (Chair: R. W. Griffiths)

Time	Speaker	Title of the talk
2.00 pm – 2.35 pm	M. S Tirumkudulu (invited) IIT Bombay	Drying and consolidation in drying colloidal dispersions
2.35 pm – 2.55 pm	D. Pavlidis Imperial College	Numerical modelling of debris bed water quenching
2.55 pm – 3.15 pm	D. Pavlidis Imperial College	Numerical modelling of melt behaviour in the lower vessel head of a nuclear reactor
3.15 pm – 3.35 pm	B. Gayen Australian National University	Melting driven convection at the ice-seawater interface

Tea and poster session (see the list below): 3.35 pm – 4.20 pm
Session 4: General Multiphase Flows 1 (Chair: G. Tryggvason)

Time	Speaker	Title of the talk
4.20 pm – 4.55 pm	J. S. Wettlaufer (invited) U. Oxford	Interfacial phase transitions: from fundamental interactions to climate dynamics and protoplanets
4.55 pm – 5.15 pm	G. Biswas IIT Guwahati	Bubble formation in film boiling including electrohydrodynamic forces
5.15 pm – 5.35 pm	C. A. Middleton Université Libre de Bruxelles	Imaging the evolution of brine transport in experimentally grown quasi-two-dimensional sea ice
5.35 pm – 5.55 pm	M. M. Omand Woods Hole Oceanographic Institution	An analytic model of sinking particulate organic matter in the ocean

Day 2: 9th December (Tuesday)
Session 6: Phase Change 2 (Chair: G. Biswas)

Time	Speaker	Title of the talk
9.00 am – 9.20 am	J. H. Arakeri IISC Bangalore	Buoyancy driven turbulence of moist air
9.20 am – 9.40 am	N. Kumar IISC Bangalore	Natural convection driven evaporation from a water surface
9.40 am – 10.00 am	P. J. Sáenz U. Edinburgh	Stability and two-phase dynamics of evaporating ma-rangoni-driven flows in laterally-heated liquid layers and sessile droplets
10.00 am – 10.20 am	J. Shaikh IIT Bombay	A ghost fluid method based sharp interface level set method for evaporating droplet

Tea and poster session (see the list below): 10.20 am – 11.00 am
Session 5: Climate and Geo Physics 2 (Chair: M. Francois)

11.00 am – 11.35 am	V. Ajaev (invited) U. Southern Methodist, Texas	Models of drainage and rupture of thin electrolyte films on flat and structured solid substrates
11.35 am – 11.55 am	K. Mayank IIT Hyderabad	Coupled dem-cfd model to predict the tumbling mill dynamics
11.55 am – 12.15 pm	P. Shui U. Edinburgh	Direct numerical simulation study of hydrodynamic interactions between immersed solids and wall during flow
12.15 pm – 12.35 pm	R. K. Shukla IISC Bangalore	Numerical investigation of shock-induced bubble col-lapse near a rigid wall

Lunch: 12.35 pm – 2.00 pm
Session 7: Drying and Solidification 2 (Chair: J. C. Wells)

2.00 pm – 2.35 pm	R. W. Griffiths (invited talk) Australian National University	Coupling of cooling, solidification and gravity-driven flow
2.35 pm – 2.55 pm	A. Wray Imperial College	Electrostatic suppression of the "coffee-stain effect"
2.55 pm – 3.15 pm	R. G. Tripathi IIT Delhi	Numerical simulations of gas-liquid boiling flows using openfoam
3.15 pm – 3.35 pm	J. Yang Imperial College	Crude oil fouling: fluid dynamics, reactions and phase change

Tea and poster session (see the list below): 3.35 pm – 4.20 pm
Session 8: Bubbles and Drops (Chair: M. S Tirumkudulu)

4.20 pm – 4.55 pm	E. K. Longmire (invited) U. Minnesota, USA	Drop penetration through a constriction: effect of sur-rounding fluid
4.55 pm – 5.15 pm	M. K. Tripathi IIT Hyderabad	Evaporating falling drop
5.15 pm – 5.35 pm	S. Krishnan IIT Madras	Dynamics of collapse of free surface bubbles
5.35 pm – 5.55 pm	A. Gupta U. "Tor Vergata", Italy	Deformation and break-up of viscoelastic droplets using lattice Boltzmann models

Banquet Dinner: 7.30 pm – 10.00 pm

Day 3: 10th December (Wednesday): Excursion

Day 4: 11th December (Thursday)
Session 9: Interfacial Flows (Chair: R. Banerjee)

Time	Speaker	Title of the talk
9.15 am – 9.35 am	S. Zaleski UPMC Sorbonne Universites, France	Using extrapolation techniques in vof methodology to model expanding bubbles
9.35 am – 9.55 am	S. Ravichandran TCIS Hyderabad	Inertial particles and vortices: implications for cloud flows
9.55 am – 10.15 am	P. S. Mahapatra IIT Madras	Dispersion of polydisperse droplets in a pulsating flow field

Sponsor's talk-ANSYS India : 10.15 am-10.25 am
Tea and poster session (see the list below): 10.25 am – 11.35 am
Session 10: General Multiphase Flows 2 (Chair: P. Valluri)

11.35 am – 11.55 am	Chinar Rana IIT Ropar	Effect of strong sample solvent on the solute dynamics for more or less viscous sample: a comparative study
11.55 am – 12.15 pm	B. M. Ningegowda IIT Delhi	Numerical simulation of two-dimensional forced convective film boiling flow over a horizontal flat surface
12.15 pm – 12.35 pm	S. Ghosh IIT Madras	Stability analysis of a gravity driven miscible two-fluid flow: role of wall slip

Lunch: 12.35 pm – 2.00 pm
Session 11: Numerical Simulation of Multiphase Flows (Chair: E. K. Longmire)

2.00 pm – 2.35 pm	M. Francois (invited) Los Alamos National Laboratory	Recent numerical and algorithmic advances within the volume tracking framework for modeling interfacial flows
2.35 pm – 2.55 pm	S. Tripathi IIT Bombay	Lubricated transport of highly viscous non-Newtonian fluid as core-annular flow: a CFD study
2.55 pm – 3.15 pm	K. Nandi BARC Mumbai	High resolution TVD schemes for interface tracking problems in two fluid flows
3.15 pm – 3.35 pm	R. Ingle ANSYS, India	Modelling of flashing in capillary tubes using homogeneous equilibrium approach

Tea and poster session (see the list below): 3.35 pm – 4.20 pm
Session 12: Applications (Chair: V. Ajaev)

4.20 pm – 4.40 pm	A. Nair k. IIT Madras	Experimental study of slip flow at the fluid-porous interface in a boundary layer flow
4.40 pm – 5.00 pm	R. Dasgupta IIT Bombay	Viscous undular hydraulic jumps of moderate Reynolds number flows
5.00 pm – 5.20 pm	R. Reddy IIT Hyderabad	Study of disintegration of a high speed liquid jet using vof method
5.20 pm – 5.40 pm	M. V. Sardeshpande NCL Pune	Two phase flow boiling pressure drop in small channels
5.40 pm – 6.00 pm	All	Concluding remarks

List of poster-presentations (Day 1) (Chair: Ananth Puranam)

Author(s)	Title of the poster
B. Vadlakonda, C. Vudikala and Narasimha M.	Hydrodynamics study of two phase flow using electrical resistance tomography in column flotation
N. Majumdar and M. S. Tirumkudulu	Stability of moving liquid sheet with acoustic forcing
K. R. Prathyusha, S. Sengupta and P. B. Sunil kumar	Evaporation induced self-assembly of colloidal particles
A. Nagilla, S. Jadhav and P. Ranganathan	Mechanobiology of interstitial networks of motile micro-organisms
R. Ramadugu and P. Perlekar	Comparison of weakly compressible finite difference and lattice Boltzmann algorithm for multiphase flows
P. R. Ashok R., M. Thomas and S. Varughese	Viscous fingering instabilities during drying of PEDOT:PSS dispersion
D. K. Kanungo and S. Shrivastava	Flow and Temperature distribution of flue gas in a typical fossil fuel fired boiler: A CFD study
P. Shukla and A. De wit	Fingering instability driven by a simple precipitation reaction
M. Ancellin	Issues of phase change for wave impacts due to sloshing
A. Iqbal and M. Pandey	Two-phase slip flow pressure drop modeling in microchannels with variable physical properties
S. Mathew, M. V. Panchagnula and S. Vedantam	Mixing of wet polydisperse granular material in a belt-driven enclosure
N. K. Jha and R. N. Govardhan	Vorticity and bubble dynamics of a vortex ring interacting with a bubble

List of poster-presentations (Day 2) (Chair: Anand Mohan)

Author(s)	Title of the poster
Md Q. Raza and R. Raj	Pool boiling heat transfer with aqueous surfactant solutions: importance of time scales
M. K. Tripathi and Premlata	Similarity of bubbles and drops
Vishnudas. R. and A. Chaudhuri	Influence of dispersivity of porous medium on the miscible and immiscible viscous fingering during polymer flooding
T. K. Hota and M. Mishra	Linear stability of a rectilinear miscible displacement: a nonmodal approach
A. Anurag, V.S. Vaisakhan and R. Banerjee	In-cylinder fuel spray and mixing of ethanol/iso-octane blends in a gdi engine
S. Sunder and G. Tomar	Numerical simulation of the interaction of a drop with a curved interface under external electric field for dielectric-dielectric and conducting-dielectric fluid pairs
K. S. Patel and R. K. Shukla	Numerical investigation of liquid bridge dynamics with a phase field model
B. K. Singh, A. Quiyoom, S. Roy and V. V. Buwa	Instantaneous and time-averaged gas volume fraction measurements in a cylindrical bubble column: comparison of electrical resistance tomography and voidage probe measurements
V. Teja reddy and M. Narasimha	Modelling turbulent flow of cyclone separation: prediction of turbulence effect on particle classification
A. Sinha, S. Balasubramanian and S. Gopalakrishnan	Numerical and experimental study of a flashing jet
R. Naik and R. Narasimha K.	Thermal performance characterization of a multi loop pulsating heat pipe
D. Dubey and J. Sarkar	Single cluster aggregate under shear flow in Couette geometry
S. Palleri, S. Mohanan and B. A. Puthenveettil	Sedimentation of Low Stokes number particles in Turbulent convection

List of poster-presentations (Day 3) (Chair: P. Perlekar)

Author(s)	Title of the poster
G. Saritha and R. Banerjee	Numerical study of flow boiling in a micro channel using lattice Boltzmann method
H.V.R. Mittal and Rajendra K. Ray	A new direction to higher order compact (hoc) scheme for solving immersed interface problems
N Nanda Kumar and A. Mohan	Blood flow in stenosed artery: a computational study
Navaneeth K. M. and G. Subramanian	The orientation dynamics of anisotropic particles in shearing flows
S. Roy and M. S. Tirumkudulu	A theory for the compression of two dimensional strongly aggregated colloidal networks
S. Agarwal and J. S. Wettlaufer	Geophysical scale multiphase dynamics: the mixing of the arctic sea ice pack
S. Dalal, G. Tomar and P. Dutta	Deformation of viscoelastic drops in channel flows
R. Gupta	CFD modelling of vertical oil-water core-annular flow
S. Ghosh	Destabilizing role of wall slip on the absolute instability of double-diffusive two-fluid channel flow
B. A. Puthenveettil†, V. K. Senthilkumar and E. J. Hopfinger	Motion of drops on inclined surfaces in the inertial regime
V. Mathai, V. Prakash, Jon Brons, C. Suna, D. Lohsea	Dynamics of light particles in turbulence
A. Pavithran and B. A. Puthenveettil	Sedimenting drop along an inclined plane in viscous fluid
B. Karri, Siew-Wan Ohl, E. Klaseboer and B. C. Khoo	Bubble dynamics near a perforated boundary