

**BIRS workshop: Small scale hydrodynamics: theory and application in microfluidics and thin films**

TABLE I: Monday, 8th February, 2010:

Morning **Dewetting & Phase Phenomena**Afternoon **Substrate effects and contact lines,**

08.45-09.00	Welcome to BIRS	BIRS Station Manager
09.00-09.25	J-L. Thiffeault	Nonlinear dynamics of phase separation in thin films
09.25-09.50	E. Fried	Stability of an evaporating thin liquid film
09.50-10.15	S. Wilson	Theoretical and experimental studies of droplet evaporation
10.15-10:45	Coffee	
10.45-11.10	A. Hosoi	Low temperature solvent annealing of organic thin films
11.10-11.35	B. Duffy	Quasi-steady spreading of a thin ridge of fluid with temperature-dependent surface tension
11.35-12:00	M. Gratton	Coarsening dynamics of dewetting films
12.00-13.30	Lunch	
13.30-14.00	Group Photo	
14.00-14.25	C. Maldarelli	The self-propulsion of a droplet in a two-dimensional microchannel
14.25-14.50	K. Breuer	Droplet formation and contact line flows
14:50-15:20	Coffee	
15.20-15.45	N. Balmforth	First contact in a viscous fluid
15.45-16.10	N. Savva	Influence of spatial heterogeneities on contact line dynamics
16.10-16.35	S. Kalliadasis	Three-phase contact line at small scale
16:35-17:00	Discussion	
17.30-19.30	Dinner	

TABLE II: Tuesday, 9th February, 2010:

Morning **Dispersed systems: droplets and particles,**Evening **Interfacial flows and thin films**

09.00-09.25	K. Stebe	Orientation and assembly of anisotropic particles by capillary interactions
09.25-09.50	J. Eijkel	The generation of sub-micrometer droplets in a microfluidic system and self-organization
09.50-10.15	T. Ward	Droplet production in a microfluidic flow focusing device via interfacial saponification chemical reaction
10.15-11:00	Coffee	
11.00-11.25	S. Anna	The impact of surfactant sorption kinetics on microscale tipstreaming
11.25-11.50	J. Cabral	Spinodal clustering of nanoparticle-polymer mixtures in thin films
12.00-13.30	Lunch	
13.30-14.30	Guided tour of Banff Centre	
14.30-17.30	Free Afternoon Discussion/ Group meetings	
17.30-18.30	Dinner	
18.30-18.55	P. Steen	Vibrations of a constrained cylindrical interface
18.55-19.20	S. Kumar	Stretching and slipping of liquid bridges near plates and cavities
19.20-19.45	L. Yeo	Peculiar interfacial phenomena driven by surface acoustic waves
19.45-20.10	R. Braun	Models for the dynamics of the human tear film
20.10-20.35	S. Mitra	Capillary flow for microfluidics

TABLE III: Wednesday, 10th February, 2010:  
Morning **Bio-Microfluidics** ,  
Afternoon **Complex Fluids and Marangoni flows**

09.00-09.25	E. Shaqfeh	The microfluidics of non-spherical colloidal particles and vesicles with applications to blood additives
09.25-09.50	H. Zhao	Direct numerical simulation of vesicle dynamics in shear flow and generalized linear flows
09.50-10.15	M. Miksis	Dynamics of lipid bilayer vesicles in viscous flow
10.30-11:00	Coffee	
11.00-11.25	S. Muller	Experiments in microfluidic stagnation point flows: trapping, deforming and analyzing DNA
11.25-11.50	E. Lauga	Hydrodynamic interactions in small-scale swimming
12.00-13.30	Lunch	
13.30-13.55	O. Matar	Interfacial flows in the presence of additives
13.55-14:20	M. Graham	Mesoscale simulation of the dynamics of confined complex fluids
14.20-14:45	A. Shen	Complex fluids under confinement and flow
15.00-15.30	Coffee	
15.30-15.55	R. Krechetnikov	On Marangoni-driven interfacial singularities and their resolution
15.55-16.20	M. Booty	Surfactant solubility effects
16.20-16.45	M. Siegel	A hybrid numerical method for fluid interfaces with soluble surfactant
17.30-19.30	Dinner	

TABLE IV: Thursday, 11th February, 2010: Morning and Evening **Electrokinetics: dynamics and instabilities**,

09.00-09.25	T. Squires	Induced-charge electrokinetic effects in microsystems
09.25-09.50	S. Pennathur	Fundamental transport of electrolyte solutions in nanofluidic channels with finite wall charge
09.50-10.15	A. Pascall	Induced charge electrokinetics over controllably contaminated electrodes
10.30-11:00	Coffee	
11.00-11.25	D. Tseluiko	Electrified liquid films
11.25-11.50	J-M. Vanden-Broeck	The influence of electric fields on nonlinear free surface flows
12.00-13.30	Lunch	
13.30-17.00	Afternoon	Discussion
17.30-18.30	Dinner	
18.30-18.55	H-C. Chang	Nanopore Biosensor and a Micro-scale Electrokinetic Instability
18.55-19.20	R. V. Craster	Rupture and interfacial deformation of electrokinetic thin films
19.20-19.45	D. T. Papageorgiou	Electrostatically induced instabilities in interfacial flows