IMA5 Conference Program

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IMA5 Program

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MONDAY, JUNE 7th			
18:00 – 22:00		Reception of participants and Welcome Buffet	

TUESDAY, JUNE 8th			
08:45 – 09:00		Conference opening – Welcome: C. Dang Vu-Delcarte	
09:00 – 10:00		Liquid Bridge 1 – Chair: A. Viviani	
LB1 – 1		Instability invoked by gas flow along thermocapillary interface	Yuri Gaponenko
LB1 – 2		Effect of Ambient Gas Flow on the Onset of Oscillatory Marangoni Convection in Liquid Bridge	Kaname Maruyama
LB1 – 3		Marangoni Driven Full-Zone: Magnetic Stabilization, Transition and Energy Analysis at Low Prandtl Number	Yue Huang
LB1 – 4		Effect of forced flow of ambient gas upon thermocapillary-driven convection in half-zone liquid bridge	Yosuke Makino
10:00 – 11:00		Coffee Break – Poster session	
11:00 – 12:15		Processes – Chair: H. Kuhlmann	
PR – 1		From Chemo-Marangoni Cells towards Large-scale Interfacial Deformations	Kerstin Eckert
PR – 2		Instabilities in clustering of colloids by alternate electric fields	Moorthi Pichumani
PR – 3		Roles of Organic Layers on Anomalous Surface Tension Temperature Dependencies of Metallic Nanofluids with Dilute Long-Chain Alcohols	Masahide Sato
PR – 4		Capillary rising of self-rewetting solutions in laser engraved micro-channels	Roberto Di Paola
PR – 5		Linear spatiotemporal instability analysis of ice growth under a falling water film	BingHong Zhou
12:15– 14:00		Lunch Break	
14:00 – 15:30		Evaporation – Chair: M. Bestehorn	
EV – 1		Evaporation and thermocapillary flow near apparent contact lines on heated surfaces	Vladimir Ajaev
EV – 2		Marangoni Instability with Evaporation : a Transient Approach	Thomas Boeck
EV – 3		Numerical study of convection induced by evaporation in cylindrical geometry	Benoît Trouette
EV – 4		Evaporative Instability in Binary Mixtures	Erdem Uguz
EV – 5		Stationary patterns in thin liquid films	Domnic Merkt
EV – 6		Interaction of Evaporation and Marangoni Effect at a vapor-liquid interface	Qiu-Sheng Liu
15:30 – 16:00		Coffee Break	
16:00 – 17:45		Multi Layers – Binary Flow – Chair: Q.S. Liu	
ML – 1		Nonlinear Dynamics in Bounded Thin Liquid-Vapor Layers	Kentaro Kanatani
ML – 2		Different Types of Nonlinear Convective Oscillations in a Multilayer System Under the Joint Action of Buoyancy and Thermocapillary Effect	Ilya Simanovskii
BF – 1		Influence of evaporation on thin film binary mixture dynamics	Ion Dan Borcia
BF – 2		Bénard instability of an evaporating binary-liquid layer	Hatim Machrafi
BF – 3		Longwave Marangoni instability in a binary mixture under the action of vibration	Irina Fayzrakhmanova
BF – 4		Convective instabilities in films of binary mixtures	Santiago Madruga
BF – 5		Thermocapillary motion of viscous liquid and binary mixture in a tube domain	Viktor Andreev

WEDNESDAY, JUNE 9th			
08:30 – 10:00		**Drops 1 – Chair: I. Ueno**	
DR1 – 1		The discrete orbits of a self-propelled wave-particle association on a rotating liquid interface	Yves Couder
DR1 – 2		Deformation of partially engulfed compound drop undergoing thermocapillary migration	Olga Lavrenteva
DR1 – 3		Delayed Coalescence of Sessile Droplets with Different but Miscible Liquids	Stephan Karpitschka
DR1 – 4		Orbital motion of a drop levitating around a circular hydraulic jump	Laurent Limat
DR1 – 5		Spreading of drops on a hydrogel	Adrian Daerr
DR1 – 6		Forced impalement of liquids by drop impacts on on wetting surfaces	Alain Merlen
10:00 – 11:00		**Coffee Break – Poster session**	
11:00 – 12:20		**Abdel Zebib Memorial Session – Chair: A. Oron**	
IMZ – 1		In memoriam Abdel Zebib	Alexander Oron
IMZ – 2		Nonlinear dynamics of a liquid coating on an axially oscillating cylinder	Alexander Oron
IMZ – 3		The mechanics of particle accumulation structures in thermocapillary flows	Hendrik Kuhlmann
IMZ – 4		IMA benchmark results in liquid bridges	Valentina Shevtsova
IMZ – 5		Particles of different densities in thermocapillary liquid bridges under the action of hydrothermal waves and the role of gravity	Dietrich Schwabe
IMZ – 6		Interfacial Instability from Equilibrium- Why are Cylinders so Interesting?	Ranga Narayanan
12:20 – 14:00		**Photo – Lunch Break**	
14:00 – 15:15		**Surfactants and Wetting – Chair: L. Limat**	
SW – 1		Marangoni instability of a heated layer in the presence of a soluble surfactant	Alexander Nepomnyashchy
SW – 2		Nonlinear dynamics of long-wave Marangoni convection in a liquid layer with insoluble surfactant	Alexander Mikishev
SW – 3		Terrestrial Simulation of Drop Saturation by Surfactant under Microgravity Conditions	Antonio Viviani
SW – 4		Threshold Onset of Marangoni Convection in Narrow Channels	Aleksey Mizev
SW – 5		Observation of Marangoni flow in ordinary and self-rewetting fluids using optical diagnostic systems	Anselmo Cecere
15:15– 15:30		**Break**	
15:30 – 16:15		**Liquid Bridge 2 – Chair: K. Nishino**	
LB2 – 1		Flow visualization of Marangoni Convection in Low Pr Liquid Bridge	Satoshi Matsumoto
LB2 – 2		Accumulation of particles in oscillatory convective flow in liquid bridge. Modeling of experiments	Denis Melnikov
LB2 – 3		Thermocapillary-Buoyancy Convection in Annular Two-layer System with Radial Temperature Gradient	You-Rong Li
16:15 – 16:30		**Coffee Break**	
16:30 – 17:30		**Faraday – Vibrations – Chair : V. Shevtsova**	
FV – 1		Stability of thermal boundary layer in the presence of vibrations	Tatiana Lyubimova
FV – 2		Domain self-adaptation induced by Faraday instability	Giuseppe Pucci
FV – 3		Star-drops formed on an air cushion and on a vibrating surface	Philippe Brunet
FV – 4		Mixing generated by Faraday instability	Sakir Amiroudine
19:30 – 22:00		**Conference Dinner**	

THURSDAY, JUNE 10th			
08:45 – 10:15		**Contact Line – Chair: A. Nepomnyashchy**	
CL – 1		Micrometric particle collection by a moving triple contact	Farzam Zoueshtiagh
CL – 2		Complex fluid interfacial flow induced by evaporation near a contact line	Ching Hsueh
CL – 3		Impact of electric fields on the speed of contact line in vertical deposition of diluted colloids	Moorthi Pichumani
CL – 4		Precursor film formation ahead macroscopic contact line of droplet spreading on smooth substrate	Ichiro Ueno
CL – 5		Shapes of receding contact lines: from sliding drops to immersion lithography	Koen Winkels
CL – 6		Two-phase hydrodynamic model for air entrainment at the moving contact line	Tak Shing Chan
10:15 – 11:15		**Coffee Break – Poster session**	
11:15 – 12:15		**Drops 2 – Chair: Y. Couder**	
DR2 – 1		The lattices of bound states of wave interacting particles: Structure and excitation modes	Antonin Eddi
DR2 – 2		Induced flow in coalescing droplets in a circular tube	Masahiro Muraoka
DR2 – 3		Transitions from fast to delayed coalescence: A phase field modelling	Rodica Borcia
DR2 – 4		Droplet displacement and deformation induced by surface acoustic waves	Michael Baudoin
12:15 – 12:30		**Presentation of IMA6 by A. Oron**	
12:30 – 14:00		**Lunch Break**	
14:00 – 15:30		**Instability and Chaos – Chair: R. Narayanan**	
IN – 1		Buoyant-thermocapillary convection instability in rotating annular pools by linear stability analysis	Wanyuan Shi
IN – 2		Three Dimensional Flow Instabilities in Thermocapillary and Buoyant-Thermocapillary Driven Flow in an Annular Pool	Nobuyuki Imaishi
IN – 3		Linear Stability and Nonlinear Evolution of Marangoni Convection Structures due to Localised Axisymmetrical Inhomogeneity of Surface Tension	Igor Wertgeim
IN – 4		Stability threshold for the flow driven by a rotating disk in a small aspect ratio open cylindrical cavity	Lyes Kahouadji
IN – 5		Transition to chaos of thermocapillary convection	Kai Li
IN – 6		Emergent spatiotemporal ordering of particles in non-stationary thermocapillary flows	Dmitri Pushkin
15:30 – 16:00		**Coffee Break**	
16:00 – 16:45		**Stuctures and Patterns – Waves - Chair: D. Schwabe**	
PA – 1		Front dynamics and pattern formation in a rectangular fluid layer under nonhomogeneous heating	Montserrat Ana Miranda
PA – 2		Deforming Interfaces with Magnetic Fields	Marie-Charlotte Renoult
PA – 3		Thermocapillary Ratchet Flows along Walls with Asymmetric Topography	Alexander Alexeev
16:45 – 17:30		**Waves**	
WA – 1		Short- and long-wave Marangoni instabilities in liquid films on walls with spatially-periodic temperature distribution	Tatiana Gambaryan-Roisman
WA – 2		Control of hydro-thermal waves in a Marangoni and buoyancy driven flow using a gradient-based control strategy	Frank Muldoon
WA – 3		Longwave Oscillatory Mode in Marangoni Convection	A. A. Alabuzhev
		IMA5 CLOSING	

List of Posters

P01 Faraday Interfacial Instability
W. Batson, F. Zouestiagh and R. Narayanan

P02 Experimental Exploration of the Dispersion Relation of Rayleigh-Taylor Instability
Renoult M.C., Ferjani S., Carlès P., Rosenblatt C.

P03 Stability of a two-layer quasi-incompressible binary-fluid system with a diffuse interface
Oxana A. Frolovskaya and Alexander A. Nepomnyashchy

P04 Liquid entrainment by gas flow along the interface
Gaponenko Yuri, Miadlun Aliaksandr, and Shevtsova Valentina

P05 Drying a colloidal dispersion in a confined geometry
L. Pauchard, F. Giorgiutti-Dauphiné

P06 Coating of a fiber with a non-newtonian fluid
L. Pauchard, F. Giorgiutti-Dauphiné

P07 Delayed Coalescence of Sessile Droplets of Completely Miscible Liquids: Tracing Surface Flows with Fluorescent Microspheres
Stefan Karpitschka and Hans Riegler

P08 Rayleigh-Marangoni Instabilities in a Two-Fluid System under vertical High-Frequency Vibrations
Rong Liu, Qiusheng Liu

P09 Thermo- and soluto-capillary-induced flows in FZ crystal growth
Tatyana P. Lyubimova, Robert V. Scuridyn and Irina S. Faizrakhmanova

P10 Horizontal vibration effect on Marangoni instability in a two-layer system of immiscible fluids with deformable interface
Tatyana P. Lyubimova and Marina A. Kokarovtseva

P11 Onset of Oscillation of Marangoni Convection in Large Aspect-Ratio Liquid Bridges
Ryosuke Matsuoka, Koichi Nishino, Hiroshi Kawamura, Ichiro Ueno, Mitsuru Ohnishi, Satoshi Matsumoto, et al.

P12 Accumulation of rigid particles in non-isotherme liquid bridge
Denis Melnikov, Dmitri Pushkin and Valentina Shevtsova

P13 Delayed Droplet-Coalescence for Miscible Liquids
Stefan Menzel and Michael Bestehorn

P14 Onset Conditions and Structure of Standing Hydrothermal Waves In a Thermocapillary Liquid Bridge
Aleksey Mizev and Dietrich Schwabe

P15 Interaction Between the Buoyant and Solutocapillary Convections Induced by Surface-Active Source Placed Under a Free Surface
Aleksey Mizev and Rudolf Birikh

P16 Experimental observations of the effect of ultrasound forcing on liquid structures
Len Moldavsky, Mati Fichman, and Alexander Oron

P17 Experimental studies on colloidal crystallization: Effect of electric fields on the dynamics of contact line
M. Pichumani, M. Giuliani, W. González-Viñas

P18 Three dimensional unsteady simulations of a liquid bridge with external gas flow
Frank Muldoon and Hendrik Kuhlmann

P19 Nonlinear Convective Oscillations in Two-layer Films Under the Joint Action of Marangoni Stresses and Gravity Force
Alexander Nepomnyashchy and Ilya Simanovskii

P20 Thermocapillary-driven Flow in a Half-Zone Liquid Bridge Accompanying with its Dynamic Oscillation on 'Kibo' aboard the ISS
I. Ueno, F. Sato, A. Kawazoe, K. Sasaki, K. Nishino, H. Kawamura, M. Ohnishi, S. Matsumoto, R. Suzuki, S. Yoda and T. Tanaka

P21 A coalescence of two close liquid drops suspended in a another liquid of the same density
Aleksandr Kupershtokh, Alla Ovcharova and Nina Stankous

P22 Numerical simulation of the Faraday instability
Nicolas Périnet, Damir Juric and Laurette S. Tuckerman

P23 Solutal Rayleigh-Bénard-Marangoni convection
Benoît Trouette, Eric Chénier, Frédéric Doumenc, Claudine Dang Vu-Delcarte, Béatrice Guerrier

P24 Thermocapillary-Driven Flow in Free Liquid Film Formed in A Rectangular Hole with Temperature Gradient
Watanabe, T. & Ueno, I.

P25 Simulating Multiphase Flows in Porous Media with High Order CE/SE Method
Duoxing Yang, Deliang Zhang

P26 Experimental investigation of Marangoni effect in hexanol-water system
Zhihui Wang, Ping Lu, Yumei Yong, Guangji Zhang, Chao Yang, Zai-Sha Mao

P27 Experimental and numerical investigation on Marangoni effect induced by mass transfer during drop formation
Ping Lu, Xiangyang Li, Zhihui Wang, Guangji Zhang, Chao Yang, Zai-Sha Mao

P28 Mass transfer enhancement by Marangoni convection in a sessile droplet
Wei Chen, Xigang Yang

P29 A novel method of simulating Marangoni phenomena-Perturbation finite volume method
Deliang Zhang Hefei Dong, Guowei Yang

P30 Long-wave Marangoni instability in a binary-liquid layer with deformable free surface in the presence of Soret effect and surfactant adsorption
Matvey Morozov and Alexander Nepomnyashchy

P31 Marangoni Convection Experiments in 'KIBO' on ISS – The Second Series of Experiments –
K. Nishino, H. Kawamura, I. Ueno, M. Ohnishi, S. Matsumoto, R. Suzuki, A. Kawazoe, K. Sasaki, S.-i. Yoda, and T. Tanaka

List of Participants

Vladimir	Ajaev	Southern Methodis University	USA
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