

WELCOME TO DROPLETS 2017

JULY 24-26, 2017

UCLA, LOS ANGELES, CA, USA

SCIENTIFIC PROGRAM

PROGRAM OVERVIEW

Day 1 (July 24, Monday)

7:30	Breakfast Buffet
9:00	Opening Remarks
9:15	Keynote lecture by Kathleen Stebe
10:15	Coffee
10:45	Parallel session 1
12:15	Lunch
14:00	Keynote lecture by Sindy Tang
15:00	Coffee
15:15	Parallel session 2
16:30	Break
16:45	Parallel session 3
17:45	Poster session
19:00	End

Day 2 (July 25, Tuesday)

7:30	Breakfast Buffet
9:00	Keynote lecture by Sidney Nagel
10:00	Coffee
10:30	Parallel session 4
12:00	Lunch
14:00	Keynote lecture by Karin Jacobs
15:00	Coffee
15:15	Parallel session 5
16:45	Break
17:00	Parallel session 6
18:00	End
17:30	Reception
19:00	Dinner

Day 3 (July 26, Wednesday)

7:30	Breakfast Buffet
9:00	Keynote lecture by Ho-Young Kim
10:00	Coffee
10:30	Parallel session 7
12:00	End

PARALLEL SESSIONS

Day 1 (July 24, Monday)

Parallel Session 1

Impact I

10:45	<p>Experiments on the breakup of drop-impact crowns by Marangoni holes <i>Abdulrahman B. Aljedaani*</i>, <i>A. Jetly</i>, <i>S.T. Thoroddsen</i> *Mechanical Engineering, Division of Physical Sciences and Engineering, King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia</p>
11:00	<p>Train of water droplets impacting porous stones: adsorption and film forming <i>Dominique Derome*</i>, <i>Stefan Carl</i>, <i>Peter Vontobel</i>, <i>Jan Carmeliet</i> *Laboratory for Multiscale Studies in Building Physics, Swiss Federal Laboratories for Materials Science and Technology, Empa, 8600 Dübendorf, Switzerland</p>
11:15	<p>Gel drops and beads under extreme deformations <i>Srishti Arora*</i>, <i>Christian Ligoure</i>, <i>Laurence Ramos</i> *Laboratoire Charles Coulomb, CNRS, Université de Montpellier, F-34095, Montpellier CEDEX 05, France</p>
11:30	<p>Influence of the impact energy on the pattern of blood drip stains <i>Fiona Smith*</i>, <i>Céline Nicloux</i>, <i>David Brutin</i> *Aix-Marseille University, IUSTI UMR 7343, 13013 Marseille, France</p>
11:45	<p>Dynamics of particle-laden liquid sheets <i>Alban Sauret*</i>, <i>Anthony Troger</i>, <i>Pierre Jop</i> *SVI, UMR 125 CNRS/Saint-Gobain, 93303 Aubervilliers, France</p>
12:00	<p>Impact, Spreading and Splashing of Superfluid Drops <i>Matthew Wallace*</i>, <i>David Mallin</i>, <i>Andres Aguirre</i>, <i>Kenneth Langley</i>, <i>Sigurdur Thoroddsen</i>, <i>and Peter Taborek</i> *Department of Physics and Astronomy, UC Irvine, Irvine, CA, USA</p>

Evaporation I

10:45	<p>Correlation for sessile drop evaporation <i>Peter Kelly-Zion*</i>, <i>Christopher Pursell</i>, <i>Greg Wassom</i>, <i>Brenton Mandelkorn</i>, <i>Chris Nkinthorn</i> *Mechanical Engineering, Division of Physical Sciences and Engineering, Department of Engineering Science, Trinity University, San Antonio, TX, USA</p>
11:00	<p>Measured Vapor Distributions Above Sessile Drops and Implications for Vapor Transport <i>Peter Kelly-Zion*</i>, <i>Christopher Pursell</i>, <i>Hoa Nguyen</i>, <i>Michael Batista</i>, <i>Greg Wassom</i>, <i>Taylor Piske</i> *Department of Engineering Science, Trinity University, San Antonio, TX, USA</p>
11:15	<p>Characterization of the main instability mechanisms in sessile droplet evaporation <i>Marc Medale*</i>, <i>Sergey Semenov</i>, <i>David Brutin</i> *Aix-Marseille Université, CNRS, IUSTI UMR 7343, Technopôle de Château-Gombert, 13013 Marseille, France</p>
11:30	<p>Evaporation of liquid droplets on flat and curved solid substrates <i>Amirhossein Amini*</i>, <i>G. M. Homsy</i> *Department of Mechanical Engineering, University of Washington, Seattle, WA, USA</p>
11:45	<p>Oscillation mode transition in sessile droplets induced by evaporation <i>Apratim Sanyal*</i>, <i>Saptarshi Basu</i> *Department of Mechanical Engineering, IISc, Bangalore, KA, INDIA</p>
12:00	<p>Effect of confinement on droplet evaporation <i>Lalit Bansal*</i>, <i>Sandeep Hatte</i>, <i>Suman Chakraborty</i>, <i>Saptarshi Basu</i> *Department of Mechanical Engineering, Indian Institute of Science, India</p>

Parallel Session 2

Impact II

15:15	Water Droplet Impact Dynamics on Active and Passive Vibrating Surfaces <i>Patricia B. Weisensee*, Jingcheng Ma, Junjiao Tian, William P. King, Nenad Miljkovic</i> *Department of Mechanical Science and Engineering, University of Illinois at Urbana-Champaign, USA
15:30	The air-film under an impacting ultra-viscous drop <i>S. T. Thoroddsen*, K. Langley, E. Q. Li</i> *Mechanical Engineering, Division of Physical Sciences and Engineering, King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia
15:45	Dynamics of liquid interface following droplet collision <i>Jun-ya Kohno*</i> *Department of Chemistry, Faculty of Science, Gakushuin University, Tokyo, Japan
16:00	Interactions between the edge of an impacting droplet and a microscopic ridge <i>Geoff R. Willmott*, Matheu Broom, Hossein Rashidian, Mathieu Sellier</i> *Department of Physics, The University of Auckland, New Zealand
16:15	Reduced Symmetry of Impacting Water Droplets via Surface Patterning <i>Matheu Broom*, Geoff R. Willmott</i> *Department of Physics, The University of Auckland, New Zealand

Evaporation II

15:15	Coffee-ring effect revisited <i>Vahid Vandadi*, Saeed Jafari Kang, James D. Felske, Hassan Masoud</i> *Department of Mechanical Engineering, University of Nevada, Reno, Nevada 89557, USA
15:30	The effect of particle wettability on the stick-slip behavior of inkjet printed droplets <i>Dong-Ook Kim*, Min Pack, Ying Sun</i> *Department of Mechanical Engineering and Mechanics, Drexel University, Philadelphia, PA, USA
15:45	Drying dynamics of a charged colloidal dispersion in a confined drop <i>Charles Loussert*, Anne Bouchaudy, Jean-Baptiste Salmon</i> *Lab LOF, CNRS UMR 5258 - Univ. Bordeaux - IBP - Rhodia, 178 Av. Dr Schweitzer, F-33608 Pessac, France
16:00	Sessile droplet evaporation: Ultra-high resolution two-phase DNS, Geometry-control and curvature-driven phase segregation in binary mixtures <i>P. Sáenz*, A. Wray, Z. Che, O. K. Matar, K. Sefiane, J. Kim and P. Valluri</i> *Department of Mathematics, MIT, USA
16:15	Evaporating pure, binary & ternary droplets: thermal effects & axial symmetry breaking <i>Christian Diddens*, Huanshu Tan, Pengyu Lv, Michel Versluis, J.G.M. Kuerten, Xuehua Zhang, Detlef Lohse</i> *Physics of Fluids group, Department of Science and Technology, Mesa+ Institute, and J. M. Burgers Centre for Fluid Dynamics, University of Twente, P.O. Box 217, 7500 AE Enschede, The Netherlands

Parallel Session 3

Complex systems

16:45	Magnetophoretic interaction of a pair of ferrofluid droplets in a rotating magnetic field <i>Mingfeng Qiu*</i> , <i>Shahriar Afkhami</i> , <i>Ching-Yao Chen</i> , <i>James J. Feng</i> *Department of Mathematics, University of British Columbia, Vancouver, BC, Canada
17:00	Fluidisation of a drop of molten chocolate under vibration <i>Nico Bergemann*</i> , <i>Anne Juel</i> , <i>Matthias Heil</i> , <i>Beccy Smith</i> *Manchester Centre for Nonlinear Dynamics, The University of Manchester, Manchester, UK
17:15	Droplets of molten steel vs core melt droplets: an estimate of their contribution to steam explosion triggering in nuclear reactors <i>Leonid A. Dombrovsky*</i> *Joint Institute for High Temperatures, NCHMT, Krasnokazarmennaya 17 A, 111116 Moscow, Russia
17:30	Droplet Emulsion for Single Cell Whole Genome and Whole Transcriptome Amplification and Sequencing <i>Yanyi Huang*</i> *Beijing Advanced Innovation Center for Genomics, Biodynamic Optical Imaging Center, College of Engineering, and Peking-Tsinghua Center for Life Sciences, Peking University, Beijing 100871, China

Evaporation III

16:45	Drying of agrochemical droplets on a model surface: co-localization of adjuvant and active ingredient <i>Axa Piñeiro Romero*</i> , <i>Dennis Selse</i> , <i>Turgut Battal</i> and <i>Colin D. Bain</i> *Durham University, Department of Chemistry, Stockton Road, Durham, DH1 3LE, U. K.
17:00	Solutal Marangoni flow as the cause of ring stains from drying salty colloidal drops <i>Alvaro Marin*</i> , <i>Stefan Karpitschka</i> , <i>Diego Noguera-Marin</i> , <i>Massimiliano Rossi</i> , <i>Christian J. Kaehler</i> <i>Miguel A. Rodriguez-Valverde</i> *Institute of Fluid Mechanics and Aerodynamics, Bundeswehr University Munich, Neubiberg, Germany
17:15	An Evaporation Ouzo Drop on a Superamphiphobic Surface <i>Huanshu Tan*</i> , <i>Christian Diddens</i> , <i>Michel Versluis</i> , <i>Hans-Jürgen Butt</i> , <i>Detlef Lohse</i> , <i>Xuehua Zhang</i> *Physics of Fluids group, Department of Science and Technology, Mesa+ Institute, and J. M. Burgers Centre for Fluid Dynamics, University of Twente, P.O. Box 217, 7500 AE Enschede, The Netherlands
17:30	Evaporation of Picolitre Droplets on Patterned Substrates <i>Beth Kazmierski*</i> , <i>Lisong Yang</i> , <i>Emma Talbot</i> , <i>Li Wei Tan</i> , <i>Dan Walker</i> , <i>Colin D. Bain</i> *Department of Chemistry, Durham University, Science Site, South Road, Durham, DH1 3JP, United Kingdom

Day 2 (July 25, Tuesday)

Parallel Session 4

Emulsions and Colloids I

10:30	Dynamics of droplet trapping and squeezing at a microfluidic constriction <i>Mehdi Nekouei*</i> , <i>Siva Vanapalli</i> *Department of Chemical Engineering, Texas Tech University, Lubbock, TX, USA
10:45	Stabilization of droplets by nanoparticles in microfluidics <i>Laura Chacon*</i> , <i>Jean-Christophe Baret</i> *CNRS, Univ. Bordeaux, CRPP, UPR 841, 33600 Pessac, France
11:00	Colloidal Particles at Fluid Interfaces: Adsorption, Assembly, and Mechanics <i>Nivi Samudrala*</i> , <i>Eric R. Dufresne</i> *School of Engineering and Applied Sciences, Yale University, New Haven CT 06511
11:15	Impact of Inter-Droplet Interactions on Pickering Emulsion Rheology <i>Max Kaganyuk*</i> , <i>Ali Mohraz</i> *Department of Chemical Engineering and Materials Science, UCI, Irvine, CA, USA
11:30	Periodic dislocation dynamics in two-dimensional concentrated emulsion flowing in a tapered microchannel <i>Ya Gai*</i> , <i>Chia Min Leong</i> , <i>Wei Cai</i> , and <i>Sindy K. Y. Tang</i> *Department of Aeronautics and Astronautics, Stanford University, CA
11:45	Entropic, Electrostatic, and Interfacial Model of Concentrated Disordered Droplets <i>Ha Seong Kim*</i> , <i>Frank Scheffold</i> , <i>Thomas G. Mason</i> *Department of Chemistry and Biochemistry, UCLA, Los Angeles, CA, USA

Evaporation and Breakup I

10:30	Analysis of contact angles for a perfectly wetting sessile droplet evaporating into air at the evaporation stage <i>Alexey Rednikov*</i> , <i>Yannis Tsoumpas</i> , <i>Sam Dehaeck</i> , <i>Pierre Colinet</i> *IPs Laboratory, Université Libre de Bruxelles, C.P. 165/67, Brussels, Belgium
10:45	Spreading dynamics of evaporating and perfectly wetting liquids <i>S Dehaeck*</i> , <i>A Y Rednikov</i> , <i>D Seveno</i> , <i>J De Coninck</i> , <i>P Colinet</i> *TIPs (Transfers, Interfaces and Processes), Université Libre de Bruxelles, CP 165/67, Brussels, Belgium
11:00	DROPLET SPREADING AND JETTING ON POROUS SURFACES <i>Jan Carmeliet</i> , <i>Amir Ashrafi Habibabadi</i> , <i>Dominique Derome</i> Swiss Federal Laboratories for Materials Science and Technology, Empa, 8600 Dübendorf, Switzerland
11:15	Dewetting from a Liquid Film into Single Droplet <i>Glen McHale*</i> , <i>Rodrigo Ledesma -Aguilar</i> , <i>Andrew M. J. Edwards</i> , <i>Michael I. Newton</i> and <i>Carl V. Brown</i> *Smart Materials & Surfaces Laboratory, Faculty of Engineering & Environment, Northumbria University, Newcastle upon Tyne, NE1 8ST, UK
11:30	Entrainment of droplets of ambient liquid in pinching-off process of vapor bubble injected to subcooled pool <i>Ichiro Ueno*</i> , <i>Yusuke Koiwa</i> , <i>Toshihiro Kaneko</i> *Department of Mechanical Engineering, Faculty of Science & Technology, Tokyo University of Science, Chiba, Japan
11:45	Evaporation control of acoustically levitated liquid droplets <i>Akira Shinoda</i> , <i>Takashi Tomizaki</i> , <i>Soichiro Tsujino</i> * Department of Synchrotron Radiation and Nanotechnology, Paul Scherrer Institute, Switzerland

Parallel Session 5

Superhydrophobic Surfaces

15:15	Testing the performance of aluminium superhydrophobic surfaces <i>Miguel Cabrerizo-Vilchez*, F.J. Montes Ruiz-Cabello, P. Ibáñez-Ibáñez, Miguel Ángel Rodríguez-Valverde</i> *Biocolloid and Fluid Physics Group, Applied Physics Department, Faculty of Sciences, University of Granada, Campus de Fuentenueva s/n, 18071, Granada, Spain
15:30	Motion of droplets on superhydrophobic surfaces <i>Alexander F.W. Smith*, Shaun C. Hendy, Rebecca Sutton, Keoni Mahelona</i> *MacDiarmid Institute for Advanced Materials and Nanotechnology, Department of Physics, University of Auckland, Auckland 1142, New Zealand
15:45	The Origin of Droplets' Retention on Superhydrophobic Surfaces <i>Youhua Jiang*, Zongqi Guo, and Chang-Hwan Choi</i> *Department of Mechanical Engineering, Stevens Institute of Technology, Hoboken, New Jersey 07030, USA
16:00	Measuring large contact angles on superomniphobic surfaces with a consistent accuracy <i>Tingyi "Leo" Liu* and Chang-Jin "CJ" Kim</i> *Department of Mechanical and Aerospace Engineering, UCLA, Los Angeles, CA, USA
16:15	A molecular coating reduces contact angle hysteresis by hiding nanodefects <i>Eugene Choi*, Romain Lhermerout, Kristina Davitt</i> *Laboratoire de Physique Statistique, Ecole Normale Supérieure UPMC Univ Paris 6, Univ. Paris-Diderot, CNRS, 24 rue Lhomond 75005 Paris, France
16:30	Volume impact on morphologies of droplets deposited on linear grooves <i>U. Soupremanien*, B. Chandesris</i> *Université Grenoble Alpes, CEA/LITEN/DTNM/LRME, 17 avenue des Martyrs 38054 Grenoble, France

Wetting and Electrowetting

15:15	Digital microfluidics starter kit <i>Jia Li* and Chang-Jin "CJ" Kim</i> *Department of Mechanical Engineering, UCLA, Los Angeles, CA, USA
15:30	Electrowetting-assisted drop condensation and shedding on hydrophobic surfaces <i>Davood Baratian*, Ranabir Dey, Harmen Hoek, Dirk van den Ende, Frieder Mugele</i> *Physics of Complex Fluids; MESA+ Institute for Nanotechnology; University of Twente; 7500 AE Enschede, The Netherlands
15:45	Acceleration of macroscopic contact line of a droplet spreading on a substrate induced by interaction with a fixed particle <i>Lizhong Mu*, Daichi Kondo, Motochika Inoue, Hiroki Himeda, Jumpei Fukushima, Harunori N. Yoshikawa, Farzam Zoueshthiagh, Toshihiro Kaneko, Ichiro Ueno</i> *Research Institute for Science and Technology, Tokyo University of Science, Japan
16:00	Droplet spreading on reactive patterned substrates in room temperature <i>Haim Taitelbaum*</i> *Department of Physics, Bar-Ilan University, Ramat-Gan, Israel
16:15	How drops start sliding over solid surfaces <i>Nan Gao*, Florian Geyer, Dominik W. Pilat, Sanghyuk Wooh, Doris Vollmer, Hans-Jürgen Butt, Rüdiger Berger</i> *Max Planck Institute for Polymer Research, Ackermannweg 10, 55128 Mainz, Germany
16:30	An organizing framework for sessile drop motions <i>Joshua B. Bostwick*, Paul H. Steen</i> *Department of Mechanical Engineering, Clemson University, Clemson, SC, USA

Parallel Session 6

Evaporation and Breakup II

17:00	Pinch-off Dynamics, Dripping-onto-Substrate (DoS) Rheometry and Printability of Complex Fluids <i>Jelena Dinic*, Leidy Nallely Jimenez, Madeleine Biagoli and Vivek Sharma</i> *Chemical Engineering, University of Illinois at Chicago, IL.
17:15	Dynamics of the evaporation of completely wetting drops on geometrically textured surfaces <i>Loucine Mekhitarian*, Benjamin Sobac, Sam Dehaeck, Benoit Haut, Pierre Colinet</i> *TIPs – Fluid Physics, Université libre de Bruxelles, Brussels, Belgium
17:45	Droplet Impact on Moving Superhydrophobic Surfaces <i>Gökhan Kayansalçık, Özgür Ertunç</i> Department of Mechanical Engineering, Ozyegin University, Istanbul, Turkey

Impact III

17:00	Droplet ski-jumping on an inclined macro-ridged superhydrophobic surface <i>Regulagadda Kartik*, Shamit Bakshi, Sarit Kumar Das</i> *Department of Mechanical Engineering, Indian Institute of Technology, Madras, Tamil Nadu, India
17:15	Simulations of Droplet Impacts on Hydrophobic Moving Walls <i>Hosein Heidarifatasmi*, Ozgur Ertunc</i> *Department of Mechanical Engineering, Ozyegin University, Istanbul, Turkey
17:30	Drop impact dynamics on liquid-infused superhydrophobic surfaces <i>Jeong-Hyun Kim* and Jonathan P. Rothstein</i> *Department of Mechanical and Industrial Engineering, University of Massachusetts, Amherst, MA, USA
17:45	Post-air entrainment interfacial instability during drop impact on lubricated surfaces <i>Min Pack*, Diyuan Zong, Dong-Ook Kim, Hyoungsoo Kim, Ying Sun</i> *Department of Mechanical Engineering and Mechanics, Drexel University, Philadelphia, PA, USA

Day 3 (July 26, Wednesday)

Parallel Session 7

Emulsions and Colloids II

10:30	Investigating droplet internal flow in concentrated emulsion when flowing in microfluidics channel using micro-PIV <i>Ya Gai*, Chia Min Leong, and Sindy K. Y. Tang</i> *Department of Aeronautics and Astronautics, Stanford University, CA
10:45	Droplet breakup in multiple emulsions under application of shear stress <i>Laura Luhede*, Udo Fritsching</i> *Department of Mechanical Process Engineering, FB 4, University of Bremen, Germany
11:00	Dynamics of drops and bubbles in a confined space <i>Ko Okumura*</i> *Department of Physics, Ochanimizu University, Tokyo, JAPAN
11:15	Effect of surfactants and polymers on droplet coalescence <i>Chinaud, M., Voulgaropoulos*, V., Weheliye, W., and Angeli, P.</i> *Department of Chemical Engineering, University College London, London, United Kingdom
11:30	An experimental investigation on the drop/interface coalescence with surfactants <i>Teng Dong*, Weheliye Hashi Weheliye, Panagiota Angeli</i> *ThAMeS Multiphase Group, Department of Chemical Engineering, UCL, London, UK

Thin film

10:30	Lubrication pressure generated inside an air film between a levitating droplet and a moving wall <i>Erina SAWAGUCHI*, Kai HAMA, Masafumi SAITO, Yoshiyuki TAGAWA</i> *Department of Mechanical Systems Engineering, Tokyo University of Agriculture and Technology, Tokyo, JPN
10:45	Oleoplaning droplet on lubricated surfaces <i>Dan Daniel*, Jaakko V.I. Timonen, Ruoping Li, Seneca J. Velling, and Joanna Aizenberg</i> *John A. Paulson School of Engineering and Applied Sciences, Harvard University, Cambridge, MA 02138, USA
11:00	THEORETICAL AND EXPERIMENTAL ANALYSES OF MOLTEN DROPLET IMPACT ON COLD SUBSTRATES <i>Elaheh Alizadeh-Birjandi and H. Pirouz Kavehpour</i> * Department of Mechanical And Aerospace Engineering, UCLA, Los Angeles, CA, USA
11:15	Wetting transition from octagon to square shape of water-ethanol binary droplets on micro-pyramid substrate <i>H.C. Feng*, J.H. Ren, and Fei Duan</i> *School of Mechanical and Aerospace Engineering, Nanyang Technological University, 639798, Singapore
11:30	Pinned and Sliding Drops -- Bifurcations and Statistics <i>S. Engelinkemper, M. Wilczek, S.V. Gurevich, U. Thiele</i> WWU, Münster, Germany