

Program for EMN Meeting on Droplets 2016

Monday May 9

14:00-18:00

Onsite registration & Sign up

Tuesday May.10

Room A

8:50 Opening Ceremony

Yury Rakovich

Materials Physics Center (CFM, CSIC-UPV/EHU), Donostia – San Sebastian, Spain

Session: Droplet Dynamics I Chair: Masanobu Sagisaka

9:00-9:25

A01: Multicomponent Droplet Dynamics and Evaporation on Wettability Patterned Surfaces

Huihe Qiu

The Hong Kong University of Science & Technology, Hong Kong

9:25-9:50

A02: Sliding Drops - stationary states and collective dynamics

Uwe Thiele

University of Münster, Germany

9:50-10:15

A03: From spreading and dewetting to highly ordered patterns

Veronique Pimienta

Université Paul Sabatier, France

10:15-10:40

A04: Polymeric Microcapsules Synthesized Via Dynamic Morphological Transition from Microfluidic Janus Droplets

Takasi Nisisako

Tokyo Institute of Technology, Japan

10:40-11:05

A05: Singular Perturbad Homotopy Analysis Method (SPHAM) apply to combustion of polydisperse fuel spray

Ophir Nave

Jerusalem College of Technology, Israel

11:05-11:20

Session Break

Session: Droplet Stabilization Chair: Uwe Thiele

11:20 -11:45	A06: Compatibilizing effect of clay nanoparticles in immiscible polymer blends with droplet morphology	Thierry Aubry LIMATB UBO, France
11:45-12:10	A07: Dispersion of Aqueous Nanodroplets in Supercritical Carbon Dioxide by The Headgroup-free Fluorocarbon-Hydrocarbon Hybrid Compound	Masanobu Sagisaka Graduate School of Science and Technology, Hirosaki University, Japan
12:10-12:35	A08: Microfluidic Encapsulation of Pickering Oil Microdroplets into Alginate Microgels for lipophilic Compound Delivery	Melanie Marquis INRA - BIA - Equipe NANO Rue de la géraudière, France
12:35-13:00	A09: Highly Stable Oil-in-Oil Emulsions Stabilized by Ion Complexes	Hideki Sakai Tokyo University of Science, Japan
13:00-13:25	A10: Encapsulation of nanostructured micro-emulsion droplets by isotropic and anisotropic nanoparticles	François Muller ECE-Paris, France
13:25-15:30	Lunch Break	

Tuesday May.10		
Room B		
Session: Droplet Dynamics II Chair: Ying-Song Yu		
15:30-15:55	B01: Controlling a Droplet via a Phase Diagram	Peng-Sheng Wei National Sun Yat-Sen University, Taiwan
15:55-16:20	B02: The Effects of the surface property on behavior of micro droplet impinging onto hot surface	Masamichi Kohno KYUSHU University, Japan
16:20-16:45	B03: MEMS force sensors for measuring droplet dynamics	Nguyen Thanh-Vinh University of Tokyo, Japan
16:45-17:10	B04: Thermal and Fluid Dynamics of Droplet-Wall Interactions based on a Multiscale Approach	Ana Moita Instituto Superior Técnico, Portugal
17:10-17:25	Session Break	
Session: Droplet Dynamics III Chair: Masamichi Kohno		
17:25-17:50	B05: Transient volume of evaporating sessile droplet with constant contact radius	Ying-Song Yu Hubei University of Technology, China
17:50-18:15	B06: Rotational behavior in cholesteric liquid crystalline droplets under temperature gradient	Jun Yoshioka Waseda University, Japan
18:40-19:05	B07: Breakup of viscous drops in liquid/liquid dispersions	Nida Sheibat-Othman Université Claude Bernard Lyon1, France
19:05-19:30	B08: Wetting dynamics for structured surfaces	Rafael Taboryski Technical University of Denmark, Denmark
20:00	Dinner Social	

Tuesday May.10

Room C

Session: General I Chair: Sergei Sazhin

15:30-15:55	C01: From ocean foam to clouds to nanobubbles	Avi Marmur Israel Institute of Technology, Israel
15:55-16:20	C02: Wetting properties of partially suspended graphene monolayers	Thierry Ondarçuhu Nanosciences group, CEMES-CNRS, France
16:20-16:45	C03: Production of poor water soluble intermediate reaction products by integrated systems of biocatalytic membrane reactor/membrane emulsification	Rosalinda Mazzei Institute on Membrane Technology, CNR-ITM, Italy
16:45-17:10	C04: Regularities of pure liquid droplets phase transformation cycle and its defining factors	Monika Maziukiene Kaunas University of Technology, Lithuania
17:10-17:25	Session Break	
Session: General II Chair: Thierry Ondarçuhu		
17:25-17:50	C05: Modelling of droplet heating and evaporation: recent results and unsolved problems	Sergei Sazhin University of Brighton, UK
17:50-18:15	C06: Bottom-Up Formation of Nanoemulsions from Hydrothermal Homogeneous Solutions of Oil in Water	Shigeru Deguchi Japan Agency for Marine-Earth Science and Technology (JAMSTEC), Japan
18:15-18:40	C07: Encapsulation in double emulsions	Véronique Schmitt The French National Center for Scientific Research, France
18:40-19:05	C08: Pebble Fabrication by Emulsion Method using Solid Solution of $\text{Li}_{2+x}\text{TiO}_{3+y}$ with Li_2ZrO_3 as Super Advanced Tritium Breeders	Hoshino Tsuyoshi National Institutes for Quantum and Radiological Science and Technology (QST), Japan
20:00	Dinner Social	

Tuesday May.10

Room D

Session: Chemical Physics Droplet I Chair: Antonio Stocco

15:30-15:55	D01: An Enhanced Droplet-based Microfluidic Immuno chip with Low Limit of Detection and Small Sample Volume	Wensyang Hsu National Chiao Tung University, Taiwan
15:55-16:20	D02: The measurement of hydrodynamic resistance of microdroplets as an indicator for the quantitative PCR	Slawomir Jakiela Warsaw University of Life Sciences, Poland
16:20-16:45	D03: Spectroscopic and spectrometric interrogation of acoustically levitated droplets	Jens Riedel BAM Federal Institute for Materials Research and Testing, Germany
16:45-17:10	D04: Self-assembled materials based on Fluorinated Ionic Liquids	Ana B. Pereiro Instituto de Tecnologia Química e Biológica, Portugal
17:10-17:25	Session Break	
Session: General III Chair: Wensyang Hsu		
17:25-17:50	D05: Nanoindentation virus capsids in a molecular model	Marek Cieplak Polish Academy of Sciences, Poland
17:50-18:15	D06: Unidirectional Fluid Transport through Asymmetric Janus Membranes	Xuelin Tian Aalto University, Finland
18:15-18:40	D07: Liquid metal droplet shaping by high-intensity pulsed laser radiation	Mikhail Krivokorytov RnD-ISAN Troick, Russia
18:40-19:05	D08: Porous structure of emulsion-templated soft acoustic Mie resonators	Artem Kovalenko Université de Bordeaux, France
20:00	Dinner Social	

Wednesday May.11**Room B****Session: Biological Droplets I Chair: Tobias Reichenbach**

10:00-10:25	B09: Ventilation and the Transport of Bioaerosols in Healthcare Environments	Kevin Grosskopf University of Nebraska, USA
10:25-10:50	B10: In vitro reconstitution of active cytoskeletal networks in cell-sized droplets	Makito Miyazaki Waseda University, Japan
10:50 -11:15	B11: Lipid droplet digestion in a microfluidic device	Sébastien Marze INRA, France
11:15-11:40	B12: Biosurfactants produced by microorganisms isolated from cloud waters: potential impact on cloud droplet formation	Isabelle Canet Clermont Université, France
11:40-12:00	Session Break	
Session: Biological Droplets II Chair: Makito Miyazaki		
12:00-12:25	B13: The involvement of lipid synthesis pathways in the regulation of milk fat globule size	Nurit Argov-Argaman The Hebrew University of Jerusalem, Israel
12:25-12:50	B14: Droplets in the inner ear: what can they reveal about active amplification of sound signals and its regulation by the brain?	Tobias Reichenbach Imperial College London, UK
12:50-13:15	B15: Single Cell Protein Counting in Addressable Droplet Microarrays	Ali Salehi-Reyhani Imperial College London, UK
13:40-15:30	Lunch Break	

Session: Solid/Nanoparticles I Chair: Noriharu Yodoshi		
15:30-15:55	B16: Nanoparticulate Organic Illuminants: Controlling Luminescence Color by Size of Particles	Osamu Tsutsumi Ritsumeikan University, Japan
15:55-16:20	B17: Droplets and Microfluidic Systems for Nanomaterial Synthesis	Yegan Erdem Bilkent University, Turkey
16:20-16:45	B18: Eco-friendly synthesis of copper nanoparticles with oxidation-free and regenerative properties	Hideki Tanaka Chuo University, Japan
16:45-17:10	B19: Synthesis of Porous Nanostructured V ₂ O ₅ by a Novel Spray Pyrolysis and Its Electrochemical Performance for Lithium Rechargeable Batteries	Izumi Taniguchi Tokyo Institute of Technology, Japan
17:10-17:50	Poster	
Session: Solid/Nanoparticles II Chair: Yegan Erdem		
17:50-18:15	B20: Printing of ultra-fine silver patterns using nano-colloidal dispersion and controlling the stability of the colloidal dispersion	Shunto Arai The University of Tokyo, Japan
18:15-18:40	B21: Fabrication of Iron-based Amorphous Particles by Quenching of Mono-dispersed Droplets	Noriharu Yodoshi Tohoku University, Japan
18:40-19:05	B22: Self-assembly by multi-drop evaporation of graphene-oxide-platelets and carbon-nanotube droplets on a glass substrate for applications in energy and medicine	Hatim Machrafi Université de Liège, Belgium
20:00	Dinner Social	

Wednesday May.11

Room C

Session: Droplet Dynamics IV Chair: Jun Zhang

10:00-10:25	C09: A thin drop sliding down an inclined plate	Eugene Benilov University of Limerick, Ireland
10:25-10:50	C10: Modeling the liquid injection in a thermal plasma flow for nanomaterials spraying: atomization, mechanical deformation and evaporation	Erick Meillot CEA Le Ripault, France
10:50 -11:15	C11: Liquid droplet self-transportation on continuous radial topography gradients	Ville Jokinen Aalto University School of Chemical Technology, Finland
11:15-11:40	C12: Droplet Dynamics Relevant to the Aerosol Jet® Technology	James Q Feng Optomec Inc, USA
11:40-12:00	Session Break	
Session: Droplet Dynamics V Chair: Erick Meillot		
12:00-12:25	C13: Drop break-up in rotor stator mixers	Fredrik Innings Lund University, Sweden
12:25-12:50	C14: Controlling the Deposit Patterns of Evaporated Salt Water Nano Droplets Using Electric Fields	Jun Zhang University of Edinburgh, UK
12:50-13:15	C15: Dynamics of microdroplets over the surface of hot water	Hiizu Nakanishi Kyushu University, Japan
13:15-13:40	C16: Jet fragmentation induced by light for the controlled production of droplets at the microscale	Jean-Pierre Delville Université de Bordeaux/CNRS, France
13:40-15:30	Lunch Break	

Session: Theory and Simulation I Chair: Yuri Tarasevich		
15:30-15:55	C18: Recent Progress and Future Prospects of Two-Fluid AUSM in Multiphase Flow Simulations	Keiichi Kitamura Yokohama National University, Japan
15:55-16:20	C19: Drop dynamics: Impact on solids and coalescence	Yulii Shikhmurzaev Univesity of Birmingham, UK
16:20-16:45	C20: Distortion of a droplet moving through surrounding fluid	Frank Smith University College London, UK
17:10-17:50	Poster	
Session: Theory and Simulation II Chair: Keiichi Kitamura		
17:50-18:15	C21: Microscopic superfluidity in small bosonic helium-4 droplets	David Farrelly Utah State University, USA
18:15-18:40	C22: Capillarity theory at the nanoscale	Luis González MacDowell Universidad Complutense, Spain
18:40-19:05	C23: Mesoscopic lattice Boltzmann modelling of droplets and emulsions: theory and simulations	Mauro Sbragaglia University of Rome Tor Vergata, Italy
19:05-19:30	C24: Transition from Faceted to Dendritic Crystal Growth in Gelatin-NaCl Droplets	Sujata Tarafdar Jadavpur University, India
20:00	Dinner Social	

Wednesday May.11**Room D****Session: General IV Chair: Chien-Pin Chen**

10:00-10:25	D09: Metal droplets smaller than 100 nm radius fabricated by femtosecond laser processing of thin films	Yoshiki Nakata Osaka University, Japan
10:25-10:50	D10: Metal droplet etching during semiconductor epitaxy - mechanisms and applications of self assembled nano-holes	Christian Heyn Institut für Nanostruktur- und Festkörperphysik (INF), Germany
10:50 -11:15	D11: Encapsulation and condensation in a droplet	Hirotsada Hirama National Institute of Advanced Industrial Science and Technology, Japan
11:15-11:40	D12: Formation of Structured Materials in Unconventional Emulsions: Oil-in-Oil (O/O) and Water-in-Water (W/W) emulsions	Jordi Esquena Consejo Superior de Investigaciones Cientificas (CSIC), Spain
11:40-12:00	Session Break	
Session: General V Chair: Christian Heyn		
12:00-12:25	D13: Alignment of rigid elongated particles in sheared suspensions	George Tegze Wigner Research Centre for Physics, Hungary
12:25-12:50	D14: On Droplet Evaporation and Ignition using Unified Surrogate Fuels	Chien-Pin Chen Shanghai Jiao Tong University, China
12:50-13:15	D15: 3D tomography of triphasic flows using interferometric out-of-focus imaging	Marc Brunel Université de Rouen, France
13:15-13:40	D16: From mass detection in a droplet with partially wetted microresonators to partially wetted surfaces	Egbert Oesterschulze/ Steffen Klingel Technische Universität Kaiserslautern, Germany
14:05-15:30	Lunch Break	

Session: General VI Chair: Gladys Massiera		
15:30-15:55	D17: Self-propelled droplets for the transport of heat	Marc Miscevic Université Paul Sabatier, France
15:55-16:20	D18: Mathematical modelling of heating and evaporation of a spheroidal droplet	Vladimir S Zubkov University of Brighton, UK
16:20-16:45	D19: Lattice-Boltzmann simulations of two-phase flows in fibrous porous media	Dario Maggiolo Università degli Studi di Padova, Italy
16:45-17:10	D20: Lubricant-infused surfaces for water and ice repellency	Henna Niemelä-Anttonen Tampere University of Technology, Finland
17:10-17:50	Poster	
Session: General VII Chair: Vladimir S Zubkov		
17:50-18:15	D21: Single drop breakup experiments in turbulent flow	Jannike Solsvik Norwegian University of Science and Technology, Norway
18:15-18:40	D22: Continuous Droplet Interface Crossing Encapsulation: artificial cells and capsules	Gladys Massiera University of Montpellier - CNRS, France
18:40-19:05	D23: Multi-nozzle Vacuum Sieve Tray to perform hydrogen isotope extraction from liquid metal	Laëtitia Frances Tritium Laboratory Karlsruhe, Germany
19:05-19:30	D24: Wireless biosensors based on Magnetoelastic Resonance and Giant Magnetoimpedance	María Pilar Marín Palacios Universidad Complutense de Madrid, Spain
20:00	Dinner Social	

Thursday May.12

Room B

Session: General VIII Chair: Klaus Tauer

10:00-10:25	B23: Chemical and physical droplet characterization using infrared thermography	Christophe Pradere Université Bordeaux 1, France
10:25-10:50	B24: Optically manipulated droplets and droplet lasers	Pavel Zemanek Institute of Scientific Instruments of the CAS, Czech Republic
10:50 -11:15	B25: Effect of laser parameters on droplet size and transfer in twin-wire indirect arc with AC	Li-Wei Wang Beijing University of Technology, China
11:15-11:40	B26: Continuous-wave laser generated microjets	Carla Berrospe-Rodriguez Instituto Nacional de Astrofísica Óptica y Electrónica, México
11:40-12:00	Session Break	
Session: Chemical Physics Droplet II Chair: Slawomir Jakiela		
12:00-12:25	B27: Viscous effects near the charged surface of the sphere immersed in a water stream	Vytautas Daujotis Vilnius University, Lithuania
12:25-12:50	B28: The Interface Engine – Permanent and Persisting Droplet Generation	Klaus Tauer Potsdam-Golm Science Park, Germany
12:50-13:15	B29: Microfluidic fabrication of Janus particles: wetting, surface forces and hydrodynamic	Antonio Stocco University of Montpellier - CNRS, France
13:15-13:40	B30: Programmable droplet processing device for bio/chemical analysis	Fumihiko Sassa Kyushu university, Japan
13:40-15:30	Lunch Break	

Session: Droplet Dynamics VI Chair: Oto Brzobohatý		
15:30-15:55	B31: Self-transport and Self-alignment of Microchips using Micro-droplets	Bo Chang Aalto University, Finland
15:55-16:20	B32: Evaporation of sessile droplets from a carbon nanotube film – analytical applications of the evaporation profile	Akos Kukovecz University of Szeged, Hungary
16:20-16:45	B33: Raindrop impact on sand: liquid-grain mixing suppresses droplet spreading	Song-Chuan Zhao University of Twente, the Netherlands
16:45-17:10	B34: Active and passive control of drop motion on patterned surfaces	Giampaolo Mistura Università di Padova, Italy
17:10-17:30	Session Break	
Session: Droplet Dynamics VII Chair: Akos Kukovecz		
17:30-17:55	B35: Dynamics of fluid droplets in a confined space	Ko Okumura Ochanomizu University, Japan
17:55-18:20	B36: Optical manipulation of solidified chiral droplets using dual-beam traps	Oto Brzobohatý Institute of Scientific Instruments of the CAS, Czech Republic
18:20-18:45	B37: Generation of highly uniform micrometre-sized molten metal droplets	Alexander F.R. Sanders ETH Zurich, Switzerland
18:45-19:10	B38: Dynamics of microfluidic droplet under optically-induced tension gradient	Masahiro Motosuke Tokyo University of Science, Japan
19:10-19:35	B39: Application of the Rayleigh instability for a novel drop impact atomizer at low flow rates	Mathias Etzold FMP Technology GmbH, Germany
20:00	Dinner Social	

Thursday May.12

Room C

Session: Droplets for Optical Applications I Chair: Daisuke Nakamura

10:00-10:25	C25: Effects of liquid crystal droplets on the spatial frequency response of a holographic polymer-dispersed liquid crystal grating	Yasuo Tomita University of Electro-Communications, Japan
10:25-10:50	C26: High-yield optical energy conversion based on nanophotonic droplets	Naoya Tate Kyushu University, Japan
10:50 -11:15	C27: Light scattering properties of dewetting droplets of organic dyes	Jakob Heier Swiss Federal Laboratories for Materials Science and Technology, Switzerland
11:15-11:40	C28: Smart window devices using polymer-dispersed liquid crystal film	Seok-Hwan Chung DGIST, Korea
11:40-12:00	Session Break	

Session: Droplets for Optical Applications II Chair: Yasuo Tomita

12:00-12:25	C29: fabrication of porphyrin Janus particles from Droplet template/oil-water interface	Jingxia Wang Technical Institute of Physics and Chemistry, CAS, China
12:25-12:50	C30: Bandgap engineering of semiconductor droplet for micro-cavity laser	Daisuke Nakamura Kyushu University, Japan
12:50-13:15	C31: The effect of the layer order on the mobility of mesogenic molecules confined in the liquid crystalline nano-micelles	Shinji Bono Department of Physics, Kyoto University, Japan
13:15-15:30	Lunch Break	

Session: Theory and Simulation III Chair: Luis González MacDowell		
15:30-15:55	C32: Modulation equations for strongly nonlinear oscillations of an incompressible viscous drop	Warren Smith University of Birmingham, UK
15:55-16:20	C33: A model of drying of colloidal droplet beneath a patterned mask	Yuri Tarasevich Astrakhan State University, Russia
16:20-16:45	C34: State-of-the-art continuum modeling of emulsion formation	Gyula I. Toth University of Bergen, Norway
16:45-17:10	C35: fluid/solid interface at the nanoscale	Joel Puibasset CNRS et Université d'Orléans, France
17:10-17:30	Session Break	
Session: Nanodroplet Chair: Warren Smith		
17:30-17:55	C36: Development of an Elongational-Flow Microprocess for the Production of Size-Controlled Nanoemulsions	Christophe A. Serra University of Strasbourg, France
17:55-18:20	C37: Does nano-roughness promote wetting?	Alexandr Malijevsky Academy of Sciences, Czech Republic
18:20-18:45	C38: Nanoemulsion as flowback aid in tight gas fracturing	Jiang Yang Xi'an Petroleum University, China
20:00	Dinner Social	

Thursday May.12

Room D

Session: Droplet Dynamics VIII Chair: Alexander F.R. Sanders

10:00-10:25	D25: Three-dimensional large eddy simulation of liquid breakup using the VOF method	Jianliang Xu East China University of Science and Technology
10:25-10:50	D26: Multiphase Dynamics in Rapid Vaporization of an Immiscible Droplet Rising in a Water Column – from Equilibrium to Explosive Boiling	Herman D. Haustein Tel-Aviv University, Israel
10:50 -11:15	D27: Coalescence and breakup of two drops in a continuous air jet flow	Hui Zhao East China University of Science and Technology
11:15-11:40	D28: Effect of surfactant on secondary atomization	Haifeng Liu East China University of Science and Technology
11:40-12:00	Session Break	
Session: General IX Chair: Naoya Tate		
12:00-12:25	D29: Collective Excitations of Helium Droplets Observed via Molecular Spectroscopy	Vladimir Hizhnyakov University of Tartu, Estonia
12:25-12:50	D30: Wetting and elasto-plasticity based sculpture of liquid marbles	Pingcheng Zuo China University of Petroleum, China
12:50-13:15	D31: Surface-inactive effect induced by adding nonionic surfactants on a mixture of water and organic solvent	Koji Fukao Ritsumeikan University, Japan
13:15-15:30	Lunch Break	

Session: General X Chair: Pingcheng Zuo		
15: 30-15: 55	D32: Observation of Whispering Gallery Modes in Elastic Light Scattering from Microdroplets Optically Trapped in a Microfluidic Channel	Suman Anand Koç University, Turkey
15:55-16:20	D33: Near-post Meniscus-induced Migration and Assembly of Bubbles	Shanpeng Li China University of Petroleum, China
16:20-16:45	D34: Lasing effects in microvolumetric droplets pumped by laser beams	Mihai Boni Plasma and Radiation Physics, Romania
17:10-17:30	Session Break	

Wednesday May.11

17:10-17:50

Poster Session

P1: Biocompatibility Behavior of Calcium Phosphate Nanoparticles Deposited on Steel 216LVM	Willian Aperador Chaparro Universidad Militar Nueva Granada, Colombia
P2: Droplet is a Reactor that allows Organizing Particles using Leidenfrot Effect Technique	Stéphane Dorbolo Université de Liège, Belgium
P3: Microfluidics Lap-on-chip devices to generate and trap monodisperse micro-sized oil droplets for digestion study	Hoang Thanh Nguyen Biopolymères Interactions Assemblages, France
P4: Directional adhesion of mosquito's legs for water taking-off	Xiangqing Kong Liaoning University of Technology, China
P5: Light scattering of doped ^3He liquid on Fermi excitations	Vadim Boltrushko Institute of Physics, University of Tartu, Estonia
P6: Rapid Prototyping of Flow Focusing Device for Droplet Formation Using Pipette Tip and Glass Capillary	Toru Torii University of Tokyo