



European Materials Research Society

2024 Spring Meeting

May 27 - 31 / Strasbourg Convention Centre

SYMPOSIUM M

Materials technologies for controlling
liquid-surface interactions from wetting to icing

Symposium Organizers:

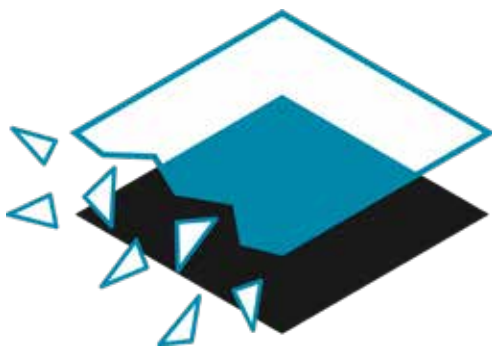
Ana BORRAS, ICMS-CSIC, Nanotechnology on Surfaces, , Sevilla, Spain

Anna Maria COCLITE (Main organizer), Graz University of Technology, Austria

Rafal KOZERA, Technology Partners Foundation, Warsaw, Poland

Tanmoy MAITRA, Imerys Technology Centre (ITC), U.K.

Yanlin SONG, Key Laboratory of Green Printing, Institute of Chemistry, Chinese Academy of Science, P. R. China



WILEY

25
YEARS
ADVANCED
ENGINEERING
MATERIALS

Monday May 27
M01_Theory of freezing

DRESDE - FIRST FLOOR

08:45	2511	INV	The Physics of Droplet Freezing and Derived Inherently Icephobic Surfaces	POULIKAKOS Dimos
09:15	968		Chemical modifications of polymer surface with organosilicon compounds for anti-icing applications	ZIETKOWSKA Zietkowska
09:30	1504		Understanding the icephobic performance of soft materials	OSPINA Anny
09:45	870		Designing heterogeneous wettability for modulating solid-liquid interactions	LI Huizeng

Monday May 27
M02_Ice adhesion

DRESDE - FIRST FLOOR

10:30	422	INV	Surfaces displaying low interfacial toughness with ice	GOLOVIN Kevin
11:00	2976		Correlation between water, ice and hydrate adhesion properties on solid surfaces	HE Jianying
11:15	837		Reframing ice adhesion on surfaces: shear strength and toughness measurements with the horizontal push test	STENDARDO Luca
11:30	417		Development of highly stable molecules for low-temperature bonding of functional coatings.	ATZEMOGLOU Alexandros
11:45	400		Harnessing Active and Passive Strategies for Anti-Icing and De-Icing: Hydrophobic Nanoscale Surfaces and Surface Acoustic Waves	HAWORTH Luke

Monday May 27
M03_Coating 1

DRESDE - FIRST FLOOR

13:45	2314	INV	To icephobicity and beyond	ANTONINI Carlo
14:15	2597		Superhydrophobic candle soot based anti-icing coatings through environmentally friendly synthesis methods	GOSWAMI Amit
14:30	1936		Conformal plasma fabrication of Teflon-like nanocoatings for multirepellency and anti-icing applications	CZERMAK ÁLVAREZ Triana
14:45	2304		Combined laser micro-/nano-surface texturing and plasma thin film deposition for development of icephobic surfaces	MOSTOFI SARKARI Navid
15:00	2258		Hydrophobic and anti-icing behaviour of laser patterned transparent coatings	PRZYBYSZEWSKI Bartłomiej
15:30	463		Icephobic properties of gradient polymer coatings deposited via iCVD	HERNÁNDEZ RODRÍGUEZ Gabriel
15:45	1588		Advanced ultra-thin conformal coating via iCVD for applications in challenging weather conditions	DIMITRIADIS Theodoros

Monday May 27
M04_Coating 2

DRESDE - FIRST FLOOR

16:30	3055	INV	Durable icephobic coatings by different thermal spray coating designs	KOIVULUOTO Heli
17:00	2482		Development of superhydrophobic transparent surfaces by laser and fluorinated grafting treatments with anti-icing applications	RICO Víctor J.
17:15	799		A synthetic Nepenthes pitcher plant: water-infused surfaces for oil repellency	AGRAWAL Prashant
17:30	1566		Development of superhydrophobic coatings as passive ice protection system for aeronautical applications.	PISCITELLI Filomena
17:45	955		Chitosan electrolyte hydrogel for low ice adhesion material	TAGLIARO Irene

18:00	1016	Influence of modification of polyurethane coatings with organosilicon compounds and barium titanate on their hydro- and icephobic properties	LABEDA Anna
18:15	687	Durability of antiicing and hydrophobic properties of polyurethane based coating composites.	KOZERA Rafal

Tuesday May 28
M05_Effect of microstructure

DRESDE - FIRST FLOOR

08:45	449	INV	A voyage in surface engineering	DE CONINCK Joël
09:15	2365		Anticing behavior of superhydrophobic laser micromachined wind turbine blade surfaces	ANGUREL Luis Alberto
09:30	1275		Femtosecond laser micromachined ITO circuits: effect of LIPSS on their electrical properties	FRECHILLA Alejandro
09:45	2149		Effect of surface roughness on the anti-icing performance of Aluminium based surfaces	CASALI Alessandro

Tuesday May 28
M06_Modeling of icing

DRESDE - FIRST FLOOR

10:30	2985	INV	From atomistic interactions to surface icephobicity	ZHANG Zhiliang
11:00	2601		Analytical modeling of wetting on complex multiscale surfaces and design guidelines for water-repellent and anti-icing surfaces	BAMI CHATENET Yann
11:15	854		Atomistic view on icing: a Molecular Dynamics study of icing on solid and liquid interfaces	MASLOV Andrea

Tuesday May 28
M07_Active de-icing systems

DRESDE - FIRST FLOOR

13:45	544	INV	Future aspects for integrated functions of icing monitoring and protection using thin film acoustic waves	FU Richard
14:15	2902		SMART Microacoustic Setup for Automated Ice Sensing and Deicing	KHODAKARAMI Kiana
14:30	2842		Investigating dynamics of plastron in submerged superhydrophobic surfaces using ultrasound	KARUNAKARAN Bhuvaneshwari

14:45	2506	A Holistic Solution to Icing by Acoustic Waves: Laboratory and Icing Wind Tunnel experiments with Surface Functionalized Piezoelectric Crystals	GONZÁLEZ-ELIPE Agustín R.
15:00	2415	Active Metallic Anti-Icing Composites Based on Magnetic Actuation	ALASVAND ZARASVAND Kamran
15:15	2193	Efficiency of de-icing and active anti-icing processes at piezoelectric substrates activated by Rayleigh and Lamb acoustic wave modes	DEL MORAL Jaime
15:30	988	Induction-based heating ice protection system	GARCÍA Paloma
15:45	812	Hybrid Icing Strategies: Merging Passive Hydrophobic Coatings of Diamond-Like Carbon/Fluorinated Carbon and Active Surface Acoustic Waves	HAWORTH Luke

Tuesday May 28

M08_Testing

DRESDE - FIRST FLOOR

16:30	981	INV	Adapted testing methodologies to evaluate the icephobicity in the SOUNDOFICE project	MORA Julio
16:30	1772	120	Multiscale characterization of the wettability of thin film metallic glasses surfaces: Effect of a fs-laser treatment	BRUHIER Hugo
17:00	2744		Onset motion of laterally-forced sessile drops on parahydrophobic surfaces	RODRÍGUEZ-VALVERDE Miguel Ángel
17:15	2408		A Supercooled Water Drop Impact and Solidification: Influences of Substrate Roughness and Airflow	DING Mingyue
17:30	1006		Effect of nano-engineered heat transfer surfaces on microscale crystallization fouling	ARMSTRONG Tobias
17:45	969		Microscale investigation on interfacial removal of microfoulants from soft materials	SCHMID Julian
18:00	1755		Advanced wetting behavior of hierarchical fluorinated stainless-steel surfaces	MONTES Laura

Wednesday May 29
M09_Wettability control

DRESDE - FIRST FLOOR

08:45	2429	INV	How an understanding of surfaces can be used to develop new products, an industrial perspective	ANSARI Deeba
09:15	2438		Magnetic pillar arrays : a way to control liquid mobility	FRESNAIS Jerome
09:30	2732		Advances in Polydimethylsiloxane brush coatings	KHATIR Behrooz
09:45	2424		Tunable wettability of Laser-Induced Graphene: From hydrophilic to (super) hydrophobic	GRECO Francesco

Wednesday May 29
M10_Coating 3

DRESDE - FIRST FLOOR

10:30	578		Effect of Chemical Patterning on Local Frost Propagation	TAVASTSTJERNA Miisa
10:45	601		Siloxane-based plasma polymer films for wetting control in advanced applications	NAVASCUÉS Paula
11:00	589		Fabrication of Zigzag Patterned Parylene Nanofibers in Liquid Crystals with Electric Field-Induced Defect Structure and Surface Wettability	HAN Jeong Yeon
11:15	192		Controlled Liquid Layer Generators Empower Dynamic Anti-Icing Surfaces	ZOU Xinshu
11:45	2		Erosion resistant materials for durable large-scale anti-icing purposes	YANG Qimeng

Wednesday May 29
MP01_Poster session

ETOILE - FIRST FLOOR

13:45	01_2280	105	01_2280 Detection of icing and monitoring of ice-accretion with standing acoustic waves generated in easily manufactured LiNbO ₃ piezoelectric transducer chips	DEL MORAL Jaime
13:45	02_2337	105	02_2337 Ionogel based anti-icing coatings	BAHAL Simrandeep
13:45	03_2382	105	03_2382 ab initio molecular dynamics simulation of a structure of liquid Al-Fe-Sn alloys	MURATOV Alexey
13:45	04_2625	105	04_2625 MOF-based self-healing coating material with triple distinct and efficient healing bond for preventing fat, oil and grease deposition and corrosion in sewer system	SACHIN Sachin
13:45	05_2674	105	05_2674 Structural Characteristics of Surface Microstructures of the Leaf and Petal Surfaces and Their Effects on the Wettability	PRIYADERSHINI Sony
13:45	06_680	105	06_680 Elevating Grip on Ice: Crafting Non-Skid Materials to Enhance Friction on Ice	SOGAND Abbaspoor Zanjani