# **ECIS 2023**

37<sup>th</sup> European Colloid and Interface
Society Conference
3<sup>rd</sup> – 8<sup>th</sup> September 2023
Naples – Italy

# **Scientific Program**



### **Thematic Sessions**

<b>Amp</b>	hiph	niles	and	Self-	Assembly	V
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**Bio-interfaces, Drug Delivery and Nanomedicine** 

**Colloids for Analytics** 

**Cultural Heritage and Environment** 

**Emulsions and Foams** 

**Energy and Photonics** 

**Food Science and Technology** 

Nanoparticles, Nanocomposites, Nano-and Micro-Structured (Bio) Materials

Polymers, Polyelectrolytes, Gels, Liquid Crystals, and Anisotropic Fluids

Rheology and Phase Behavior of Colloids and Complex Fluids

**Surface Forces and Thin Films** 

Theory, Modelling and Simulation of Colloidal Systems

**Wetting and Capillarity** 

# **Scientific Program**

PL = plenary lecture OP = oral presentation KP = keynote presentation AT = award talk

Monday	Tuesday	Wednesday	Thursday	Friday
4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>	7 <sup>th</sup>	8 <sup>th</sup>
September	September	September	September	September
8:30 - 8:50 Welcome ceremony	8:30-9:20 PL	8:30 - 9:20 PL	8:30-9:20 PL	8:30 - 9:20 AT
8:55 - 9:45	9:25 - 9:55	9:25 - 9:55	9:25 - 9:55	9:25 - 9:55
PL	KP (1x4)	KP (1x4)	KP (1x4)	KP (1x4)
9:45 - 10:15	9:55 - 10:15	9:55 - 10:15	9:55 - 10:15	9:55 - 10:15
KP (1x4)	OP (1x4)	OP (1x4)	OP (1x4)	OP (1x4)
10:15 - 10:45	10:15 - 10:45	10:15 - 10:45	10:15 - 10:45	10:15 - 10:45
Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break
10:45 - 12:45	10:45 - 12:45	10:45 - 12:05	10:45 - 12:45	10:45 - 11:25
OP (6x4)	OP (6x4)	OP (4x4)	OP (6x4)	OP (2x4)
12:45 - 14:10	12:45 - 14:10	12:05 - 12:55	12:45 - 14:10	11:25-12:15
Lunch	Lunch	PL	Lunch	AT
14:10 - 14:40 KP (1x4)	14:10 - 14:40 KP (1x4)	13:00 Lunch and Social Trip	14:10 - 14:40 KP (1x4)	12:15 - 12:45 Closing & Prizes
14:40 - 16:20 OP (5x4)	14:40 - 16:20 OP (5x4)		14:40 - 16:20 OP (5x4)	
16:20 - 16:50 Coffee Break	16:20 - 16:50 Coffee Break		16:20 - 16:50 Coffee Break	
16:50 - 18:10 OP (4x4)	16:50 - 18:10 OP (4x4)		16:50 - 18:50 General Assembly	
18:10 - 19:30 Poster session I	18:10 - 19:30 Poster session II		19:00 Social Dinner	



TIME	Monday 4 <sup>th</sup> September 2023		
8:30 - 8:45	Welcome ceremony  Room Galatea		
8:50 - 9:40	•	re: Werner Kunz r a More Sustainable Future" dis Room Galatea	
9:45 - 12:45	Room Galatea Nanoparticles, Nanocomposites, Nano- and Micro-Structured (Bio)Materials	Room Dione/Elettra  Amphiphiles and Self- Assembly	
	Chair: Epameinondas Leontidis	Chair: Franziska Gröhn	
9:45 – 10:15	Keynote presentation Influence of the graft length on nanocomposite structure and interfacial dynamics	Keynote presentation Polymer micelles, worms, and hollow spheres under confinement and shear: Surface forces, friction, and nanomechanics	
	Julian Oberdisse	Wuge H. Briscoe	
10:15 - 10:45	Coffee	e Break	
10:45 - 11:05	Bicontinuous cubic liquid crystalline nanoparticles for anticancer PDT	Electrically conductive hydrogels from bio-based amphiphiles	
	Sergio Murgia	Korin Gasia Ozkaya	
11:05 - 11:25	Self-assembled lipid- nanoparticles hybrids to build up biocompatible functional materials	Amphiphile self-assembly in nanostructured ionic liquids and hybrid solvents	
	Costanza Montis	Gregory G. Warr	



TIME	Monday 4th Se	eptember 2023	
IIIVIL	·		
8:30 - 8:45	Welcome ceremony  Room Galatea		
0.50.0.40	Plenary Lecture: Werner Kunz		
8:50 - 9:40		r a More Sustainable Future"	
	Chair: Epameinondas Leontid	dis Room Galatea	
	Room Agave	Room Calipso	
	Cultural Heritage and	Wetting and Capillarity	
	Environment		
9:45 - 12:45			
	Chair: Piero Baglioni	Chair: Stefano Guido	
	Keynote presentation	Keynote presentation	
	Physicochemical aspects	Controlling hydrophilic	
	of fibroin-nanocellulose	microenvironment of	
9:45 – 10:15	composites for the consolidation of silk	electrodes for gas-involving electrochemical reactions	
	Consolidation of silk	electrochemical reactions	
	Ciavanna Daggi	lungki Duu	
10.15.10.15	Giovanna Poggi	Jungki Ryu	
10:15 - 10:45		e Break	
	To the energetics	Self-generated electrostatic	
10.45 11.05	estimation of U(VI) integration in natural	forces of drops rebounding from hydrophobic surfaces	
10:45 - 11:05	integration in natural intrinsic colloids	Trom nyurophobic surfaces	
	Diane Rebiscoul	Diego Díaz	
	Methacrylated gellan gum-	Extracting oil from an oil and	
	based cleaning systems for	water mixture by using their	
44.05.44.65	conservation of paper	different wetting properties	
11:05 - 11:25	material	via the Acoustowetting	
		phenomenon	
	Leonardo Severini	Gideon Onuh	



9:45 - 12:45	Room Galatea Nanoparticles, Nanocomposites, Nano- and Micro-Structured (Bio)Materials Chair: Epameinondas Leontidis	Room Dione/Elettra  Amphiphiles and Self- Assembly  Chair: Franziska Gröhn
11:25 - 11:45	Nanotechnology-powered approaches against antimicrobial resistance  Paunov Vesselin	Understanding molecular interactions at the hair surface - a cosmetic perspective  Serena Cozzolino
11:45 - 12:05	Highly efficient and switchable chirality—transferring between protein and achiral plasmonic assemblies  Ziwei Zhou	Cold atmospheric pressure plasma mediated formation of supramolecular structures from Aβ peptide-KLVFFA as bio-molecular scaffolds  Deepjyoti Basumatary
12:05 - 12:25	Roughness induced rotational slowdown near the colloidal glass transition  Michael Duits	Employing 'chain splay' calculations to probe molecular level changes in the lipid phase behaviour  Chandrashekhar V. Kulkarni
12:25 - 12:45	Nanofiber-based ultrasensitive biosensing for deep-Sea bioprospecting  Shigeru Deguchi	Kinetics of adsorption of volatile amphiphiles and subsequent desorption from saturated water drop to the air  Ralitsa Uzunova
12:45 - 14:10		nch



TIME	Monday 4 <sup>th</sup> September 2023		
9:45 - 12:45	Room Agave Cultural Heritage and Environment	Room Calipso Wetting and Capillarity	
	Chair: Piero Baglioni	Chair: Ofer Manor	
11:25 - 11:45	Cellulose and silica – an effective combination in preventive conservation	Interface analysis of solid surface/ice by freezing X-ray Computed Tomography (XCT)	
	Romain Bordes	Laurens Snels	
11:45 - 12:05	Inorganic and hybrid nanostructured materials as adsorbents and enzyme supports for removal and detection of water pollutants	Surface and bulk mechanisms in repeating washing with purified water grades	
	Andrea Salis	Andriani Tsompou	
12:05 - 12:25	Formulation of nanostructured composites for the consolidation and protection of Street Art	The wetting behavior of condensed water droplets on hydrophobic surfaces with single-scale and dual-scale surface roughness	
	Chiara Cianci	Chi-Chun Lo	
12:25 - 12:45	Hybrid organic/inorganic castor oil-derived polyurethanes as acetic acid absorbers in art preventive conservation  David Chelazzi	Viscosity-enhanced droplet motion in confined geometries  Maja Vuckovac	
12:45 - 14:10		-	
12.43 - 14.10	Lunch		



TIME	Monday 4 <sup>th</sup> September 2023		
14:10 - 18:30	Nanoparticles, Nanocomposites, Nano- and Micro-Structured (Bio)Materials  Chair: Emiliano Fratini	Room Dione/Elettra  Amphiphiles and Self- Assembly  Chair: Romain Bordes	
14:10 - 14:40	Keynote presentation Quantification of surfactant self-assembled structures in confinement	Keynote presentation  How stable are ester surfactants?	
	Alberto Striolo	Krister Holmberg	
14:40 - 15:00	Thermoplasmonic gold nanorod composite hydrogel stimulates engineered living materials	Uncommon phase behaviour and structures induced by addition of cosurfactant to nonionic micelles – rodlike assembly of small micelles	
	Selim Basaran	Michael Gradzielski	
	Continuous manipulation and characterization of colloidal beads and	Superparamagnetic colloids: formation and dynamics of chains and disk-like clusters	
15:00 - 15:20	liposomes via diffusiophoresis in single- and double-junction microchannels	under external magnetic fields	
15:00 - 15:20	liposomes via diffusiophoresis in single- and double-junction	under external magnetic	
15:00 - 15:20 15:20 - 15:40	liposomes via diffusiophoresis in single- and double-junction microchannels	under external magnetic fields  Florence Mignolet  Probing properties of green surfactant-based	



TIME	Monday 4 <sup>th</sup> September 2023	
14:10 - 18:30	Room Agave Bio-interfaces, Drug Delivery and Nanomedicine	Room Calipso Polymers, Polyelectrolytes, Gels, Liquid Crystals, and Anisotropic Fluid
	Chair: Wuge H. Briscoe	Chair: Julian Oberdisse
14:10 - 14:40	Keynote presentation Boosting the Ouzo effect: the interplay of hydrodynamics and nanoprecipitation	Keynote presentation Anisotropic microgels by assembly-guided polymerization of functional monomers
	Kevin Roger	Andrij Pich
14:40 - 15:00	Sugar-sugar and sugar- aminoacid interaction in model membranes	The characteristics of lipid liquid crystalline phase change with addition of water
	Paola Brocca	Jenni Engstedt
15:00 - 15:20	The role of membrane features on the permeability behavior of polymersomes and the potential impacts on drug encapsulation and release	Use of polyelectrolyte coating to achieve constant zeta potential and diffusiophoretic behaviour
	Fernando C. Giacomelli	Burak Akdeniz
15:20 - 15:40	Molecular mechanisms of 'Kyu-Kyu': interactions between surfactants and the stratum corneum model	Chiral interactions and assembly of cellulose nanocrystals mesophase
	Charlotte Kenton	David Attia



TIME	Monday 4 <sup>th</sup> September 2023		
14:10 - 18:30	Room Galatea Nanoparticles, Nanocomposites, Nano- and Micro-Structured (Bio)Materials	Room Dione/Elettra  Amphiphiles and Self- Assembly	
	Chair: Emiliano Fratini	Chair: Romain Bordes	
15:40 - 16:00	Real-time light transmission spectroscopy: quantitative time-resolved investigation of colloidal aggregation dynamics	The effect of salts on the nanostructure of SLES aqueous solutions observed by Cryo-TEM	
	Claudia Fasolato	Sapir Lifshiz-Simon	
16:00 - 16:20	Formation of modified chitosan/carrageenan multilayers at silica		
	Agata Pomorska		
16:20 – 16:50	Coffee Break		
16:50 - 17:10	N-heterocyclic carbene as robust and conductive linkages to coupling gold nanoparticles and conductive polymers	Structural elucidation of hydrogen-bonding rich nonaqueous crystalline gels under external stimuli using rheo-SAXS	
	Ningwei Sun	Laureen Matthews	
17:10 - 17:30	Particle self-assembly into plasmonic structures and their immobilization at an oil-water interface	What happens when micelles cannot grow into cylinders if bicelles cannot grow into lamellar phase	
	Jacob Gordon	Thomas Zemb	

# Monday 4<sup>th</sup> September 2023



TIME	Monday 4 <sup>th</sup> September 2023		
14:10 - 18:30	Room Agave Bio-interfaces, Drug Delivery and Nanomedicine	Room Calipso Polymers, Polyelectrolytes, Gels, Liquid Crystals, and Anisotropic Fluid	
	Chair: Wuge H. Briscoe	Chair: Julian Oberdisse	
15:40 - 16:00	Biodegradable, self- assembled polyphosphoester colloids for 31P magnetic resonance imaging and theranostics	Enhancing battery performance by using catecholic polymer binders	
	Olga Koshkina	Dong Woog Lee	
16:00 - 16:20	Protein assemblies tuned with nano-ions	Modeling elastic papers using cellulose surfaces and functionalized soft particles	
	Ioanna Chazapi	Cassia Lux	
16:20 - 16:50	Coffee Break		
16:50 - 17:10	Unfolding and refolding of albumin induced by a time- programmable dissipative pH-jump	Simultaneously transporting oppositely charged peptides in polyampholyte nanogel-inmicrogel colloids	
	Alessandra Del Giudice	Hannah Felicitas Mathews	
17:10 - 17:30	Harnessing lipidic mesophases to treat inflammation in ulcerative colitis	Coarse-grained model of polyelectrolyte complex for sequestration of small ions, weak acids and bases	
	Simone Aleandri	Peter Košovan	



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14:10 - 18:30	Room Galatea Nanoparticles, Nanocomposites, Nano- and Micro-Structured (Bio)Materials Chair: Emiliano Fratini	Room Dione/Elettra  Amphiphiles and Self- Assembly  Chair: Romain Bordes	
17:30 - 17:50	Film formation kinetics of small rubber particles from Hevea latex in their hydrated state at the airliquid interface.  Marion Baudoin	Hydrotrope or surfactant? Citric acid structuring effect in water/2-butanol mixtures  Vanessa Rosciardi	
17:50 - 18:10	Hygromechanical properties of enzymatically digested cotton-based nanocellulose with modified wetting properties  Diego Jaramillo-Pinto	Efficiency of encapsulation in lipid sponge phase: effect of protein specific interactions  Jennifer Gilbert	
18:10 - 19:30	Poster	session	



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14:10 - 18:30	Room Agave Bio-interfaces, Drug Delivery and Nanomedicine Chair: Wuge H. Briscoe	Room Calipso Polymers, Polyelectrolytes, Gels, Liquid Crystals, and Anisotropic Fluid Chair: Julian Oberdisse	
17:30 - 17:50	Polystyrene perturbs the structure, dynamics, and mechanical properties of lipid membranes  Elena Del Favero	Effects of the macroinitiator molar mass on the structural properties of pHEMA/PAA hydrogels  Teresa Guaragnone	
17:50 - 18:10	Cell interactions with lipid- based nanoparticles possessing different internal nanostructures: liposomes, cubosomes, hexosomes, and micellar cubosomes	Modeling the adsorption of copolymers on heterogeneous surfaces and the stability of polymer coatings for cosmetic applications	
	Sue Lyn Yap	Irene Adroher-Benitez	
18:10 – 19:30	Poster	session	



TIME	Tuesday 5 <sup>th</sup> September 2023	
8:30 - 9:20	Plenary Lecture: Uri Banin  "Colloidal Semiconductor Nanocrystals: From Artificial Atoms to Artificial Molecules"  Chair: Gerardino D'Errico  Room Galatea	
9:25 - 12:45	Room Galatea Nanoparticles, Nanocomposites, Nano- and Micro-Structured (Bio)Materials Chair: Gerardino D'Errico	Room Dione/Elettra Food Science and Technology  Chair: Andrij Pich
9:25 – 9:55	Keynote presentation Ultrasmall multi-metal-gold alloy nanoclusters: advanced materials for concurrent imaging and light triggered photodynamic therapy  Sourov Chandra	Keynote presentation Chitosan coated alginate microgels interfacial properties vs emulsion stability and perspectives for applications in food  Eleni Kalogianni
9:55 – 10:15	Synthesis, structure, and gelling power of γ-In2S3 nanoribbons with large aspect ratio  Lilian Guillemeney	On the structural changes of edible oils by using enzymes to control the functional properties  Tommy Nylander
10:15 - 10:45	•	e Break
10:45 - 11:05	The role of ionic surfactants in the exfoliation and stabilization of 2D nanomaterials: the case of transition metal dichalcogenides  Eduardo F. Marques	An in-situ ATR spectroscopy study of the interaction of Acacia gum with gold nanoparticles films at the solid-liquid interface  Athénaïs Davantès
	-	
11:05 - 11:25	Templated self-assembly of transient branched Au nanoshells	Nanostructure formation in tailor-made buriti oil emulsion during simulated digestion
	Claudia Pigliacelli	Rafael V. M. Freire



TIME	Tuesday 5 <sup>th</sup> September 2023	
	Plenary Lect	ure: Uri Banin
8:30 - 9:20	"Colloidal Semiconductor Nanocrystals:	
0.00 7.20		to Artificial Molecules"
	Chair: Gerardino D'Errico	Room Galatea
	Room Agave	Room Calipso
9:25 - 12:45	Rheology and Phase Behavior of Colloids and Complex Fluids	Emulsions and Foams
	Chair: George Petekidis	Chair: Thomas Zemb
9:25 – 9:55	Keynote presentation  Modulating surfactant bilayer thickness and bending rigidity	Keynote presentation Chromonic liquid crystal emulsions
	Luigi Gentile	Carlos Rodriguez-Abreu
9:55 – 10:15	Influence of uniaxial compression on soft colloidal monolayer	Neutron Reflectivity studies of protein adsorption at oil/water interfaces
	Vahan Abgarjan	Mario Campana
10:15 - 10:45	Coffee	e Break
10:45 - 11:05	The yielding transition in soft amorphous solids under oscillatory shear: from microscopic rearrangements to macroscopic failure	Pickering emulsions stabilized by differently charged particles
	Matteo Brizioli	Mathis Benyaya
11:05 - 11:25	Fast microfluidic osmotic compression with in operando mesostructure characterization by SAXS	Acousto-responsive microgels at an oil/water interface
	Martine Meireles	Amin Rahimzadeh

TIME	Tuesday 5 <sup>th</sup> September 2023	
9:25 - 12:45	Room Galatea Nanoparticles, Nanocomposites, Nano- and Micro-Structured (Bio)Materials Chair: Gerardino D'Errico	Room Dione/Elettra Food Science and Technology  Chair: Andrij Pich
11:25 – 11:45	Antimicrobial efficiency – sustained and triggered release by microencapsulation	Emulsions stabilized by plant proteins for the encapsulation and delivery of bioactive compounds in foods
	Lars Evenäs	Aris Xenakis
11:45 – 12:05	Fully biodegradable cubosome	Correlation of free fatty acid composition to self-assembled mesophase structure of bovine milk and plant emulsions during digestion
	Suna Azhdari	Peter Meiland
12:05 - 12:25	Tannin-furan and lignin- furan based foams for insulation and wastewater treatment	Unravel the mechanism of the fibrous structure formation in plant-based meat alternatives (PBMAs) via neutron and X-ray scattering tools
	Hugo Duarte	Tong Guan
12:25 - 12:45	Understanding the interface between nanoparticles and gut bile molecules	Re-assembly of sodium caseinate into casein micelles: towards cheese-making
	Shinji Kihara	Teng Wang
12:45 - 14:10	Lunch	



TIME	Tuesday 5 <sup>th</sup> September 2023	
9:25 - 12:45	Room Agave Rheology and Phase Behavior of Colloids and Complex Fluids	Room Calipso Emulsions and Foams
	Chair: George Petekidis  From waste treatment to water treatment: phase	Chair: Thomas Zemb  Pickering emulsions stabilized by cellulose
11:25 - 11:45	behaviour of humic acid - quaternised chitosan complexes	nanocrystals: elaboration and characterization of capsules from their polymerization
	Mingyu Yuan	Véronique Schmit
11:45 – 12:05	Self-propelled motion of electrically driven Janus particles in complex fluids	
	Keita Saito	
12:05 - 12:25	Particle amphiphilicity, capillary interactions, and interfacial microstructure	Droplet dynamics and emulsion ageing in microgravity by DWS experiments onboard the International Space Station
	Sepideh Razavi	Valentina Lorusso
12:25 - 12:45	Twin-chain networks with tailored pores: a non-linear rheology characterization	Surface-engineered nanocellulose as kinetic stabilizer of mutiphase systems
	Rosangela Mastrangelo	Caio Otoni
12:45 - 14:10	Lunch	

TIME	Tuesday 5 <sup>th</sup> September 2023	
14:10 – 18:30	Room Galatea Amphiphiles and Self- Assembly	Room Dione/Elettra  Bio-interfaces, Drug  Delivery and Nanomedicine
	Chair: Maura Monduzzi	Chair: Aris Xenakis and Eleni Kalogianni
14:10 - 14:40	Keynote presentation Photoacids for light- triggerable self-assembly	Keynote presentation Lipidic drug delivery systems: is the microbiome a cause for concern?
	Franziska Gröhn	Wye Khay Fong
14:40 - 15:00	Self-assembly behavior in systems containing alkyl imidodipropionate and glutamate diacetate	Improving the treatment of Mycobacterium abscessus infections by mucoadhesive $\epsilon$ -polylysine coated liposomes
	Josmary Velásquez	Simona Sennato
15:00 - 15:20	Urea induces (unexpected) formation of lamellar gelphase in low concentration of cationic surfactants	Poly (diglycerol adipate) variants as enhanced nanocarrier replacements in drug delivery applications
	Edvaldo Sabadini	Vincenzo Taresco
15:20 - 15:40	Incorporation of short-chain alcohols into fluid bilayers and its effect on membrane dynamic properties as seen by neutron scattering	Design of biopolymer-lipid hybrid nanocarriers for the delivery of cancer drugs
	Fernanda Alvarado Galindo	Banu Iyisan



TIME	Tuesday 5 <sup>th</sup> September 2023	
14:10 – 18:30	Room Agave Nanoparticles, Nanocomposites, Nano- and Micro-Structured (Bio)Materials	Room Calipso Polymers, Polyelectrolytes, Gels, Liquid Crystals, and Anisotropic Fluid
	Chair: Lars Evenäs	Chair: Uri Banin
14:10 - 14:40	Keynote presentation Enhanced adsorption of epoxy-functional nanoparticles onto stainless steel significantly reduces friction in tribological studies	Keynote presentation  Smart microgel based membranes for electrochemical devices and catalysis
	Steve Armes	Thomas Hellweg
14:40 - 15:00	Writing in water	Integrated FRET messengers for spatially resolving polymer material properties and processes
	Marcus Witt	Quinn A. Besford
15:00 - 15:20	Self-assembly of colloidal liquid crystals under acoustic levitation	Controlling the reorganization dynamics of vitrimer inspired DNA hydrogels
	Claire Hotton	Rémi Merindol
15:20 - 15:40	A biomimetic and sustainable route for the preparation of antimicrobial alginate fibers	Gelled lyotropic nematic liquid crystals
	Pietro Tordi	Max O. Dombrowski

TIME	Tuesday 5 <sup>th</sup> September 2023	
14:10 - 18:10	Room Galatea Amphiphiles and Self- Assembly	Room Dione/Elettra Bio-interfaces, Drug Delivery and Nanomedicine
	Chair: Maura Monduzzi	Chair: Aris Xenakis and Eleni Kalogianni
15:40 - 16:00	How surfactants promote enzyme oligomerization and its effects on activity. A SAXS study	Tracking of cell adhesion on macroion layers
	Marcos López Hernández	Monika Wasilewska
16:00 - 16:20	Structural pathways for lipid membrane solubilization	Is L1CAM a good marker for neuronal extracellular vesicles?
	Reidar Lund	Helena Mateos
16:20 - 16:50	Coffee	e Break
16:50 - 17:10	Tailoring the properties of microemulsions stabilised by biosurfactants	Lipid-based nanocarriers for selective uptake of survivin mRNA-targeted molecular beacon in human cancer cells
	Florian Trummer	Ilaria Clemente
17:10 - 17:30	Semi-synthetic bottom-up approach for photosynthetic artificial cell construction	The integrity and elasticity of highly asymmetric bacterial membranes challenged by multivalent cations and antimicrobial peptides
	Emiliano Altamura	Xueying Guo

# Tuesday 5<sup>th</sup> September 2023



TIME	Tuesday 5 <sup>th</sup> S	eptember 2023
14:10 – 18:10	Room Agave Nanoparticles, Nanocomposites, Nano- and Micro-Structured (Bio)Materials	Room Calipso Polymers, Polyelectrolytes, Gels, Liquid Crystals, and Anisotropic Fluid
	Chair: Lars Evenäs	Chair: Uri Banin
15:40 - 16:00	Colloids meet polymers: fabrication of asymmetric patchy SiO <sub>2</sub> microspheres via microcontact printing	Linear-response theory for polyelectrolyte adsorption and depletion
	Martin Reifarth	C. Max Martens
16:00 - 16:20	Frequency-controlled mobility of the inner particle in yolk-shell structures for use in switchable colloidal crystals	Evaporation-driven formation of supraparticles composed of spherical and ellipsoidal building blocks
	Tom Welling	Melis Yetkin
16:20 - 16:50		Melis Yetkin e Break
		Room Calipso Surface Forces and Thin Films
16:20 - 16:50 16:50 - 17:10		Room Calipso Surface Forces and Thin
	Coffee  Core@shell nanowires for	Room Calipso Surface Forces and Thin Films Chair: Duško Čakara What really happens during the drying of the microgel
	Core@shell nanowires for conductive inks and pastes	Room Calipso Surface Forces and Thin Films Chair: Duško Čakara What really happens during the drying of the microgel monolayer?

TIME	Tuesday 5 <sup>th</sup> S	eptember 2023
14:10 - 18:10	Room Galatea Amphiphiles and Self- Assembly	Room Dione/Elettra  Bio-interfaces, Drug  Delivery and Nanomedicine
	Chair: Maura Monduzzi	Chair: Aris Xenakis and Eleni Kalogianni
17:30 - 17:50	Unusual interplay between size and sodium ion binding of closo-dodecaborate-based micelles in water  Žiga Medoš	World-leading surface science instruments: premium solutions to progress your research  Erik Nileback
17:50 – 18:10	Oscillating Soft Magnetic Hydrogel Actuators	Targeting bacterial biofilms with multi enzyme functionalized antibiotic-loaded nanogel particles
	Jérôme Crassous	Evans Asare
18:10 - 19:30	Poster	session





TIME	Tuesday 5 <sup>th</sup> September 2023	
14:10 – 18:10	Room Agave Nanoparticles, Nanocomposites, Nano- and Micro-Structured (Bio)Materials	Room Calipso Surface Forces and Thin Films
	Chair: Lars Evenäs	Chair: Duško Čakara
17:30 - 17:50	Colloidal stability of nonpolar gold nanoparticles: role of functional additives	Surface and frictional forces of adsorbed thin films of charged polysaccharides
	Tobias Knapp	Gustavo S. Luengo
17:50 – 18:10	Establishing selective pore access in a bicontinuous material  Jesse M. Steenhoff	Classical DFT for hydrophobic forces in colloidal systems  Simone Riva
18:10 - 19:30		session



TIME	Wednesday 6 <sup>th</sup> September 2023	
	Plenary Lecture: Molly Stevens	
8:30 - 9:20	"Designing and translating nanomaterials for healthcare"	
	Chair: Ben Boyd	Room Galatea
9:25 - 12:45	Room Galatea Amphiphiles and Self- Assembly  Chair: Ben Boyd	Room Dione/Elettra Nanoparticles, Nanocomposites, Nano-and Micro-Structured (Bio)Materials Chair: Steve Armes and Ofer Manor
9:25 – 9:55	Keynote presentation Self-assembly of tapered bottlebrush block copolymers in water	Keynote presentation  Decorating filamentous viruses: design & self-organization of virus based colloidal molecules
	Ronit Bitton	Eric Grelet
9:55 – 10:15	When ions defy electrostatics – the case of superchaotropic nano-ion adsorption	2D-Nanomaterial directed molecular aggregation and energy transfer
	Max Hohenschutz	Hongxiao Xiang
10:15 - 10:45	Coffee	e Break
10:45 - 11:05	Innovative antimicrobials from facial steroidal surfactants	Study of the stability upon dilution of caesium lead halide perovskite nanocrystal suspensions through spectroscopic and light scattering techniques
	Claudia Marconi	Pietro Anzini





TIME	Wednesday 6 <sup>th</sup> September 2023	
	Plenary Lecture: Molly Stevens	
8:30 - 9:20		nanomaterials for healthcare"
	Chair: Ben Boyd	Room Galatea
	Room Agave Theory, Modelling and Simulation of Colloidal	Room Calipso  Rheology and Phase  Behavior of Colloids and
9:25 - 12:45	Systems	Complex Fluids
	Chair: Daniel Harries	Chair: Martine Meireles
9:25 – 9:55	Keynote presentation What drives the coil-globule transition of thermoresponsive polymers in mixed solvents?	Keynote presentation Shear induced ordering and phase separation of colloidal gels
	Nico F. A. van der Vegt	George Petekidis
9:55 – 10:15	Liquid structure of bistable responsive macromolecules using mean-field density-functional theory	Effective interactions, phase behavior and rheology of PNIPAM-PEG copolymer microgel dispersions
	Arturo Moncho-Jordá	Marco Laurati
10:15 - 10:45	Coffee	e Break
10:45 - 11:05	Aggregation phenomena and regime change in a magnetic Janus particle suspension by means of Monte Carlo simulations	Microgels at interfaces: insights from computer simulations
	Kazuya Okada	Emanuela Zaccarelli



TIME	Wednesday 6 <sup>th</sup>	September 2023
9:25 - 12:45	Room Galatea Amphiphiles and Self- Assembly	Room Dione/Elettra  Nanoparticles, Nanocomposites, Nano-and Micro-Structured (Bio)Materials
	Chair: Ben Boyd	Chair: Steve Armes and Ofer Manor
11:05 - 11:25	Application of low- frequency raman spectroscopy to probe Ddynamics of lipid mesophase transformations upon hydration	From surfactant free emulsions to hybrid nanocapsules: an Odyssee into Ouzo
	Lasse S. Krog	Fabienne Gauffre
11:25 – 11:45	Confined polyelectrolyte complexes: answers that the continuous phase can give about nanometric regime	Caterpillar-shaped polymer nanoparticles
	Julia Bonesso Sabadini	Gabriel Augusto Alemao Monteiro
11:45 – 12:05	Modeling of Nanoions at Interfaces	The printed conductive coatings based on nickel-silver core-shell NPs for the fabrication of modern electronics
	Dominik Horinek	Anna Pajor-Świerzy
12:05 - 12:55	"Responsive polyme	re: Brigitte Voit eric nanocapsules and s as cellular mimics" Room Galatea
13:00	Lunch and	Social Trip





TIME	Wednesday 6 <sup>th</sup>	September 2023
9:25 - 12:45	Room Agave Theory, Modelling and Simulation of Colloidal Systems	Room Calipso Rheology and Phase Behavior of Colloids and Complex Fluids
	Chair: Daniel Harries	Chair: Martine Meireles
11:05 - 11:25	Crystallization in melts of short semiflexible hard- sphere chains: How to distinguish noisy crystal structures	Environment-sensitive bio- based surfactants hydrogels with tunable physicochemical properties and phase behavior
	Evgeniia Filimonova	Duccio Tatini
11:25 – 11:45	Why do hollow microgels suppress crystallization? A simulation study	Rheology of anionic/zwitterionic mixtures: co-ion effects
	Tom Höfken	Svetoslav E. Anachkov
11:45 – 12:05	Exploring pattern formation on negatively curved surfaces via the hyperbolic plane	Colloidal graphene inks for printed stretchable electronics
	Jacob J.K. Kirkensgaard	Laura van Hazendonk
12:05 - 12:55	"Responsive polyme	re: Brigitte Voit eric nanocapsules and s as cellular mimics" Room Galatea
13:00	Lunch and	Social Trip



TIME	Thursday 7 <sup>th</sup> S	September 2023
8:30 - 9:20	"Interfacing molecules with	e: Paolo Samorì  2D materials: sophisticated complex functions"  Room Galatea
9:25 - 12:45	Room Galatea Nanoparticles, Nanocomposites, Nano- and Micro-Structured (Bio)Materials Chair: Luigi Paduano	Room Dione/Elettra Bio-interfaces, Drug Delivery and Nanomedicine  Chair: Eduardo F. Marques
9:25 – 9:55	Keynote presentation  Multifunctional self-healing hydrogels via nanoengineering colloidal and polymeric cellulose  Theo van de Ven	Keynote presentation A bioorthogonal fluorinated tracer as powerful tool for multiscale bioimaging of nanosystems  Francesca Baldelli Bombelli
9:55 – 10:15	Cryofouling avoidance in the antarctic scallop Adamussium colbecki William S. Y. Wong	Characterization of the interaction of nitric oxide/nitrogen dioxide with the polymer surfaces in ECMO devices  Moritz Köglmaier
10:15 - 10:45		e Break
		Room Dione/Elettra Colloids for Analytics Chair: Luciano Galantini
10:45 - 11:05	Live observation of bacterial cellulose production and engineering	<b>J</b>
	Maryam Hosseini	
11:05 - 11:25	DNA mold-based fabrication of silver nanostructures  Christoph Hadlich	Characterization of colloidal aggregates using holographic particle tracking  Fredrik Eklund
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TIME	Thursday 7 <sup>th</sup> S	Thursday 7 <sup>th</sup> September 2023	
	Plenary Lectur	e: Paolo Samorì	
8:30 - 9:20	"Interfacing molecules with 2D materials: sophisticated		
0.00 3.20		complex functions"	
	Chair: Luigi Paduano	Room Galatea	
9:25 - 12:45	Room Agave Surface Forces and Thin Films	Room Calipso Emulsions and Foams	
	Chair: Mario Campana	Chair: Bernard P. Binks	
9:25 – 9:55	Anomalous underscreening in concentrated aqueous electrolytes: myth or reality?	Keynote presentation Anomalously stable mixtures of water and oil	
	Frieder Mugele	Jean Baudry	
9:55 – 10:15	Anisotropy of pressure and self-diffusion in liquid water adsorbed in slit micropores	Coarsening of wet liquid foams under microgravity conditions	
	Hans-Jörg Mögel	Dominique Langevin	
10:15 - 10:45	Coffee	e Break	
10:45 - 11:05	Polypeptide/surfactant films: three-dimensional structure control	Preparation of Pickering double emulsions by in-situ particle surface modification	
	Richard A. Campbell	Venkateshwar Rao Dugyala	
11:05 - 11:25	pH-triggered modifications of oil/water interfaces	Photocatalytic solid foams	
	Matteo Frigerio	Marco Vaccari	



TIME	Thursday 7 <sup>th</sup> S	September 2023
9:25 - 12:45	Room Galatea Nanoparticles, Nanocomposites, Nano- and Micro-Structured (Bio)Materials	Room Dione/Elettra Colloids for Analytics
	Chair: Luigi Paduano	Chair: Luciano Galantini
11:25 - 11:45	Tailored anisotropic gold nanoparticles through tuning the seed-mediated growth solution chemistry	Light induced elevation of microparticles from planar bottom interfaces
	Katharina Zürbes	Marek Bekir
11:45 - 12:05	Pre-programmable microgels for magnetic actuation and as building blocks for soft metamaterials	Optimizing interactions for selective adsorption to molecularly imprinted polymers
	Dominik L. Braunmiller	Yves Chevalier
	How nanozyme-based	Turning on bot onetal
12:05 - 12:25	colloids can combat oxidative stress?	Turning on hot spots: supracolloidal SERS probes made brilliant by an external activation mechanism
12:05 - 12:25	colloids can combat	supracolloidal SERS probes made brilliant by an external activation mechanism Sophie Jancke
12:05 - 12:25 12:25 - 12:45	colloids can combat oxidative stress?  Istvan Szilagyi  Improved heating efficiency of magnetite nanorods by different types of gold coatings when applying magnetic fields and photothermal stimulation	supracolloidal SERS probes made brilliant by an external activation mechanism  Sophie Jancke  An advanced machine learning algorithm for the robust estimation of the particle size distribution from dynamic light scattering experiments
	colloids can combat oxidative stress?  Istvan Szilagyi  Improved heating efficiency of magnetite nanorods by different types of gold coatings when applying magnetic fields and photothermal stimulation  Marina Lázaro Callejón	supracolloidal SERS probes made brilliant by an external activation mechanism  Sophie Jancke  An advanced machine learning algorithm for the robust estimation of the particle size distribution from dynamic light



TIME	Thursday 7 <sup>th</sup> Se	eptember 2023
9:25 - 12:45	Room Agave Surface Forces and Thin Films	Room Calipso Emulsions and Foams
	Chair: Mario Campana	Chair: Bernard P. Binks
11:25 - 11:45	Complex behaviours in thin films of soft microgels	Proteins as stabilizers for foam films: Untangling the stabilizing effects
	Valentina Nigro	Kevin Gräff
11:45 - 12:05	Effective medium theory for optical modelling of mixed colloid thin films	Light-driven Pickering interfacial catalysis for the oxidation of alkenes at near-room temperature
	Duško Čakara	Jean-François Dechezelles
12:05 - 12:25	Screening behavior of nano- lons in aqueous solutions	Polymer coatings based on nanoencapsulated phase change materials for latent heat storage
	Thomas Tilger	Rafael Muñoz-Espí
12:25 - 12:45	Interactions between lipid membranes and nano-ions	Mixtures of water-in-water emulsions stabilized by bishydrophilic microgels
	Magdalena Wlodek	Do-Nhu-Trang Nguyen
12:45 - 14:10	Lun	ch



TIME	Thursday 7 <sup>th</sup> S	September 2023
14:10 – 18:30	Room Galatea Nanoparticles, Nanocomposites, Nano- and Micro-Structured (Bio)Materials	Room Dione/Elettra  Bio-interfaces, Drug  Delivery and Nanomedicine
	Chair: Shigeru Deguchi	Chair: Kevin Roger
14:10 - 14:40	Keynote presentation  Design of reactor to synthesize polymer nano particles	Keynote presentation  ROS-responsive biopolymer based nanocarriers for the delivery of hydrophilic payload toward cancer therapy
	Tetsuya Yamamoto	Anitha Ethirajan
14:40 - 15:00	Driving interfacial assembly and nanohybrid synthesis with surface chemistry anisotropy	Physicochemical description of the interactions of drugs used in the treatment of chronic obstructive pulmonary disease (COPD) with model lung surfactants
	Silvano Valandro	Dorota Matyszewska
15:00 - 15:20	Multilayer superlattice of liquid-crystalline dendron-modified inorganic nanoparticles	Temporal analysis of hMSCs under electrical stimulation with AFM
	Rina Sato	Kaiwen Zhang
15:20 - 15:40	Novel method of calcium carbonate nanoparticle synthesis: machine learning analysis of the polymorphs	Interaction of inorganic nanoparticles and biomimetic lipid interfaces: understanding clustering and morphology
	polymorphs  Junnan Song	and morphology  Debora Berti



TIME	Thursday 7 <sup>th</sup> S	September 2023
14:10 – 18:30	Room Agave Theory, Modelling and Simulation of Colloidal Systems Chair: Dominik Horinek	Room Calipso Polymers, Polyelectrolytes, Gels, Liquid Crystals, and Anisotropic Fluid Chair: Francesca Baldelli Bombelli
14:10 - 14:40	Keynote presentation  Do lipids have the same properties in nanodiscs and vesicles?  Daniel Harries	Keynote presentation Changes in charge density of polyelectrolytes by shear  Jiang Zhao
14:40 - 15:00	Anomalous diffusion of soft particles near a fluctuating lipid bilayer	Interactions of Imidazolium- based Ionic Liquids with Model Lipid Membranes: Phase Behavior Studies
15:00 - 15:20	Salah u din Sheikh  The effect of hydrodynamic interactions on the aggregation of colloidal suspensions  Marco Lattuada	Amrutha Arimboor Sunny  Natural care products: structural and deposition studies of sustainable polymers and surfactant mixtures  Marta Gubitosi
15:20 - 15:40	Guidelines to program colloidal self-assembly using self-consistent field computations  Remco Tuinier	Unusual behavior of responsive peptide gels  Mert Acar



TIME	Thursday 7 <sup>th</sup> S	eptember 2023
14:10 - 18:30	Room Galatea Nanoparticles, Nanocomposites, Nano- and Micro-Structured (Bio)Materials Chair: Shigeru Deguchi	Room Dione/Elettra  Bio-interfaces, Drug  Delivery and Nanomedicine  Chair: Kevin Roger
15:40 - 16:00	Colloidal crystallization of viruses in presence of polycationic polymers characterized by SAXS  Bettina Tran	
16:00 - 16:20	Crystallographic- morphological paradoxes in Metal-Organic Frameworks  Maria Chiara di Gregorio	Encapsulated ultra-short AMPs in cubic phase lipid nanoparticles fighting against bacteria  Biserka Lakic
16:20 - 16:50	Coffee Break	
16:50 - 18:50	ECIS Gener	ral Assembly  Room Galatea
19:00	Social Dinner	





TIME	Thursday 7 <sup>th</sup> S	September 2023
14:10 - 18:30	Room Agave Theory, Modelling and Simulation of Colloidal Systems Chair: Dominik Horinek	Room Calipso Polymers, Polyelectrolytes, Gels, Liquid Crystals, and Anisotropic Fluid Chair: Francesca Baldelli Bombelli
15:40 - 16:00	Phase transition in nonuniform forces: general theory, application to nucleation, and more  Yoav Tsori	pH-tunable properties of polypeptides monolayers: experimental studies and MD modeling  Maria Morga
16:00 - 16:20	Monte Carlo simulations of board-shaped particles. From uniaxial to biaxial nematics  Alessandro Patti	Nanostructural characterization of complexes of DNA with a diblock-copolymer of positively-charged and neutral blocks, and their stability in the presence of blood serum albumin
16:20 16:50		Sapir Rappoport
16:20 - 16:50	Coffee Break	
16:50 - 18:50	ECIS Gener	ral Assembly Room Galatea
19:00	Social Dinner	



TIME	Friday 8 <sup>th</sup> S	September 2023
8:30 - 9:20	Overbee Berna	ard Talk k Gold Medal rd P. Binks rticles at Fluid Interfaces" Room Galatea
9:25 - 11:25	Room Galatea  Bio-interfaces, Drug  Delivery and  Nanomedicine  Chair: Dganit Danino	Room Dione/Elettra  Amphiphiles and Self- Assembly  Chair: Richard A. Campbell
9:25 – 9:55	Keynote presentation  Towards the design light- responsive polymer capsules for protein release  Emmanuelle Marie	Keynote presentation  The evolution of equilibrium sodium poly(styrenesulfonate) - dodecyltrimethylammonium bromide supramolecular structure in dilute aqueous solution with increasing surfactant binding  Imre Varga
9:55 – 10:15	Antimicrobial peptides and their mode of action: what can we tell from model membranes and scattering techniques?  Vladimir Rosenov Koynarev	Mimicking native cell membranes: lipid bilayers with complex lipid mixtures and membrane proteins  Alessandra Luchini
10:15 -10:45	Coffee Break	
10:45 -11:05	Assessing the efficacy of bacterial consortia against recalcitrant agents using vaterite nano- and microparticles  Dmitrii Deev	Can solvents be treated as benign media in colloidal systems?



TIME	Friday 8 <sup>th</sup> September 2023	
8:30 - 9:20	Overbeek Bernard	d Talk Gold Medal P. Binks cles at Fluid Interfaces" Room Galatea
9:25 - 11:25	Room Agave Surface Forces and Thin Films Chair: Drew F. Parsons	Room Calipso  Energy and Photonics  Chair: Brigitte Voit
9:25 – 9:55	Keynote presentation  Evaluation of "short-range" hydrophobic attraction between silanated silica surfaces by atomic force microscopy and its origin  Naoyuki Ishida	Keynote presentation  Smart colloidal nanocapsules with controlled photoluminescent behavior  Loredana Latterini
9:55 – 10:15	Co-continuous phases of P3HT-PLA blends with embedded gold nanoparticles for optoelectronics  Tommaso A. Salamone  Tommaso A. Salamone	Rational design of polymer- pigment antenna complexes for strong-plasmon coupling Edwin C. Johnson
10:15 - 10:45	Coffee Break	
	Scalable fabrication of membranes formed via nanoparticle stabilized	Thermal control of up- conversion nanocapsules under incoherent excitation
10:45 - 11:05	liquid-liquid phase separation	under meonerent excitation



TIME	Friday 8 <sup>th</sup> September 2023		
9:25 - 11:25	Room Galatea Bio-interfaces, Drug Delivery and Nanomedicine	Room Dione/Elettra  Amphiphiles and Self- Assembly	
	Chair: Dganit Danino	Chair: Richard A. Campbell	
11:05 – 11:25	Peptide coating boosts membrane interactions and antimicrobial effects of photocatalytic nanoparticles  Lucrezia Caselli	Calorimetric measurements of complexation and transfer of a lanthanide salt in colloidal liquid-liquid extraction systems  Epameinondas Leontidis	
	Award Talk		
11:25 – 12:15	Solvay Prize		
	Regine von Klitzing		
	"Microgels as stabilizers for foams: A multiscale approach"		
	Chair: Tommy Nylander	Room Galatea	
12:15 - 12:45	Closing Ceremony & Prizes		
12.15 - 12.45		Room Galatea	



TIME	Friday 8 <sup>th</sup> September 2023		
9:25 - 11:25	Room Agave Surface Forces and Thin Films Chair: Drew F. Parsons	Room Calipso Energy and Photonics  Chair: Brigitte Voit	
11:05 – 11:25	Voltage leakage off electro- mechanical ion resonance in an electrical double layer translates to fingerprints of the electrolyte solution and dynamic and static electrical surface properties  Ofer Manor	Functionalized zeolite templated carbon electrodes for energy production by salinity exchange  Angel V. Delgado	
11:25 – 12:15	Award Talk Solvay Prize Regine von Klitzing "Microgels as stabilizers for foams: A multiscale approach" Chair: Tommy Nylander Room Galatea		
12:15 - 12:45	Closing Ceremony & Prizes  Room Galatea		