

**Sunday 9<sup>th</sup> June 2024**

15:30 - 17:00

**Registration**

Location: Hall Tramuntana

17:00 - 17:15

**Conference Welcome**

Location: Tramuntana 2+3

17:15 - 18:15

**Plenary Session 1**

Location: Tramuntana 2+3

Chair: Julian Eastoe

**17:15 - 18:15 [PL01]**

**Assembly of charged colloids**

Monica Olvera de la Cruz

*Northwestern University Department of Materials Science and Engineering, Evanston, IL, USA. Northwestern University Department of Chemistry, Evanston, IL, USA*

18:15 - 19:30

**Welcome Reception**

Location: Tramuntana 1

**Monday 10<sup>th</sup> June 2024**

08:00 - 09:00

**Registration**

Location: Hall Tramuntana

09:00 - 10:00

**Winner of the 2024 JCIS Darsh Wasan Award**

Location: Tramuntana 2+3

Chair: Martin Malmsten

**09:00 - 10:00 [AW01]**

**Designing synthetic mimics for cosmic dust particles: from colloid chemistry to space science via hypervelocity physics**

Steven Armes

*The University of Sheffield, Sheffield, UK*

10:00 - 10:30

**Keynote Session 1**

Location: Tramuntana 2+3

Chair: Martin Malmsten

**10:00 - 10:30 [KEY01]**

**Dynamics of Multi-component Fluids near Interfaces**

Sepideh Razavi

*The University of Oklahoma, Norman, OK, USA*

10:30 - 11:00

**Refreshment Break**

Location: Tramuntana 1

11:00 - 11:30

**Keynote Session 2**

Location: Tramuntana 2+3

Chair: Catherine Whitby

**11:00 - 11:30 [KEY02]**

**Concentrated Electrolytes at Uncharged Interfaces: Adsorption, Potentials, Surface tension and the Role of the Surfactant Monolayer**

Radomir Slavchov<sup>1</sup>, Boyan Peychev<sup>1</sup>, Ivan Minkov<sup>2,3</sup>

<sup>1</sup>Queen Mary University of London School of Engineering and Materials Science, London, UK. <sup>2</sup>Sofia University St Kliment Ohridski, Sofia, Bulgaria.

<sup>3</sup>Bulgarian Academy of Sciences, Sofia, Bulgaria

11:30 - 12:00

**Keynote Session 3**

Location: Tramuntana 2+3

Chair: Catherine Whitby

**11:30 - 12:00 [KEY03]**

**Surfactant-based lyotropic liquid crystal gels - The interplay between anisotropic order & gel formation**

Cosima Stubenrauch, Katja Steck, Sonja Dieterich, Frank Gießelmann

*University of Stuttgart, Stuttgart, Germany*

12:00 - 12:30

**Keynote Session 4**

Location: Tramuntana 2+3  
Chair: Catherine Whitby

**12:00 - 12:30 [KEY04]**

**Design of cerium oxide-armed polymer particles by thermal and visible light-induced polymerizations in dispersed media: From synthesis to film properties**

Elodie Bourgeat-Lami<sup>1</sup>, Magalie Schoumacker<sup>1</sup>, Jacques Lalevée<sup>2</sup>, Pierre-Yves Dugas<sup>1</sup>, Damien Montarnal<sup>1</sup>, Muriel Lansalot<sup>1</sup>, Emmanuel Lacôte<sup>1</sup>

<sup>1</sup>University Claude Bernard Lyon 1, Villeurbanne, France. <sup>2</sup>University of Haute-Alsace, Mulhouse, Mulhouse, France

**Lunch**

Location: Noray Restaurant

12:30 - 13:30

13:30 - 15:10

**Parallel Session 1**

Location: Tramuntana 2+3

Chair: Karen Edler

**13:30 - 13:50 [O1.1]**

**New gels for the cleaning of works of art**

Piero Baglioni<sup>1</sup>, Rosangela Mastrangelo<sup>2</sup>, Damiano Bandelli<sup>2</sup>, Giovanna Poggi<sup>2</sup>, David Chelazzi<sup>2</sup>

<sup>1</sup>CSGI and University of Florence, Department of Chemistry 'Ugo Schiff', Firenze, Italy. <sup>2</sup>University of Florence Department of Chemistry 'Ugo Schiff', Firenze, Italy

**13:50 - 14:10 [O1.2]**

**Arrested liquid/liquid interfaces based on confined polyion/mixed surfactant assemblies**

Robert Meszaros<sup>1</sup>, Monika Bak<sup>1</sup>, Gergo Gyulai<sup>1</sup>, Judith Mihaly<sup>2</sup>

<sup>1</sup>Eötvös Loránd University, Budapest, Hungary. <sup>2</sup>HUN-REN Hungarian Research Network, Seochó-gu, Hungary

**14:10 - 14:30 [O1.3]**

**When elasticity influences drop spreading**

Surjyasish Mitra<sup>1,2</sup>, A-Reum Kim<sup>3,2</sup>, Boxin Zhao<sup>3,2</sup>, Sushanta Mitra<sup>1,2</sup>

<sup>1</sup>University of Waterloo Department of Mechanical and Mechatronics Engineering, Waterloo, ON, Canada. <sup>2</sup>University of Waterloo Institute for Nanotechnology, Waterloo, ON, Canada. <sup>3</sup>University of Waterloo, Waterloo, ON, Canada

**14:30 - 14:50 [O1.4]**

**Modeling colloidal matrices made by lipid oleogels and proteins**

Farnaz Maleky

The Ohio State University, Columbus, OH, USA

**14:50 - 15:10 [O1.5]**

**Designing tuneable surface nanotopographies with biocidal properties**

Elena Ivanova<sup>1</sup>, Denver Linklater<sup>1</sup>, Vladimir Baulin<sup>2</sup>, Saulius Joudkazis<sup>3</sup>

<sup>1</sup>RMIT University, Australia. <sup>2</sup>Universitat Rovira i Virgili, Spain. <sup>3</sup>Swinburne University of technology, Australia

**Parallel Session 2**

Location: Garbi 1

Chair: Yujun Feng

**13:30 - 13:50 [O2.1]**

**Phase behavior and water-in-water emulsions of choline-based ionic liquids**

Jonathan Miras<sup>1</sup>, Susana Vilchez<sup>1</sup>, Francesca Barrera<sup>2</sup>, Laura Lorenzo<sup>2</sup>, Carlos Martínez<sup>1</sup>, Sokphiom Gunther<sup>1</sup>, Carlos Rodríguez-Abreu<sup>3</sup>, Maria Teresa Garcia<sup>1</sup>, Jordi Esquena<sup>1</sup>

<sup>1</sup>Institute of Advanced Chemistry of Catalonia (IQAC-CSIC), Jordi Girona, Barcelona, Spain.

<sup>2</sup>Institute of Advanced Chemistry of Catalonia (IQAC-CSIC), Jordi Girona, Barcelona, Barcelona, Spain. <sup>3</sup>Institute of Advanced Chemistry of Catalonia, Barcelona, Spain

**13:50 - 14:10 [O2.2]**

**How surfactants deactivate coronaviruses? A Physical Chemistry perspective**

Helena Mateos<sup>1,2</sup>, Antonia Mallardi<sup>3,2</sup>, Gerardo Palazzo<sup>1,2</sup>

<sup>1</sup>University of Bari, Bari, Italy. <sup>2</sup>Center for Colloid and Surface Science, Firenze, Italy. <sup>3</sup>PCF-NMR, Pisa, Italy

**14:10 - 14:30 [O2.3]**

**Electrified interfaces and the simultaneous production of electricity and green hydrogen**

Andre Galembeck<sup>1</sup>, Thiago Burgo<sup>2</sup>, Leandra dos Santos<sup>3</sup>, Fernando Galembeck<sup>4,3</sup>

<sup>1</sup>Federal University of Pernambuco Department of Fundamental Chemistry, RECIFE, Brazil. <sup>2</sup>Sao Paulo State University Institute of Biosciences Letters and Exact Sciences, SAO JOSE DO RIO PRETO, Brazil.

<sup>3</sup>Galembech Consultores de Tecnologia Ltda, Brazil. <sup>4</sup>State University of Campinas Institute of Chemistry, CAMPINAS, Brazil

**14:30 - 14:50 [O2.4]**

**Effect of droplet evaporation on the Gibb's criterion for low and high surface tension liquid**

Damena Agonafer

University of Maryland College Park, Princess Anne, MD, USA

**14:50 - 15:10 [O2.5]**

**Antimicrobial properties of nitrogen-containing carbonaceous materials using photocatalytic action under visible light irradiation**

Masayuki Kawaguchi, Akiko Saito, Shigeaki Morita  
Osaka Electro-Communication University,  
Neyagawa, Japan

**Parallel Session 3**

Location: Garbi 2

Chair: Meital Rechtes

**13:30 - 13:50 [O3.1]**

**Enhanced biphasic reactions in amphiphilic silica mesopores**

Guolin Zhao<sup>1</sup>, Yao Li<sup>1</sup>, Jie Gao<sup>2</sup>, Yunjiao Gu<sup>3</sup>, Bing Hong<sup>3</sup>, Shuangliang Zhao<sup>4</sup>, Marc Pera-Titus<sup>5</sup>

<sup>1</sup>State Key Laboratory of Chemical Engineering, East China University of Science and Technology, Shanghai, China. <sup>2</sup>Eco-Efficient Products and Processes Laboratory (E2P2L), UMI 3464 CNRS – Solvay, Xin Zhuang Ind. Shanghai, China. <sup>3</sup>Eco-Efficient Products and Processes Laboratory (E2P2L), UMI 3464 CNRS – Solvay, Xin Zhuang Ind. Zone, Shanghai, China. <sup>4</sup>School of Chemistry and Chemical Engineering, Guangxi University, Nanning, China. <sup>5</sup>Cardiff Catalysis Institute, School of Chemistry, Cardiff University, Cardiff, UK

**13:50 - 14:10 [O3.2]**

**Janus particles as a flexible platform to obtain complex colloids**

Marco Lattuada

University of Fribourg, Fribourg, Switzerland

**14:10 - 14:30 [O3.3]**

**Cellulose microfibrils: Properties and application in edible complex fluids and soft materials**

Krassimir Velikov

Unilever Innovation Centre Wageningen, The Netherlands

**14:30 - 14:50 [O3.4]**

**Novel insights into antibody-gold nanoparticle interactions: Implications for immunological assays**

Helena Mateos<sup>1,2</sup>, Antonia Mallardi<sup>3</sup>, Esther Serrano-Pertierra<sup>4</sup>, Maria del Carmen Blanco-López<sup>5</sup>, Margherita Izzi<sup>1</sup>, Nicola Cioffi<sup>1</sup>, Gerardo Palazzo<sup>1</sup>

<sup>1</sup>University of Bari, Bari, Italy. <sup>2</sup>Center for Colloid and Surface Science, Firenze, Italy. <sup>3</sup>Institute for Chemical and Physical Processes National Research Council Bari Unit, Pisa, Italy. <sup>4</sup>Instituto Universitario de Biotecnología de Asturias, Spain. <sup>5</sup>University of Oviedo, Oviedo, Spain

**14:50 - 15:10 [O3.5]**

**Lipid carriers for phenolic polymers: Self-assembled functional nano-vectors with controlled colloidal properties and enhanced antioxidant activity**

Gerardino D'Errico

University of Naples Federico II Department of Chemistry Sciences, Napoli, Italy. Center for Colloid and Surface Science, Firenze, Italy

15:10 - 15:30

**Young Investigator Session 1**

Location: Tramuntana 2+3

Chair: Karen Edler

**15:10 - 15:30 [YI01]**

**How a liquid-crystalline hexagonal columnar phase behaves under shear?**

Ioanna Chazapi<sup>1</sup>, Laurent Michot<sup>2</sup>, Frederic Pignon<sup>3</sup>, Erwan-Nicolas Paineau<sup>1</sup>

**Young Investigator Session 2**

Location: Garbi 1

Chair: Yujun Feng

**15:10 - 15:30 [YI02]**

**Ascorbic acid mediated hydrolysis of galactomannans**

Michael-Alex Kamlow<sup>1,2</sup>, Julian Marks<sup>2</sup>, Ian Fisk<sup>1</sup>, Gleb Yakubov<sup>1</sup>

**Young Investigator Session 3**

Location: Garbi 2

Chair: Meital Rechtes

**15:10 - 15:30 [YI03]**

**Evaporation induced self-assembly of liquid crystal nanotubes in levitation: Exploring phase transitions and material shaping**

<sup>1</sup>Université Paris-Saclay, CNRS, Laboratoire de Physique des Solides, France. <sup>2</sup>Sorbonne University, Paris, France. <sup>3</sup>University Grenoble, CNRS, LRP, France

<sup>1</sup>University of Nottingham, Nottingham, UK. <sup>2</sup>Hain Celestial Group, UK

Claire Hotton<sup>1</sup>, Thomas Bizien<sup>2</sup>, Brigitte Pansu<sup>1</sup>, Cyrille Hamon<sup>1</sup>, Erwan Paineau<sup>1</sup>  
<sup>1</sup>Laboratory of the Physics of Solids, Orsay, France.  
<sup>2</sup>SOLEIL, Gif sur Yvette, France

15:30 - 18:00

### Refreshment Break and Poster Session

Location: Tramuntana 1

18:00 - 19:00

### Plenary Session 2

Location: Tramuntana 2+3

Chair: Debora Berti

**18:00 - 19:00 [PL02]**

**Unveiling viscoelastic instabilities and colloidal rod alignment in microfluidic platforms**

Amy Shen

*Okinawa Institute of Science and Technology Graduate University, Onna, Japan*

19:00 - 20:00

**Optional walking tour of Sitges (Limited availability – please visit the registration desk to reserve your place)**

**Tuesday 11<sup>th</sup> June 2024**

07:30 - 08:30

### Workshop hosted by LS Instruments: Modern dynamic and static light scattering theory, experimental design and applications

Location: Garbi 1

Dr. Andrea Vaccaro - Chief Technical Officer

In this workshop we will first review dynamic and static light scattering fundamentals. We will focus on practical considerations for designing experiments, choosing and applying analytical approaches, and evaluating results.

We will also present advanced techniques including depolarized dynamic light scattering for measuring rotational dynamics, non-ergodic sample measurement approaches, and Modulated 3D Cross Correlation DLS for dilution-free measurements.

Participants will have the opportunity to engage in Q&A with the speaker in this interactive workshop. Scientists with any level of experience with light scattering from beginners to experts are encouraged to join this unique event.

Breakfast sponsored by LS Instruments AG and provided for all participants with advance workshop registration

Space is limited, please register here: <https://lsinstruments.ch/en/info/contact-form?source=2024-06-13th-international-colloids-conference>

08:30 - 09:00

### Registration

Location: Hall Tramuntana

09:00 - 10:00

### Plenary Session 3

Location: Tramuntana 2+3

Chair: Teresa Badosz

**09:00 - 10:00 [PL03]**

**From Gutenberg Bible to 4D printing**

Shlomo Magdassi

*Hebrew University of Jerusalem, Jerusalem, Israel*

10:00 - 10:30

### Keynote Session 5

Location: Tramuntana 2+3

Chair: Teresa Badosz

**10:00 - 10:30 [KEY05]**

**Phenomenon of chemical magnetism**

Boris Kichatov

*FSBIS Lebedev Physical Institute of the Russian Academy of Sciences, Moskva, Russia*

10:30 - 11:00

### Refreshment Break

Location: Tramuntana 1

11:00 - 11:30

### Keynote Session 6

Location: Tramuntana 2+3

Chair: Raz Jelinek

**11:00 - 11:30 [KEY06]**

**Peptide-Based Functional Coatings and Assemblies**

Meital Reches

*The Hebrew University, Israel*

11:30 - 12:00

### Keynote Session 7

Location: Tramuntana 2+3

Chair: Raz Jelinek

**11:30 - 12:00 [KEY07]**  
**Membrane Design by Atomic Layer Deposition**  
Mikhael Bechelany  
*Institut Européen des membranes, Univ Montpellier, CNRS, France*

12:00 - 12:30

**Keynote Session 8**  
Location: Tramuntana 2+3  
Chair: Raz Jelinek

**12:00 - 12:30 [KEY08]**  
**Swelling kinetics of pH-responsive polymers**  
Jing-Jong Shyue<sup>1,2</sup>, Hui-Yun Huang<sup>1</sup>, Shu-Min Yang<sup>1</sup>  
<sup>1</sup>Research Center for Applied Sciences, Academia Sinica, Taipei, Taiwan. <sup>2</sup>Department of Materials and Science Engineering, National Taiwan University, Taipei, Taiwan

12:30 - 13:45

**Lunch**  
Location: Noray Restaurant

13:45 - 15:05

**Parallel Session 4**  
Location: Tramuntana 2+3  
Chair: Sepideh Razavi

**13:45 - 14:05 [O4.1]**  
**Conductive hydrophobic graphene oxide surfaces via laser-scribed modification**  
Shirin Alexander  
*Swansea University, Swansea, UK*

**14:05 - 14:25 [O4.2]**  
**Enhanced contact flexibility from nanoparticles in capillary suspensions**  
Lingyue Liu, Jens Allard, Erin Koos  
*KU Leuven, Belgium*

**14:25 - 14:45 [O4.3]**  
**Contact electrification during water intrusion-extrusion into-from nanopores for self-powered pressure/temperature nanosensors and thermomechanical energy harvesting**  
Luis Bartolomé<sup>1</sup>, Josh Littlefair<sup>2,3</sup>, Eder Amayuelas<sup>1</sup>, Andrea Le Donne<sup>2</sup>, Simone Meloni<sup>2</sup>, Yaroslav Grosu<sup>1,4</sup>  
<sup>1</sup>Alternative Energy Investigation Centre, Alava, Spain. <sup>2</sup>University of Ferrara, Ferrara, Italy. <sup>3</sup>The University of Edinburgh, Edinburgh, UK. <sup>4</sup>University of Silesia, Katowice, Poland

**14:45 - 15:05 [O4.4]**  
**Active pharmaceutical ingredient deep eutectic solvents as promising systems for drug delivery**  
Boris M. Popović, Tatjana Jurić, Ružica Ždero Pavlović, Denis Uka, Teodora Kukrić, Milica Petković  
*University of Novi Sad Faculty of Agriculture, Novi Sad, Serbia*

15:05 - 15:25

**Young Investigator Session 4**  
Location: Tramuntana 2+3  
Chair: Sepideh Razavi

**15:05 - 15:25 [YI04]**  
**Improved estimation of capillary condensation pressure for associating fluids confined in nanocapillaries by considering a curvature-dependent association energy parameter in the PC-SAFT model**  
Aliakbar Roosta, Nima Rezaei  
*LUT University, LAPPEENRANTA, Finland*

15:25 - 15:45

**15:25 - 15:45 [YI05]**  
**Self-assembled supra-particles by evaporation of aqueous aerosol droplet containing a binary mixture of diblock copolymer nanoparticles**

**Parallel Session 5**  
Location: Garbi 1  
Chair: Cosima Stubenrauch

**13:45 - 14:05 [O5.1]**  
**Exploring the versatility and potential of amphiphilic gradient poly(2-oxazoline)s as a sustainable alternative platform to PEGs in emulsion stabilization**  
Valentin Bardoula<sup>1,2</sup>, Richard Hoogenboom<sup>3</sup>, Véronique Nardello-Rataj<sup>2,1</sup>  
<sup>1</sup>HT-SmartFormu Platform, France. <sup>2</sup>University of Lille, Lille, France. <sup>3</sup>Ghent University, Gent, Belgium

**14:05 - 14:25 [O5.2]**  
**Quantitative sensing of chiral molecules by surface-enhanced Raman spectroscopy**  
Daedu Lee, Yoonsoo Pang  
*Gwangju Institute of Science and Technology, Gwangju, Republic of Korea*

**14:25 - 14:45 [O5.3]**  
**Targeted micro-phase separation: A new concept to improve printing resolution and cell viability in 3D bioprinting**  
Claude Oelschlaeger, Bruna Regina Maciel, Ute Schepers, Norbert Willenbacher  
*Karlsruhe Institute of Technology, Germany*

**14:45 - 15:05 [O5.4]**  
**Multicellular lipid compartments for scalable micro-compartmentalization with environmentally responsive release**  
Richard Archer, Tsuyoshi Inaba, Shin-Ichiro M Nomura  
*Tohoku University, Japan*

**Young Investigator Session 5**  
Location: Garbi 1  
Chair: Cosima Stubenrauch

**15:05 - 15:25 [YI06]**  
**Multicore silica microcapsules containing  $\alpha$ -tocopherol for potential cosmetic applications**  
Mohammed Al-Sharabi<sup>1</sup>, Benjamin Lobel<sup>2</sup>, Daniele Baiocco<sup>3</sup>, Olivier Cayre<sup>2</sup>, Zhibing Zhang<sup>3</sup>, Alexander Routh<sup>1</sup>  
<sup>1</sup>University of Cambridge, UK. <sup>2</sup>University of Leeds, UK. <sup>3</sup>University of Birmingham, UK

**15:25 - 15:45 [YI07]**  
**Bacteriophages as emulsion stabilizers with antibacterial activity for improved food safety**  
Samuel Watts, Sierin Lim  
*Nanyang Technological University, Singapore*

**Parallel Session 6**  
Location: Garbi 2  
Chair: Jing-Jong Shyue

**13:45 - 14:05 [O6.1]**  
**Capillary driven self-assembly of composite ellipsoidal composite microgels at the air/water interface**  
Nabanita Hazra<sup>1</sup>, Andrey Rudov<sup>2</sup>, Jiarul Midja<sup>3</sup>, Andrey Babenyshev<sup>1</sup>, Walter Richtering<sup>1</sup>, Gerhard Gompfer<sup>4</sup>, Thorsten Auth<sup>3</sup>, Igor Potemkin<sup>2</sup>, Jérôme Crassous<sup>1</sup>  
<sup>1</sup>RWTH Aachen University, Institute of Physical Chemistry, Aachen, Aachen, Germany. <sup>2</sup>DWI-Leibniz-Institute for Interactive Materials, Aachen, Germany. <sup>3</sup>Theoretical Physics of Living Matter, Institute of Biological Information Processing and Institute for Advanced Simulation, Forschungszentrum Jülich, Germany. <sup>4</sup>Theoretical Physics of Living Matter, Institute of Biological Information Processing and Institute for Advanced Simulation, Forschungszentrum Jülich, Jülich, Germany

**14:05 - 14:25 [O6.2]**  
**Correlative effects on nanoplastics aggregation in model extracellular biofilm substances investigated with fluorescence correlation spectroscopy**  
Tobias Guckeisen, Rozalia Orghici, Silke Rathgeber  
*Universität Koblenz, Germany*

**14:25 - 14:45 [O6.3]**  
**Insights into giant vesicle assembly from thin lipid films**  
Anand Subramaniam  
*University of California Merced, Merced, CA, USA*

**14:45 - 15:05 [O6.4]**  
**How aggregation sizes determine the interfacial properties of myofibrillar protein**  
Xue Zhao  
*Nanjing Agricultural University, China*

**15:05 - 15:25 [O6.5]**  
**Preparation of conductive gold thin film by the two-dimensional assembly of gold nanoparticles on a plastic surface**  
Tatsuo Maruyama<sup>1,2</sup>, Sarina Yoshida<sup>1</sup>, Takane Tsuchii<sup>2</sup>, Mimari Matsumoto<sup>1</sup>, Kenta Morita<sup>1</sup>  
<sup>1</sup>Kobe University, Kobe, Japan. <sup>2</sup>Kobe University Research Center for Membrane and Film Technology, Kobe, Japan

**Young Investigator Session 6**  
Location: Garbi 2  
Chair: Jing-Jong Shyue

**15:25 - 15:45 [YI08]**

Lukesh Kumar Mahato<sup>1</sup>, Barnaby E. A. Miles<sup>1</sup>, Derek H. H. Chan<sup>2</sup>, Spyridon Varlas<sup>2</sup>, Daniel A. Hardy<sup>1</sup>, Rachael E. H. Miles<sup>1</sup>, Steven P. Armes<sup>2</sup>, Jonathan P. Reid<sup>1</sup>  
<sup>1</sup>University of Bristol School of Chemistry, Bristol, UK. <sup>2</sup>The University of Sheffield Department of Chemistry, Sheffield, UK

**Antimicrobial peptide coating boosts membrane interactions and antimicrobial effects of photocatalytic nanoparticles**  
Lucrezia Caselli<sup>1,2</sup>, Elisa Parra-Ortiz<sup>2</sup>, Samantha Micciulla<sup>3</sup>, Maximilian W. A. Skoda<sup>4</sup>, Sara Malekhaat Häffner<sup>5</sup>, Emilie Marie Nielsen<sup>2</sup>, Mariena J.A. van der Plas<sup>2</sup>, Martin Malmsten<sup>2,1</sup>  
<sup>1</sup>Department of Physical Chemistry 1, Lund University, Sweden. <sup>2</sup>Department of Pharmacy, University of Copenhagen, Denmark. <sup>3</sup>Institut Laue-Langevin, France. <sup>4</sup>ISIS Pulsed Neutron and Muon Source, Rutherford Appleton Laboratory, Harwell, UK. <sup>5</sup>Department of Pharmacy, University of Copenhagen, Denmark

15:45 - 16:15

### Refreshment Break

Location: Tramuntana 1

16:15 - 17:15

### Parallel Session 7

Location: Tramuntana 2+3  
Chair: Boris Kitchatov

#### 16:15 - 16:35 [O7.1]

##### Probing colloidal aggregation dynamics activated by external stimuli by real-time light transmission spectroscopy

Angela Capocefalo<sup>1</sup>, Riccardo Pallucchi<sup>2</sup>, Greta Peruzzi<sup>3</sup>, Carlo Rizza<sup>1</sup>, Andrea De Marcellis<sup>4</sup>, Elia Palange<sup>4</sup>, Paolo Postorino<sup>2</sup>, Barbara Ruzicka<sup>3</sup>, Claudia Fasolato<sup>3</sup>

<sup>1</sup>Department of Physical and Chemical Sciences, University of L'Aquila, L'Aquila, Italy. <sup>2</sup>Physics Department, Sapienza University of Rome, Rome, Italy. <sup>3</sup>Institute for Complex Systems, National Research Council, Rome, Italy. <sup>4</sup>Department of Information Engineering, Computer Science and Mathematics, University of L'Aquila, L'Aquila, Italy

#### 16:35 - 16:55 [O7.2]

##### Functional Janus structured liquids and aerogels

Ahmadreza Ghaffarkhah, Orlando J. Rojas, Mohammad Arjmand  
UBC, Canada

#### 16:55 - 17:15 [O7.3]

##### Physical properties of hard magnetic hexaferrite nanoplatelet colloids

Andrei Chumakov<sup>1</sup>, Matthias Schwartzkopf<sup>1</sup>, Dirk Menzel<sup>2</sup>  
<sup>1</sup>Deutsches Elektronen-Synchrotron DESY, Hamburg, Germany. <sup>2</sup>TU Braunschweig University, Braunschweig, Germany

### Parallel Session 8

Location: Garbi 1  
Chair: Mikhael Bechelany

#### 16:15 - 16:35 [O8.1]

##### Simulation-assisted design and optimization of patterned surfaces for enhanced water harvesting efficiency

Xingyu Chen, Lan Wei, Zhong Chen  
Nanyang Technological University, Singapore, Singapore

#### 16:35 - 16:55 [O8.2]

##### Binary Assembly of Platonic Gold Nanoparticles: Future of Metamaterials

Rahul Nag, Cyrille Hamon  
University Paris-Saclay, France

#### 16:55 - 17:15 [O8.3]

##### Effect of the meniscus on the stability of colloidal gels

Xuemaο Zhou  
School of Mechanical & Electrical Engineering, Guangxi Science & Technology Normal University, China. School of Physics and Astronomy, University of Edinburgh, Edinburgh, UK

### Parallel Session 9

Location: Garbi 2  
Chair: Patricia Bassereau

#### 16:15 - 16:35 [O9.1]

##### Silica nanoparticles and biomembranes: Molecular mechanisms and driving forces at the nano-biointerface

Chiara Bellomo<sup>1</sup>, Francesca Cecchet<sup>2</sup>, Cristina Pavan<sup>1,3</sup>, Francesco Turci<sup>1</sup>  
<sup>1</sup>University of Turin, Torino, Italy. <sup>2</sup>University of Namur, Namur, Belgium. <sup>3</sup>Catholic University of Louvain - Saint-Louis Brussels, Bruxelles, Belgium

#### 16:35 - 16:55 [O9.2]

##### Engineering biodegradable polymer nanoparticles from O/W nano-emulsions as smart carriers for the release of antioxidants across the blood-brain barrier

Carlos Rodriguez-Abreu<sup>1</sup>, Santiago Grijalvo<sup>2</sup>  
<sup>1</sup>Institute of Advanced Chemistry of Catalonia, Barcelona, Spain. <sup>2</sup>Biomedical Research Network Centre of Bioengineering Biomaterials and Nanomedicine, Zaragoza, Spain

#### 16:55 - 17:15 [O9.3]

##### Microfluidic preparation of polymer particles for biomedical applications: Nanoparticles and giant polymer vesicles

Petr Stepanek, Alessandro Jager, Eliezer Jager, Vladimir Sincari, Jiri Panek, Martin Hruby  
Institute of Macromolecular Chemistry Czech Academy of Sciences, Praha, Czech Republic

17:15 - 17:55

### Young Investigator Session 7

Location: Tramuntana 2+3  
Chair: Boris Kitchatov

#### 17:15 - 17:35 [YI09]

##### Microfluidic EDGE chip allows early assessment of interfacial protein behavior

Tatiana Porto Santos<sup>1</sup>, Boxin Deng<sup>1</sup>, Meinou Corstens<sup>1</sup>, Claire Berton-Carabin<sup>2,1</sup>, Karin Schroen<sup>1</sup>

<sup>1</sup>Wageningen University & Research, Wageningen, The Netherlands. <sup>2</sup>National Research Institute for Agriculture Food and Environment Pays de la Loire Center, Nantes, France

#### 17:35 - 17:55 [YI10]

##### Looking for the good vibrations: Tuning focused ultrasounds for lipid membrane therapy

Alexandre Blanco-González<sup>1,2,3</sup>, Ángel Piñeiro<sup>1</sup>, Rebeca García-Fandiño<sup>2</sup>  
<sup>1</sup>Departamento de Física Aplicada, Universidad de Santiago de Compostela, Santiago de Compostela, Spain.

### Young Investigator Session 8

Location: Garbi 1  
Chair: Mikhael Bechelany

#### 17:15 - 17:35 [YI11]

##### In situ photopolymerization in lipid based liquid crystalline nanostructures

Meron Debas, Stefan Salentinig  
University of Fribourg, Switzerland

#### 17:35 - 17:55 [YI12]

##### Rheological behaviour of pure sodium alkylsulfate formulations: Effect of degree of ethoxylation and alkyl chain length on salt curves

Stephen Flores<sup>1</sup>, Christopher Cabry<sup>1</sup>, Joanne Cook<sup>2</sup>, Hugh Barlow<sup>3</sup>, Olga Mihailova<sup>2</sup>, Carlos Avendaño<sup>1</sup>, Christopher Hardacre<sup>1</sup>  
<sup>1</sup>The University of Manchester, Manchester, UK. <sup>2</sup>Unilever R&D Port Sunlight, Wirral, UK. <sup>3</sup>Unilever Safety & Environmental Assurance Centre, UK

### Young Investigator Session 9

Location: Garbi 2  
Chair: Patricia Bassereau

#### 17:15 - 17:35 [YI13]

##### Characterization of vertically stratified films produced from binary polymer-colloid mixtures

Shaveen Fernando, Surita R. Bhatia  
Stony Brook University, Stony Brook, NY, USA

#### 17:35 - 17:55 [YI14]

##### Novel material innovations for the efficient extraction and separation of critical elements

Iryna Protsak<sup>1</sup>, Martin Stockhausen<sup>1</sup>, Aaron Brewer<sup>1</sup>, Martin Owton<sup>2</sup>, Thilo Hofmann<sup>1</sup>, Freddy Kleitz<sup>1</sup>  
<sup>1</sup>University of Vienna, Wien, Austria. <sup>2</sup>Independent scholar, UK

<sup>2</sup>Departamento de Química Orgánica (CiQUS), Universidad de Santiago de Compostela, Spain. <sup>3</sup>MD.USE Innovations, S.L., Spain

17:55 - 18:00

18:00 - 19:00

#### Plenary Session 4

Location: Tramuntana 2+3

Chair: Manuel Arturo Lopez-Quintela

**18:00 - 19:00 [PL04]**

**How do microgels and proteins stabilise foams? A multiscale approach**

Regine von Klitzing

*Technical University of Darmstadt, Darmstadt, Germany*

19:00 - 19:10

#### Conference Announcement

Location: Tramuntana 2+3

19:30 - 22:00

#### Conference Dinner (Ticketed)

Location: Restaurant Can Laury

**Wednesday 12<sup>th</sup> June 2024**

08:00 - 09:00

#### Registration

Location: Hall Tramuntana

09:00 - 09:30

#### Keynote Session 9

Location: Tramuntana 2+3

Chair: Gil Garnier

**09:00 - 09:30 [KEY09]**

**Colloid mechanisms of polyfunctional activity of superhydrophobic coatings**

Ludmila Boinovich

*Frumkin Institute of Physical Chemistry and Electrochemistry RAS, Moskva, Russia*

09:30 - 10:00

#### Keynote Session 10

Location: Tramuntana 2+3

Chair: Gil Garnier

**09:30 - 10:00 [KEY10]**

**In-situ Generated Smart Hydrogels for CO<sub>2</sub> Sequestration**

Yujun Feng, Xinjie Luo, Dianguo Wu, Yan Zhang

*Sichuan University, Chengdu, China*

10:00 - 10:30

#### Keynote Session 11

Location: Tramuntana 2+3

Chair: Gil Garnier

**10:00 - 10:30 [KEY11]**

**Hydrotropes: Weak aggregation but strong structuration opening the road to better separation processes**

Thomas Zemb

*Institute for Separation chemistry of Marcoule, Bagnols sur Ceze, France*

10:30 - 11:00

#### Refreshment Break

Location: Tramuntana 1

11:00 - 11:30

#### Keynote Session 12

Location: Tramuntana 2+3

Chair: Manuel Arturo Lopez-Quintela

**11:00 - 11:30 [KEY12]**

**Self-assembly in Deep Eutectic Solvents**

Karen Edler

*Lund University Department of Chemistry, Lund, Sweden*

11:30 - 12:00

#### Keynote Session 13

Location: Tramuntana 2+3

Chair: Manuel Arturo Lopez-Quintela

**11:30 - 12:00 [KEY13]**

**Nanocellulose: Precious or Sublime Material?**

Gil Garnier<sup>1</sup>, Vikram Raghuvanshi<sup>1</sup>, David Mendoza<sup>1</sup>, Joel Hooper<sup>2</sup>, Jitendra Mata<sup>3</sup>, George Simon<sup>4</sup>

<sup>1</sup>Department of Chemical and Biological Engineering, Monash University, Australia. <sup>2</sup>School of Chemistry, Monash University, Australia. <sup>3</sup>Australian Nuclear Science and Technology Organisation, Kirrawee, Australia. <sup>4</sup>Department of Material Engineering, Monash University, Australia

12:00 - 12:30

**Keynote Session 14**

Location: Tramuntana 2+3

Chair: Manuel Arturo Lopez-Quintela

**12:00 - 12:30 [KEY14]**

**Lipid membranes and membrane proteins: An intimate relationship**

Alicia Damm<sup>1</sup>, Raju Regmi<sup>2</sup>, Su-Jin Paik<sup>2</sup>, Raj Sadhu<sup>2</sup>, Jacob Kæstel-Hansen<sup>3</sup>, Nikos Hatzakis<sup>3</sup>, Pierre Sens<sup>2</sup>, Daniel Lévy<sup>2</sup>, Patricia Bassereau<sup>2</sup>

<sup>1</sup>Institute Curie, France. <sup>2</sup>Institute Curie, Paris, France. <sup>3</sup>University of Copenhagen Niels Bohr Institute, København, Denmark

12:30 - 13:30

**Lunch**

Location: Noray Restaurant

13:30 - 14:30

**Plenary Session 5**

Location: Tramuntana 2+3

Chair: Julian Eastoe

**13:30 - 14:30 [PL05]**

**Arrested emulsion structures in gels and their surprising applications**

Patrick Spicer

UNSW Sydney, Australia

14:30 - 15:00

**Closing Remarks**

Location: Tramuntana 2+3