

# PROGRAMME

8<sup>th</sup> - 9<sup>th</sup> May, 2023



# May, 8<sup>th</sup> - morning



8:15	Team Opening	8:30	Opening Ceremony (General Channel)
------	--------------	------	------------------------------------

## GELS AND GLASSES

## MULTIPHASE SYSTEMS

## POLYMER MELTS AND SOLUTIONS

9:00 - 10:30	Hydrogels (J. Munoz)	Electro-Magneto Rheology (F. Galindo-Rosales)	Extensional flows (Q. Huang)
9:00	Kinetics of acid hydrolysis of k-carrageenan by in situ rheological follow-up (S. Russo Spena)	Electrorheological Characterization of 2D Inks (P. Rijo)	New Insights into Elongational Rheology of Polystyrene Pom poms (M. Schußmann)
9:15	Polyelectrolyte-based hydrogels with isotropic/anisotropic nanoparticles: rheology and permeability (S. Mezdari)	Towards the potential control of friction using smart ecolubricants (S. Fernandez Silva)	Investigation of fibril formation during a tack test on Pressure Sensitive Adhesives (L. Cailly-Brandstätter)
9:30	Semi-interpenetrating magnetic hydrogels based on paam and biopolymers: mechanical properties and applications (A. León-Cecilla)	Magnetically actuated particles in viscoelastic fluids in proximity to a wall (P. Rai)	A novel experimental apparatus for studying thin freestanding films dynamics: modelling and validation (P. Iaccarino)
9:45	3D printing of hydrogels: from process to simulation (I. Insua)	Double-gap magnetorheology in saturating fields (G. Camacho)	Reversed extension flow of long chain branched high-cis polybutadiene melts (G. Paradiso - WITHDRAWN)
10:00	Discussion	Discussion	Discussion (9:45)
10:30 - 10:45	Break		
10:45 - 12:15	Cellulose & Derivatives (J. M. Franco)	Emulsions & Foams (P. Moldenaers)	3D printing (N. Grizzuti)
10:45	The design of sustainable oleogels based on nanocelluloses in vegetable oil by means of solvent exchange: a rheological approach (M. García-Pérez)	Rheology as a predictive tool for the optimization of the formulation of a natural foundation in a O/W Emulsion (E. Incarbone)	The importance of rheology in the VAT 3D printing of polyurethanes (J. Ayestarán)
11:00	Cellulose ether oleogel as a healthy fat alternative in cream cheese: linear and nonlinear rheology, texture and sensory properties (Q. Wang)	Surfactant-free cosmetic emulsions: stability, rheology and texture analysis (E. Di Domenico)	Validation of an In-line Slit Microrheometer coupled to a Microextruder for 3D-Printing Filament Production (J. D. Sousa)
11:15	Influence on thermogelation and syneresis of the degree and molar substitution of hydroxypropyl methylcellulose (HPMC) hydrogels (S. Perez-Robles)	Development and characterization of anhydrous phase change emulsions based on polyethylene glycol (PEG) of different molecular weights (A. Tenorio Alfonso)	Experimental and Numerical Investigation of the Die Swell in 3D Printing Processes (S. De Rosa)
11:30	Gelation of methylcellulose: applied fractional calculus (I. Miranda-Valdez)	Simultaneous micro- and macroscopic description of foam shear in a plate-plate rheometer with X-ray microscopic tomography (F. Schott)	Understanding the effect of shearing in the conductivity of 3D printed polybutilene succinate-co-adipate/CNT nanocomposites (A. Pascal)
11:45	Discussion	Discussion	Discussion

# May, 8<sup>th</sup> - afternoon



## GELS AND GLASSES

## MULTIPHASE SYSTEMS

## POLYMER MELTS AND SOLUTIONS

14:00 - 15:45	<b>Yield stress materials</b> (V. Guida, J. Tsamopoulos)	<b>Suspensions</b> (J. Morris, A. Perazzo)	<b>Modeling &amp; Simulations</b> (G. Ianniruberto, N. Jaensson)
14:00	Carbopol gels as model fluids: role of the grade (A. Mattei)	A new frequency-dependent irreversibility threshold in nonbrownian suspensions (S. Moliterno)	Computational modeling as a tool to assist rheology: the effect of long chain branches (A. Cardil)
14:15	Multiscale aging of colloidal depletion gels (N. Kolezakis)	Effect of Roughness and Porosity on the Rheology on Non-Brownian Silica Suspensions in a Newtonian Solvent (J. Vargas Clavijo)	Recent advances in polymer viscoelasticity from general rigid Bead-Rod theory (M. Kalso)
14:30	Numerical Investigation of the Creeping Flow of Elasto-Visco-Plastic Materials in Prototype Geometries (M. Mousavi)	Controlling Extrudate Volume Fraction through Poroelastic Extrusion of Looped Fibers (Z. Pan)	Smoothed-Particle Hydrodynamics simulations of viscoelastic integral fractional models (L. Santelli)
14:45	Size-dependent particle trapping in a centrifuged yield stress material (A. Azarpour)	Numerical simulation of dense suspensions of flexible fibers (S. Tandurella)	Multiscale DPD - CFD approach for modelling rheological behaviour of complex fluids (F. De Roma)
15:00	Effect of Hydrophobic Fumed Silica content on the rheological behavior of supporting bath for embedded printing (G. Vera)	Effects of Tannis on glycerol/starch filmogenic suspensions: rheological approach to the design of active food packaging (D. Mammolenti)	Computational Fluid Dynamics of Polymer Flow Induced Crystallisation using the polySTRAND model (W. Grant - WITHDRAWN)
15:15	<b>Discussion</b>	<b>Discussion</b>	<b>Discussion (15:00)</b>
15:45 - 16:00	<b>Break</b>		
16:00 - 17:30		<b>Interfaces</b> (G. Fuller)	<b>Polymer flow</b> (S. Vervoort)
16:00		Effects of MXene nanosheets on the viscoelastic properties of water-oil interfaces (B. Attaianesi)	Flows of different polymer melts on a benchmark FFF nozzle geometry (T. Schuller)
16:15		Two-dimensional melting in fatty acid Langmuir monolayers (P. Sánchez-Puga)	Investigation of UHMW Polyolefins architecture from Solution Rheology (V. Ianniello)
16:30		Oscillatory Kelvin-Helmholtz Instability and fluid fingers formation in miscible systems (L. D. Gala)	Curing Kinetics of Polyurethane Elastomers with Gradient Properties for Liquid Additive Manufacturing (P. Wang)
16:45		Modeling micropipette aspiration for use in material characterization of biological condensates (J. Roggeveen - WITHDRAWN)	A study on the role of viscoplasticity on pure jet features (H. Hassanzadeh)
17:00		<b>Discussion (16:45)</b>	<b>Discussion</b>

## GELS AND GLASSES

## MULTIPHASE SYSTEMS

## POLYMER MELTS AND SOLUTIONS

9:00 - 10:30		<b>Hydrodynamics</b> (P. L. Maffettone)	
9:00		Brownian dynamics and spontaneous rotation of a Janus particle in a polymer solution (N. D'Auria)	
9:15		Particle dynamics in elastoviscoplastic fluid in proximity of a flat wall (A. A. Yazdi)	
9:30		Sedimentation of charged particles in electrolyte solutions (E. Kouni)	
9:45		Hydrodynamic interaction of unequal coaxially rising bubbles in elasto-visco-plastic materials (A. Kordalis)	
10:00		<b>Discussion</b>	
10:30 - 10:45	<b>Break</b>		
10:45 - 12:15	<b>Pluronics</b> (D. Marchisio)	<b>Granular Flows &amp; Non-linear Rheology</b> (C. Klein, H. Wilson)	<b>Composites</b> (S. Coppola)
10:45	Rheological behaviour of antimicrobial Pluronic F127 gels (A. Lupu)	Continuum simulation and modeling of granular flows with $\mu(l)$ -rheology using Cahn Hilliard method (A. Balachsis)	Isothermal cavitation of rubber toughened polymers: a valuable tool to assess the kinetics of void formation in the rubber phase (I. Marino)
11:00	Aqueous solutions of Pluronic F68 and Diclofenac Sodium: phase transitions studied by Rheology and SAXS (N. A. Di Spirito)	Viscous Dissipation and microstructure in Unsaturated Wet Granular Materials (A. Awdi)	A numerical model to predict micromechanical residual stress in polymeric based composites during curing (R. Verde)
11:15	Mesoscale modelling of structured fluids rheology (N. Lauriello)	Loss factor as a criterion for validating large amplitude oscillatory shear rheological data (A. N M)	Study of bituminous hybrid materials with energy storage capacity (C. D. Sánchez)
11:30	<b>Discussion</b>	Medium Amplitude Oscillatory Shear Investigations of a Bimodal Mixture of Thermoresponsive Core-Shell Nanoparticles in Suspension around the Glass Transition (L. Fischer)	Follow Up of UHMWPE Rheological Properties Under Ultra-Fast Magnetic Hyperthermia Sintering (M. Salse)
11:45		<b>Discussion</b>	<b>Discussion</b>

# May, 9<sup>th</sup> - afternoon



## GELS AND GLASSES

## MULTIPHASE SYSTEMS

## POLYMER MELTS AND SOLUTIONS

14:00 - 15:45	<b>Surfactants</b> <b>(D. Danino)</b>	<b>Biological Materials</b> <b>(M. D. Graham, G. Tomaiuolo)</b>	<b>Microfluidics</b> <b>(M. Tassieri, J. Vermant)</b>
14:00	Linear and nonlinear rheology of dilute micellar solutions <b>(I. Cusano)</b>	A macroscopic interfacial rheology approach to measure lipid membrane fluidity <b>(D. Renggli)</b>	Microfluidic pressure-driven flow of deformable particles suspended in viscoelastic media: a numerical study <b>(G. Esposito)</b>
14:15	Order-Disorder Transition Effects on the Rheology of Lamellar Structured Concentrated Surfactant Solutions <b>(P. Kelkar)</b>	Rheological characterization of human hepatic tissue and polymeric gels in the study of liver fibrosis <b>(A. Biasin)</b>	Development length in 2D microchannel flows of shear thickening fluids <b>(M. Montenegro)</b>
14:30	SLE3S - water phase diagram: from microstructure to rheology and back <b>(R. Ferraro)</b>	Thixo-elastoviscoplastic Modelling of Human Blood <b>(A. Spyridakis)</b>	Role of the chronos number in the pulsatile flow of polymer solutions <b>(T. Rodrigues)</b>
14:45	Functional and Rheological interfacial properties of cricket flour <b>(S. Aprile)</b>	Applying circular economy in slaughterhouses. Blood as raw material for biodegradable superabsorbent materials <b>(E. Álvarez-Castillo)</b>	Asymmetric flow of polymeric solutions around a confined microfluidic cylinder: pressure taps influence <b>(R. Corveira Rodrigues)</b>
15:00	<b>Discussion</b>	Fabrication and rheological characterization of chitosan-based nanofibrous coating for local delivery of vancomycin to prevent vascular graft infections <b>(S. Serpelloni)</b>	Exploring the Dynamics of Bingham Viscoplastic Fluid Flow in Grooved Superhydrophobic Channels: A Comprehensive Modeling and Numerical Analysis <b>(H. Rahmani)</b>
15:15		<b>Discussion</b>	<b>Discussion</b>
15:45	<b>Break</b>		
16:30	<b>Award &amp; Closing Ceremony</b> <b>(General Channel MS-T)</b>		