IBERREO 15

Challenges in rheology and product development

FCT/UC, Coimbra, Portugal

September 7–9, 2015

Scientific Program

· U C ·

UNIVERSIDADE DE COIMBRA

	September 7, 2015
8.30-9.00	**Registration**
9.00-9.30	**Opening Ceremony**
9.30-10.20	**Keynote lecture 1** **(Chair: Maria da Graça Rasteiro)** Rheophysics of concentrated dispersed systems: from foams to waxy crude oils *Philippe Coussot*
10.30-11.10	**Coffee break**
11.10-11.30	**Applications (Food)** **(Chair: Isabel Sousa)** O2 Thermal Stability of Oil/Water Cellulose Emulsions Teresa Sanz
11.30-11.50	O3 Evaluation by DMTA of Gelatinization Temperatures of Starch in Maize and Chestnut Flour Doughs *Santiago Arufe*
12.00-12.20	**Multiphase Systems** **(Chair: Phillipe Coussot)** *O4* Rheological changes induced by the functionalization of the carbon nanotubes in a CNT/polymer nanocomposite *Maité Landa*
12.20-12.40	*O5* Electrorheological Behaviour of Suspensions of Camphorsulfonic acid (CSA) doped polyaniline nanofibers in silicone oil *Teresa Cidade*
12.40-13.00	*O6* Rheological behaviour of new nanoclay/MDI/bitumen composites *Francisco Ortega*
13.00-14.30	**Lunch**
	September 7, 2015
	Product Formulation **(Chair: José María Franco)**

14.30-14.50	O7 Development of ecofriendly emulsions based on product engineering principles *Núria Calero*
14.50-15.10	O8 Rheological development and characterization of a bio sourced feedstock of superalloy in metal injection molding process *Thierry Barriere*
15.10-15.30	O9 Rheological properties of biopolymer-stabilized emulsions formulated with a nonionic eco-friendly surfactant *Luis Alfonso Trujillo Cayado*
15.30-15.50	O10 Use of lignocellulosic materials crosslinked with HMDI as thickening agents for lubricant formulations *Rocio Calvo*
15.50-17.20	**Coffee Break and Poster Session**
	Experimental Methods **(Chair: Antxon Santamaria)**
17.20-17.40	O11 Advanced rheometric tools for food applications *Loredana Mirela Völker-Pop*
17.40-18.10	O12 In-line rheo-optical characterization during small-scale polymer processing and compounding *Loic Hilliou*
18.10 -18.30	O13 Non Linear Rheological methods. LAOS, Parallel Superposion and Orthogonal Superposition *Carlos Gracia*
18.30-18.50	O14 On the yield stress of Ca(2+)-induced gellan fluid gels under torsional shear flow *José Muñoz*
19.00	**Departure to Welcome Reception**

September 8, 2015		September 9, 2015	
9.00-9.50	**Keynote lecture 2** **(Chair: Maria Teresa Cidade)** A Consistent Model for Elongational Flow of Polymer Melts and Solutions Based on the Interchain Pressure Effect *Manfred Wagner*	9.00-9.50	**Keynote lecture 3** **(Chair: Antonio Guerrero)** Rheology of complex macromolecules: relating their composition to their viscoelastic properties *Evelyne van Ruymbeke*
	Applications (Polymers and Biopolymers) **(Chair: Evelyne van Ruymbeke)**		**Multiphase Systems** **(Chair: Hermínio Sousa)**
9.50-10.10	O15 Effect of the addition of trihexyl(tetradecyl) phosphonium bistriflamide to conventional plasticizers on the rheological properties of emulsion poly(vinyl chloride) plastisols *Sofia Marceneiro*	9.50-10.10	O23 A study of the effect of pressure on the viscosity of PS filled with conductive nanoparticles of different morphologies *Mercedes Fernandéz*
10.10-10.30	O16 Rheological properties of bio-based polyurethane wood adhesives *Adrian Tenorio*	10.10-10.30	O24 Flowability of type II cement pastes in the presence of polymeric additives *Graça Rasteiro*
10.30-10.50	O17 Linear viscoelasticity and microstructure of bioactive gels made from crayfish protein concentrate and hydrolysates *Manuel Félix*	10.30-10.50	O25 Study of rheological behaviour of stainless steel feedstock taking into account the thermal effects *Christian Kukla*
10.50-11.20	**Coffee Break**	10.50-11.20	**Coffee Break**
	Experimental Methods **(Chair: David Harbottle)**		**Applications (Cosmetic, Bitumen)** **(Chair: Filipe Antunes)**
11.20-11.40	O18 Utilisation of Optical Coherence Tomography in Rheological Characterisation of Montmorillonite Dispersions *Antti Koponen*	11.20-11.40	O26 Rheological properties and microstructure of a bitumen modified by phosphogypsum waste *Francisco Javier Navarro*
11.40-12.00	O19 Investigation of extensional flow behavior of food suspensions using the capillary breakup technique *Fabian Meyer*	11.40-12.00	O27 Evaluation of the stability of a novel w/o emulsion for topical administration using a rheological approach *Joana Marto*

September 8, 2015		September 9, 2015	
	Applications (Food) **(Chair: José Muñoz)**		**Modelling and simulation in rheology** **(Chair: Manfred Wagner)**
12.00-12.20	O20 Rheology and texture of liquid whey protein concentrates (LWPC) based gels: influence of the acidification process *Marta Henriques*	12.00-12.20	O28 A New Integral Viscoelastic Flow Solver in OpenFOAM® *Miguel Nóbrega*
12.20-12.40	O21 Soybean proteins as basis for the formation of superabsorbent materials *Carlos Bengoechea*	12.20-12.40	O29 Activation energy in particle suspensions *Francisco Rubio-Hernandez*
12.40-13.00	O22 Rheology of healthy bonbons with functional characteristics *Isabel Sousa*	12.40-13.00	O30 Understanding the Dispersion of Fillers in Polymer Matrices *Célio Fernandes*
13.00-15.00	**Lunch** **(SPR and GER meetings: 14:00)**	13.00-14.30	**Lunch**
15.00	**Conference Tour and Dinner**		**Miscellaneous** **(Chair: Miguel Nóbrega)**
		14:30-14:50	O31 Cell necklaces behave as a soft glassy material *Catarina Leal*
		14:50-15:10	O32 Asphaltene-stabilized emulsions: an interfacial rheology study *David Harbottle*
		15.10-16.30	**Poster session and** **Coffee break**
			Applications (Food) **(Chair: Francisco Rubio-Hernández)**
		16:30-16:50	O33 Rheological assessment of carolino rice flour gels for pasta making *Anabela Raymundo*
		16:50-17:10	O34 Formulation and processing of egg white protein-based nanobiocomposites *Isabel Dianez*
		17:10-17.30	O35 Evaluation of rheological properties in the prediction of shelf-life of reduced-fat chocolate fillings *João Dias*
		17.30-18.00	**Closing Ceremony** **Best Iberian PhD Thesis and Best Poster Awards**

POSTER SESSION I

Monday, September 7, 2015, 15:50 – 17:20

Applications: Food

P1 - Clara Tovar, Verónica Bargiela, Beatriz Herranz and Javier Borderías, "Effect of pressure treatment on the rheological properties of aqueous glucomannan dispersions at low deacetylation degree"

P2 – Verónica Bargiela, Helena M. Moreno, Beatriz Herranz, Javier Borderías and Clara Tovar, "Influence of frozen storage on the viscoelasticity of suwari gels made with pressurized flying fish (Parexocoetus brachyterus) surimi"

P3 – Maria Dolores Peres, "Thermo-rheological properties of chickpea flour gels"

P4 – Teresa Sanz and Ana Salvador, "Satiety of vegetable purees thickened with different hydrocolloids"

P5 – Rámon Moreira , Francisco Chenlo and Santiago Arufe, "Determination of Melting Points of Amylose-Lipid Complexes and Amylose in Gluten Free Flour Doughs by DMTA"

P6 – Santiago Arufe, Silvia Rubinos, Francisco Chenlo and Ramón Moreira,"Rheological Properties of White, Yellow and Purple Maize Flour Doughs"

P7 – Mara Pereira, Carla Graça, Sara Alves, Luís Raimundo, Anabela Raymundo and Isabel Sousa, "Rheology of complex food emulsions with vegetable and animal proteins"

Applications: Polymers and Biopolymers

P17 – Miguel Hermida, Francisco López-Suevos, Beatriz Lagares, Ramón Moreira, Francisco Chenlo and Santiago Arufe, "Thermo-rheological properties of polyvinyl acetate based adhesives films"

P18 – Harshal Diliprao Santan, Inmaculada Martínez, Concepcion Valencia, María Del Carmen Sánchez and Jose Maria Franco, "Synthesis and Rheological Properties of Castor Oil-Based Solvent Free Adhesives"

P19 – José Enrique Martín-Alfonso, Concepción Valencia and José María Franco, "Influence of EVA concentration and vegetable oil on the rheology, tribology and microstructure of oleogels for lubricant purposes"

P20 – José Enrique Martín-Alfonso, Concepción Valencia and Mats Stading, "Shear and extensional rheology of xanthan and guar gum solutions"

Applications: Miscellaneous

P25 – Maria Pilar Aguilar, María Jesús Hernández and Margarita San Andrés, “Comparison of the rheological properties of artists' oil -based mediums manufactured by Natural Pigments and Winsor and Newton”

P26 – Avido Yuliestyan, Antonio Abad Cuadri Vega, Moises Garcia Morales and Pedro Partal Lopez, “Understanding the role of EVA in the rheological properties of EVA modified bitumen for lower temperature application”

P27 – Victoria Martín, Amparo Nacher, Octavio Díez-Sales and María Jesús Hernández, “Elaboration and characterisation of Baicalin gels”

Experimental Methods

P30 – Pablo Ramírez Del Amo, Aurora Lucas Curado, José Antonio Carmona, José Muñoz García and Nuria Calero Romero, “Small and large amplitude oscillatory shear measurements of Advanced Performance xanthan gum solutions. Effect of xanthan gum concentration”

P31 – Abel Ferreira, Ana Egas, Ana Costa and Danielly Abreu, “Correlation of glycerol viscosity with temperature”

P32 – Carlos Gracia Fernandez, Silvia Gómez Barreiro, Ramón Artiaga and Jorge López Beceiro, “Rheological Implementation of the Heating by Joule Effect in Conductive liquids. Application in the thermosets curing”

Microrheology

P38 - Joana A. C. Calejo, Valdemar Garcia and Carla S. Fernandes, “Laminar blood flow in stenotic microchannels”

Modelling and Simulation in Rheology

P39 – Ioana Stanciu, “Viscosity-temperature relationships for concentrated solutions”

Multiphase Systems

P40 – Ana Ares, Laura Arboleda-Clemente, Xoán García and María José Abad, “Enhanced thermal conductivity of rheologically percolated polyamide 12/poliamide 6/multiwalled carbon nanotubes composites”

P41 - Luís Baltazar, Fernando Henriques, Tiago Cardoso and Maria Teresa Cidade, “Wall slip on rheological measurements of injection grouts”

P42 – Francisco J. Sánchez-Luque, José Francisco Velázquez-Navarro, Francisco J. Rubio-Hernández, Ana I. Gómez-Merino and Nicolás Páez, “Rheological behavior of kaolin dispersions in a non-Newtonian fluid”

Product Formulation

P45 – María Dolores Alvarez, Raúl Fuentes, Beatriz Herranz, Francisco Cuesta and Wenceslao Canet, “Rheological properties of muffin batter reformulated with chickpea flour”

P46 – Claudia Roman, Antonio A. Cuadri-Vega, Moises García-Morales, Pedro Partal-López, Francisco J. Navarro Domínguez and Francisco J. Martínez-Boza, “Viscous flow behavior of polyethylene modified bitumen emulsions”

P47 – Maria Eugenia Muñoz, Itxaso Calafel, Antxon Santamaría, Miquel Boix, J. Ignacio Conde and Belén Pascual, “Autoplasticised PVC using the strategy of PVC/PBA copolymers: Rheology and microstructure”

POSTER SESSION II

Wednesday, September 9, 2015, 15:10 – 16:30

Applications: Food

P8 – Diana Narciso, Patrícia Fradinho, Isabel Sousa and Anabela Raymundo, “Development of a gluten-free mix for pizza base – rheological approach”

P9 – Manuel Muñoz, Alfonso Sánchez, María Jesús Hernández and José Antonio Picó, “Rheological study on slimming custards and milkshakes”

P10 – Elvira García-López, José Francisco Velázquez-Navarro, Julia Rubio-Merino, Francisco J. Rubio-Hernández and Ana Isabel Gómez-Merino, “Rheological study on the Gofio/Aloe Vera juice system”

P11 - Alejandro J. Pazmiño-Rentería, Leonardo Goyos-Pérez, Reinaldo Delgado-García, Francisco J. Rubio-Hernández, Nicolás M. Páez-Flor, Luis Carrión-Matamoros and Ana I. Gómez-Merino, “Thermo-mechanical behavior of vegetable oils at very high shear rates”

P12 – F. Gloria Gómez-Merino, Juan Jiménez-Delgado, Julia Rubio-Merino, Nicolás M. Páez-Flor, Francisco J. Rubio-Hernández and Ana I. Gómez-Merino, “Rheological characteristics of chia - flaxseed composite paste”

P13 – Nuno Alvarenga, Bruno Nunes, Nuno Burrica, Bárbara Candeias, Neide Loução, João Dias and Maria João Carvalho, “Acorn bread development – texture characterization”

P14 – F. Gloria Gómez-Merino, Juan M. Jiménez-Delgado, Julia Rubio-Merino, Nicolás M. Páez-Flor, Francisco J. Rubio-Hernández, Ana I. Gómez-Merino and J. Aguiar, “Effect of chia flour addition on rheological behaviour of quinoa flour dough”

P15 – Nuno Alvarenga, Sara Nunes, Manuela Costa, Carlos Ribeiro and Maria João Carvalho, “Influence of Modified Atmosphere Packing in texture of a typical Portuguese whey cheese cake “queijadas””

P16 – João Dias, Nuno Alvarenga and Isabel de Sousa, “Effect of hydrocolloids on the rheological properties of reduced-fat chocolate fillings”

Applications: Polymers and Biopolymers

P21 – Adrián Tenorio Alfonso, Maria Luz Pizarro Hierro, Mª Carmen Sánchez Carrillo and José María Franco Gómez, “Performance of a novel wood bioadhesive based on HMDI-modified cellulose acetate and castor oil: a comparative study with commercial adhesives”

P22 – Victor Manuel Pérez Puyana, Manuel Félix, Alberto Romero and Antonio Guerrero, “Protein-based bioplastics from plant or animal sources processed by injection moulding”

P23 – Judith A. Piermaría, Carlos Bengoechea Ruiz, Analía G. Abraham and Antonio Guerrero, “Rheological properties of kefiran compared to other neutral gums”

P24 – Anabela Simões, Cláudia Duarte, Isabel Lopes and Filipe Antunes, “Dependence of the architecture of hydrophobically modified polycations on their rheological properties”

Applications: Miscellaneous

P28 – Joana Marto, Sérgio Silva, Filipe Antunes, Luís Gouveia, Alberto Pais, Eduardo Oliveira, António Almeida and Helena Ribeiro, “Starch-based innovative topical formulations: rheological and thermoanalytical preformulation studies”

P29 - André Pereira, Rui Micaelo, Luís Quaresma and Maria Teresa Cidade, “Assessment of the fatigue resistance of asphalt binders”

Experimental Methods

P33 – Maria Graca Rasteiro, Raquel Costa, Rita Garrido, David Hunkeler, Manuel Banobre and Anita Lourenço, “Characterization of polyelectrolytes through dilution viscometry”

P34 – Maria Costa, Sérgio Silva and Filipe Antunes, “Adjusting the low critical solution temperature of poly(N-isopropylacrylamide) solutions by salts: A rheological study”

Interfacial Rheology

P35 – Manuel Felix, Alberto Romero Garcia, Jan Vermant and Antonio Guerrero Conejo, “Rheological characterisation of low denatured crayfish protein concentrate in a fluid interface”

P36 – Mercedes Fernandez, Leire Sangroniz, Jordana Palacios, Antxon Santamaria and Alejandro Muller, “Emulsion-like and suspension-like interfaces in PP/PA blends and PP/PA/NS blend nanocomposites”

P37 – Luis Alfonso Trujillo Cayado, Pablo Ramírez Del Amo, Mªcarmen Alfaro, Manuela Ruiz and José Muñoz García, “Interfacial rheology at the alfa-pinene/water interface and emulsifying properties of two eco-friendly surfactants”

Multiphase Systems

P43 – Tomas Rosén, Minh Do-Quanga, Cyrus Aidun and Fredrik Lundell, “Rheological implications of the orientational dynamics of a single spheroid in simple shear flow due to inertia”

P44 - M. José Martín-Piñero, Luis Alfonso Trujillo-Cayado, M. Carmen García, M.Carmen Alfaro and José Muñoz, “Rheological characterization of green emulsions developed with several emulsification methods”

Product Formulation

P48 – Antonio Abad Cuadri, Claudia Roman, Levgenii Liashenko, Moises Garcia-Morales, Inmaculada Martínez and Pedro Partal, “Improving the rheological performance of bituminous mastics by LDPE and SBS modification”

P49 - Luis Alfonso Trujillo Cayado, María Carmen Alfaro Rodríguez and José Muñoz García, “Stability and rheology of ecological submicron emulsions as influenced by dispersed phase concentration”

P50 – Nuria Calero, Jenifer Santos and Jose Muñoz, “Influence of homogenization rate on the rheology and stability of emulsions formulated with a mixture of green solvents”