

**Monday 8 March**

- 08 h 00** Welcome / Poster installation / Registration
- 09 h 00** **Opening Ceremony**
- 10 h 30** **Break**
- 11 h 00** **Plenary lecture**  
**The importance of Engineering for Competitiveness in the Food Industry.**  
 Prof. Werner Bauer, Nestlé S.A., Executive Vice President, Technical, Production and R&D, Vevey, Switzerland
- 11 h 45** **Plenary lecture**  
**Designing Food Processing Systems for Long-Duration Space Explorations.**  
 Prof. R. Paul Singh - University Davis, USA
- 12 h 30** **Lunch**
- 14 h 00** **Plenary lecture**  
**Emerging Technologies: Challenges and Opportunities.**  
 Prof. D. Knorr, Berlin University of Technology, Germany
- 15 h 00** ***The gelation process, a rheological point of view***
- 15 h 00** 18  
 Characterisation of alginate gels using quasi-static and dynamic methods.  
 Moresi M., Bruno M.
- 15 h 20** 491  
 Gelation kinetics of low methoxy pectins induced by controlled calcium release.  
 Ström A., Lundin L., Williams M.A.K.
- 15 h 40** 678  
 Gelation behaviour of aqueous solutions of different types of carrageenan investigated by low-intensity-ultrasound measurements.  
 Wang Q., Rademacher B., Sedlmeyer F., Kulozik U.
- 16 h 00** 706  
 Influence of defined shear treatment on the gel-properties of skim milk concentrates during renneting.  
 Kornbrust B., Windhab E.J., Stalder M.
- 16 h 20** 933  
 Linking consumer response to process design. I. Linking consumer response to rheological behaviour.  
 Rizzieri R., Martin F.L., Fryer P.J., Barigou M., Simmons M.J.H., Jossic L., Taylor A.J.
- 16 h 40** **Break**
- 17 h 10** **Other Parallel Oral Sessions**
- 17 h 10** ***Poster Session: Rheology***
- 10  
 Effect of three sweet dough bread formula ingredients added to different kinds of wheat flour on rheological characteristics of dough.  
 Calderón-Domínguez G., De La Vega-Ruiz G., Farrera-Rebollo R., Sánchez-Pardo M.E., Duque-Rodríguez L.
- 12  
 Changes on rheological properties and water activity of a wheat dough due to formula ingredient concentration.  
 Calderón-Domínguez G., De-Jesús-Pineda G., Escobedo-Romero J., Farrera-Rebollo R.

15

Viscous of sodium caseinate dispersions and glass transition of their films.  
Khwaldia K., Banon S., Desobry S.

63

Rheological properties and release characteristics of polysaccharide gels  
with embedded w/o/w multiple emulsion .  
Weiß J., Scherze I., Muschiolik G., Bindrich U.

93

Milk protein gels - stabilizing bonds and texture properties.  
Keim S., Hinrichs J.

110

Extensional viscosity of acidified whey proteins isolated gels .  
Cavallieri A.L.F., Costa-Netto P., Menossi M., Cunha R.L.

111

Physical and rheological properties of a salad dressing elaborated with avocado pulp.  
Iturbe-Beddoe G., Vélez-Ruiz J.F., Sosa-Morales M.E.

120

A novel method to measure viscosity and viscoelasticity of liquid food  
by a non-rotational concentric cylinder setup.  
Suzuki K., Hagura Y.

125

The rheology and particle size of milk concentrate in industrial falling-film evaporators.  
Croy R.J., Trinh K.T., Chen H., Hemar Y.

130

Effect of heater design and operation during heating on the rheology of whole milk concentrate.  
Trinh K.T., Trinh B., Cyril R., Wilkinson B

131

Effect of shear during recombination of time-dependent food products.  
Trinh B., Haisman D., Trinh K.T., Prankerd B.

140

Characterisation of tie-lines of the mixed system Maltodextrin/Agarose using rheology and FTIR.  
Loret C., Schumm S., Frith W.J., Fryer P.J.

191

Formation of acidified milk /pectin co-gels.  
Kouame F., Marchesseau S., Cuq J.-L., Lagaude A.

248

Determination of the firmness on hake fillets during storage, using stereoscopy technique.  
Quevedo R., Ríos D.

290

Sucrose effect on rheological behavior of amaranth starch.  
Pereira L.B., Menegalli F.C.

291

Mechanical properties of acidified sodium caseinate - LBG gels.  
Perrechil F.A., Braga A.L.M., Cunha R.L.

292

The effect of annealing temperature and sucrose addition on rheological behaviour of xanthan solutions.  
Braga A.L.M., Cunha R.L.

317

Effect of protein interactions on the water binding behavior for gels of milk proteins-sucrose-carrageenan.  
Takeuchi K.P., Costa-Netto A.P., Menossi M., Cunha R.L.

331

Rheological behaviour of crude palm oil.  
Couri S., Cabral L.M.C., Lago R.C.A., Freitas S.P.

333

Influence of sucrose on the thermal denaturation and gelation of egg albumen.

Christ D., Takeuchi K.P., Cunha R.L.

353

Influence of sucrose and KCl/ NaCl on mechanical properties of acid milk gel formed with k-carrageenan.

Sabadini E., Hubinger M.D., Cunha R.L.

407

Rheological behaviour of five commercial Gazpacho brands.

Angós I.A., Fernández T.

408

Sodium Caseinate addition effect on the thixotropy of stirred yogurt .

Collet L.S.F.C.A., Tadini C.C.

464

Simultaneous measurement of consistency and diffusivities of power law liquid food products.

Nikolova R., Nikov I., Beschkov V., Maingonnat J.-F.

498

Comparison between rheological measurements and numerical simulations in a scraper rheometer.

Benkhefila H., Alvarez G., Flick D.

558

Study of rheological behaviour of seafood cream, potato cream and vegetal butter.

Alvarez E., Cancela M.A., Maceiras R.

569

Effects of hydrocolloids on pasting properties and texture of corn and waxy corn starch gels.

Weber F.H., Collares F.P., Chang Y.K.

627

Rheological measurements under unsteady temperature conditions applied to starch based products.

Alvarez G., Lagarrigue S., Ude M., Leducq D., Schmitt L., Flick D.

696

Relating sensory spreadability to rheological properties of semi-solid foods.

Di Monaco R., Cavella S., Masi P.

709

Viscoelastic properties of some Polish commercial soft cheeses.

Juszczak L., Witczak M., Fortuna T.

710

Effect of temperature and soluble solids content on viscosity of black chokeberry and raspberry juices.

Juszczak L., Fortuna T.

711

Rheological behaviour of Polish honey varieties.

Juszczak L., Fortuna T.

712

Viscoelastic properties of potato starch/maltodextrin blends.

Juszczak L., Witczak M., Fortuna T.

720

Electrical conductivity, differential scanning calorimetry,  
and viscosity of potato starch suspension during gelatinization: Effect of additives.

Chaiwanichsiri S., Miyawaki O., Suzuki T.

730

Rheological characterization of soy protein-pectin mixtures to be used in the production of edible coating.

Piazza L., Marascio P.

735

Improve and understand the milk gel formation with a pH reversible carbon dioxide treatment.

Guillaume C., Cuq J.-L., Lagaude A., Marchesseau S.

748

Rheological profile of starch pastes from different maize varieties.

Aparicio-Saguilán A., Méndez-Montealvo G., Solorza-Feria J., Bello-Pérez A.

749

Viscoamilography of starch pastes from maize hybrids and its relationship with swelling and solubility.

Pérez-Román G., Méndez-Montealvo G., Solorza-Feria J., Bello-Pérez A., Flores-Huicochea E.

814

The effect of the ageing of soy protein isolates on the properties of the gel.

Motta E.M.P., Braga A.L.M., Santos-Zago L.F., Netto F.M.

830

Effect of xanthan on a white model-sauce rheology and structure.

Mandala I.G., Savvas T.P., Kostaropoulos A.E.

880

Effects of ultrasonic processing on rheology of fluids.

Farrell G., Mc Minn W.A.M., Magee T.R.A

882

Rheological characterization of some insoluble fruit fiber suspensions.

Córdoba A., Camacho M.M., Martínez-Navarrete N., Chiralt A.

944

Prediction of loaf volume of organic breads using rheological properties of undeveloped dough or extracted wheat protein gel.

Stojceska V., Butler F., Gallagher E., Keehan D.

**18 h 30**

End of the Day

## Tuesday 9 March

- 08 h 30**      **Plenary lecture**  
**Food Process Engineering for the purpose of tailored microstructure, rheology and related product characteristics**  
 Prof. Dr.-Ing. Erich J. Windhab - Swiss Federal Institute of Technology, Zurich, Switzerland
- 09 h 20**      **Presentation of ISFE**  
**G. Barbosa Canovas**
- 09 h 30**      *Visualisation, characterisation of foam and emulsion*
- 09 h 30**      40  
 Automatic stability analyses for food dispersions.  
 Buron H., Brunel L., Snabre P.
- 09 h 50**      508  
 Drop size distributions from mayonnaise production in small scale.  
 Mason S.L., Jacobsen C., Adler-Nissen J.
- 10 h 10**      697  
 Investigation and visualization of droplet deformation and breakup in complex laminar flow fields.  
 Kaufmann S.F.M., Feigl K., Fischer P., Windhab E.J.
- 10 h 30**      956  
 Imaging the freezing of droplets of emulsions using MRI.  
 Johns M.L., Hindmarsh J.P., Wilson D.I.
- 10 h 50**      **Break**
- 11 h 20**      *Engineering of micro and nano emulsions*
- 11 h 20**      180  
 Formation and characterization of biocompatible O/W nanoemulsions composed of fatty acid and glycerin fatty acid ester.  
 Matsuzaki A., Ichikawa S., Nakajima M., Mukataka S.
- 11 h 50**      610  
 Characterization and scale-up of straight-through microchannel emulsification for high throughput of monodisperse emulsions.  
 Kobayashi I., Nakajima M., Mukataka S.
- 12 h 10**      721  
 Preparation of gelatin microcapsules using microchannel emulsification.  
 Nakagawa K., Iwamoto S., Nakajima M., Shono A., Satoh K.
- 12 h 30**      **Lunch**
- 14 h 00**      **Plenary lecture**  
**Computers and processes engineering in food manufacturing : promises, challenges and realities. A subjective point of view**  
 P. Escure, P. Cornillon, A. Genovesi, A. Pajonk - Danone Vitapole, Palaiseau, France
- 15 h 00**      **Other Parallel Oral Sessions**
- 15 h 00**      *Poster Session: Emulsions*
- 80  
 Effects of lecithin addition and fat crystallinity on physical stability of emulsions based on whey proteins.  
 Dauphas P., Relkin P.

113

Physical, chemical and rheological properties of Italian type salad dressing elaborated with soybean oil.  
Pérez-Herrera P., Vélez-Ruiz J.F., Sosa-Morales M.E.

132

Influence of formulation and process parameters on foam properties.  
Balerin C., Aymard P., Vaslin S., Ducept F., Cuvelier G.

144

Transitional phase inversion hysteresis in agitated vegetable oil emulsion containing non-ionic surfactant .  
Catté M., Aubry J.M., Leuliet J.C., Delaplace G., Maingonnat J.-F., Van Hecke E.

153

Effect of wall to core material ratio and of W/O/W multiple emulsion solids content on the morphology and carotenoids efficiency retention of spray-dried microcapsules.

Rodríguez-Huezo M.E., Prado-Barragán L.A., Pedroza-Islas R., Beristain C.I., Vernon-Carter E.J.

155

Foaming and emulsifying properties of enzymatic protein hydrolysates from mero muscle (Epinephelus morio).

Hernández-Rodríguez B., Huerta-Ochoa S., Vernon-Carter E.J., Prado-Barragán L.A.

157

Functional characterization of enzymatic peptidic fractions from Gold carp (Carassius auratus) by-products.

Estrada-Corona P., Favela-Torres E., Huerta-Ochoa S., Prado-Barragán L.A.

211

Use of emulsion of cassava starch and waxes as a post harvest technique for papaya.

Ramos A.L.D., Lima A.S., Marcellini P.S., Cordeiro C.E.O., Batista R.A., Faraoni A.S

259

Influence of polysaccharides on the rheological characteristics and stability of low-in-fat O/W emulsions.

Quintana M., Califano A.N., Zaritzkya N.

279

A rapid method for determination of coconut milk emulsion stability.

Soler M.P., Schmidt F.L., Vitali A.A., Hashimoto J.M., Martins R.S., Halla L.Z.

341

Thermal denaturation of egg yolk proteins and its influence on egg yolk's emulsifying properties in oil-in-water emulsions .

Guilmineau F., Kulozik U.

415

Influence of solutes and surfactants on the stability of bubble nuclei and the spontaneous bubble formation in carbonated beverages.

Weikl D., Sommer K.

430

Emulsification in high pressure homogenizers equipped with improved orifice valves.

Freudig B., Aguilar P., Freddy A., Schubert H.

928

Processing and formulation effects on the structural and rheological build-up of ice cream.

Chávez-Montes E.B., Choplin L., Schaer E.

16 h 50

**Break**

17 h 10

***Modelling and characterisation***

17 h 10

44

Small and large strain rheology of heated starch dispersions.

Genovese D.B., Meng Y., Rao M.A.

17 h 30

402

Mathematical modelling of viscosity near the glass transition: the random-walk approach.

Quintas M., Brandão T.R.S., Silva C.L.M., Cunha R.L.

**ICEF 9****Session: Processing and characterisation of structured polyphasic systems****17 h 50**

576

Dynamic and quasi-static rheological characteristics of olive oil-monoglyceride aggregate structures.

Ojijo N.K.O., Neeman I., Eger S., Shimoni E.

**18 h 10**

659

Spectra of relaxation times of wheat flour doughs and their proteins: molecular origins and measurement.

Bekedam K., Chambon L., Ashokan B.K., Dogan H., Moraru C.I., Kokini J.L.

**18 h 30**

693

Rheological properties of bread dough and bubble growth during fermentation.

Della valle G., Bonny J.M., Devaux M.F., Marion D., Renou J.P., Rouille J., Van Vliet T.

**18 h 50**

End of the day

**21 h 00****Concert for Voices and Organ**

## Wednesday 10 March

- 08 h 30**      **Plenary lecture**  
**Active packaging for food processing and preservation**  
 Prof. Nathalie Gontard, Montpellier University II, France
- 09 h 30**      ***Poster Session: Powder technologies and engineering***
- 90  
 Comparison of the flowability of dairy powders and implications for silo design.  
 Fitzpatrick J.J., Iqbal T., Barry K., Delaney C.
- 262  
 Changes in color and microscopic structure of chocolate powder submit to agglomeration process.  
 Vissotto F.Z., Anjos V.D.A., Paula D.C., Oliveira S.J.R.
- 427  
 Morphological characterization of agglomerates during fluidised-bed agglomeration.  
 Turchiuli C., Eloualia Z., Dumoulin E.
- 428  
 Comparison of thermal decontamination of dry wheat flour by microwaves, infrared radiation and water steam treatment.  
 Turchiuli C., Bouaouina H., Trystram G., Vasseur J., Bechaz C.
- 679  
 Comparative thermal destruction of dried vegetative cells and spores using a new HTST process.  
 Fine F., Gervais P.
- 700  
 Coupled system of mechanical properties and acoustic emission measurements for crispness evaluation of non cohesive solid foods.  
 Chaunier L., Courcoux P., Della Valle G., Lourdin D.
- 876  
 Powder size and composition effects on electrostatic and nonelectrostatic powder coating.  
 Ratanatriwong P., Barringer S.A.
- 914  
 Impact of glass transition of amorphous components on the agglomeration of food powders.  
 Palzer S.
- 09 h 30**      ***The extrusion process***
- 09 h 30**      166  
 Viscous properties of ready-to-eat breakfast cereal for extrusion cooking.  
 Sandoval A.J., Della Valle G., Nuñez M.
- 09 h 50**      395  
 Magnetic resonance imaging studies of biscuit dough extrusion.  
 Barnes E., Wilson D.I., Hubbard A., Johns M.L.
- 10 h 10**      660  
 Evaluation of the variability of the WLF constants of extruded soy flour with the extent of cooking.  
 Ashokan B.K., Kokini J.L.
- 10 h 30**      917  
 Physical properties of snack products produced by extrusion cooking.  
 Ikonen J., Talja R.A., Heljakka S., Keisteri T., Mäkinen T., Jouppila K., Hyvönen L.
- 10 h 50**      **Break**
- 11 h 20**      ***Poster Session: Structure and structuration of food***
- 81  
 Effects of milk protein types on structural properties of ice cream systems.  
 Sourdet S., Relkin P., Goff H.D., Fosseux P.Y.



- 179  
Bubble formation in liquid tempered chocolate by applying vacuum.  
Haedelt J., Niranjana K., Pyle L., Beckett S.T.
- 181  
Structure change detection of foodstuffs during a texturization process.  
Guérin R., Delaplace G., Leuliet J.C., Lebouché M.
- 198  
Texture, microstructure and sensory acceptance of osmotically dehydrated guavas in sucrose solutions with calcium salts.  
Pereira L.M., Carmello-Guerreiro S.M., Cunha R.L., Hubinger M.D.
- 212  
The influence of lipids on dough development during mixing and fermentation process.  
Romano A., Bencivenga S., Cavella S., Toraldo G., Masi P.
- 877  
Use of a laboratory mixing bioreactor in order to study the influence of the addition of exogenous lipases and phospholipases on the oxygen consumption by wheat flour dough during mixing.  
Manceau E., Rakotozafy L., Néron S., Potus J., Baret J.-L., Nicolas J.
- 271  
Optimizing quality characteristics of yoghurt with ultrasound.  
Jiménez M.T., López-Malo A., Argáiz A., Hernandez J.
- 316  
Structural and ultrastructural changes in the epicarp of blueberry by blanching, freezing, and ultrasound.  
Fava J., Castro M.A., Alzamora S.M.
- 419  
Development and characterization of the cellular structure of sponge cereal products.  
Lassoued N., Della Valle G., Launay B., Lourdin D., Michon C.
- 897  
Effect of gums and whey protein on stress relaxation characteristics of low-fat chicken sausages.  
Andrés S.C., Zaritzky N.E., Califano A.N.
- 487  
Grain conditioning for dehulling of beans.  
Hernández-Rodríguez J.V., Delgado E., Rocha N., Gallegos-Infante J.A., Sierra M.L.
- 514  
Structural investigation of passion fruit juice co-crystallized with sucrose.  
Telis V.R.N., Astolfi-Filho Z., Sobral P.J.A.
- 515  
Optimizing restructuring process of concentrated pineapple pulp using Response Surface Methodology.  
Grizotto R.K., Bruns R.E., Aguirre J.M., Menezes H.C.
- 531  
Structural characteristics of starches from different tropical species .  
Franco C.M.L., Peroni F.H.G.
- 535  
Darcy permeability of food tissues.  
Datta A.K.
- 551  
Influence of the rheological properties and the raw materials on the growth and shrinkage of the foodstuffs at the die in the extrusion-cooking process.  
Arhaliass A., Bouvier J.M., Legrand J., Lamer T., Fodil-Pacha F.
- 566  
Using of different emulsifiers for fatty flour extrusion .  
De Pilli T., Derossi A., Giuliani R., Severini C.
- 597  
Influence of operating conditions on the microstructure of custard.  
Tissier J.P.

677

Structural characteristics of mushroom and evolution during the canning process: impact on the final quality and yield.

Lomas C., Sanz S., Olarte C., Portu J.

685

X-ray tomography investigations of low hydrated molten starches. Relationships between the process, the structure and the properties.

Babin P., Della Valle G., Dendievel R., Salvo L.

701

Mechanical behaviour of extruded corn flour explained by starch-zein blends structure.

Chanvrier H., Della Valle G., Lourdin D.

808

A Novel approach to the study of the bread porous structure: x-ray micro-tomography.

Falcone P.M., Del Nobile M.A., Baiano A., Zanini F., Mancini L., Tromba G., Montanari F.

412

Microstructure, mechanical and barrier properties of composite chitosan and methylcellulose biofilms.

Garcia M.A., Pinotti A., Martino M.N., Zaritzky N.

817

The effects of high intensity ultrasound on foam structure.

Lim K.S., Barigou M.

821

Effect of pectin and wheat fibers on the expansion and structure of extruded corn starch.

Yanniotis S., Petraki A., Soumpasi E.

852

Functional and anti-nutritional properties of three varieties of extruded common beans.

Castillo-Antonio P.A., Rocha-Guzmán N.E., Gallegos-Infante J.A., González-Laredo R.F., Ibarra-Pérez F.

926

Development of a digital video-microscopy technique to study lactose crystallization kinetics in situ.

Arellano M.P., Aguilera J.M., Bouchon P.

11 h 20

### ***Mixing***

11 h 20

213

A lattice model for the mechanical aspects of wheat's endosperm.

Mabille F., Brendel L., Radjai F., Abecassis J.

11 h 40

527

Mixing and gas dispersion in food materials using flat-bladed impellers: influence of impeller geometry and highly shear-thinning behaviour.

Thakur R.K., Vial C., Djelveh G., Labbafi M.

12 h 00

621

Rheological properties of hsian-tsaio leaf gum / polysaccharide gum mixed systems.

Lai L.S., Lin P.C.

12 h 20

### **Lunch**

14 h 00

### **Plenary lecture**

#### **Predictive microbiology of foods: past, present and future.**

Prof. Jan van Impe, University of Louvain, Belgium

15 h 00

### ***Powder technologies and engineering***

15 h 00

38

Instant properties of agglomerated food powders.

Pohl M., Hoge Kamp S., Mandac A., Schubert H.

15 h 20

89

Research challenges and opportunities in the production, handling and processing of food powders.

Fitzpatrick J.J., Ahrné L.

- 15 h 40** 118  
Simultaneous heat and moisture transport modeling in solid food packed-bed reactors with emphasis to flavor generation.  
Grammatika M., Fryer P.J., Taylor A.J.
- 16 h 00** 493  
Determination of the stress distribution in a specially instrumented roll press during powder compaction.  
Herold D.J., Sommer K.
- 16 h 20** 595  
Comparative drying behaviour of a granulated product when submitted to hot air, fluidised bed and microwave processes.  
Berteli M.N., Marsaioli Jr. A.
- 16 h 40** **Break**
- 17 h 20** ***Poster session: Mixing***
- 177  
Steady and dynamic shearing of fresh and frozen potato puree (cv. Spunta) at different temperatures.  
Fernández C., Alvarez M.D., Canet W.
- 772  
Evaluation of the thermo-mechanical inputs during batch mixing of gluten/glycerol blend. .  
Barreau L., Redl A., Cuq B., Pujol R., Morel M.H.
- 17 h 20** ***Microstructure***
- 17 h 20** 33  
Prediction of pores in foods during processing: from regression to knowledge development from data mining (KDD) approach.  
Rahman M.S.
- 17 h 40** 816  
X-ray micro-computed tomography of aerated cellular food products.  
Lim K.S., Barigou M.
- 18 h 00** 510  
Microstructural changes of fungal food pastes as a function of processing.  
Miri T., Cox P.W., Barigou M., Fryer P.J.
- 18 h 20** 443  
The effect of freezing on the rheology and microstructure of myco-protein pastes.  
Mousavi R., Miri T., Barigou M., Cox P.W., Fryer P.J.
- 18 h 40** End of the day
- 19 h 00** **Gala Dinner**

**Thursday 11 March**

- 08 h 30**      **Plenary lecture**  
**Food Engineering and Processing in Southern Africa - A Double Agenda**  
Andrew Murray, Consulting Food Processes and Projects Engineer, South Africa
- 09 h 30**      *Visualisation and understanding of food structure*
- 09 h 30**      671  
Kumara (Ipomoea batatas L) texture change mechanism.  
Canumir-Veas J.A, Bronlund J.E., Mawson A.J., Parker M.E.
- 09 h 50**      704  
Development of the three-dimensional spectral imaging system (3D-SIS) for the visualization of the internal structure and constituent distribution of food.  
Tsuta M., Suzuki T., Sugiyama J., Nakauchi S., Sagara Y.
- 10 h 10**      723  
Precision control of the surface structure of gelatin gel films using micropit array.  
Iwamoto S., Nakajima M., Kikuchi Y., Nabetani H.
- 10 h 30**      801  
An effective property for the formulation of a freeze-dried food ingredient : Glass transition or collapse ?  
Fonseca F., Passot S., Marin M.
- 10 h 50**      **Break**
- 11 h 25**      **Concluding remarks**  
Prof. Helmar Schubert, Karlsruhe University, Germany  
Scientific President of the Congress
- 12 h 30**      **Lunch**
- 14 h 00**      **Laboratories and Industrials Visites (Technical Tours)**