ICEF11 PROGRAM

May 22-26, 2011
Athens, Greece

SUNDAY MAY 22nd	
13:00-21:00	**Registration**
14:00	**IAEF delegates Meeting**
18:00	**Conference Opening**
	Food Process Engineering Research and Innovation in a Changing World (I H. Schubert, H.P. Schuchmann *Karlsruhe Institute of Technology (KIT), Institute of Engineering in Life Sciences, Germany*
	Food Process Engineering and Product Innovation in a Changing World - the Industry Perspective J.P. Clark
	IAEF Life Achievement Awards Ceremony
20:30	**WELCOME RECEPTION**

Monday, May 23rd

08:00 -19:00	Registration desk open

Monday, May 23rd	08:15-10:30
Session 1 (Parallel): Micro- and nano- sciences and technology -I- (FMS 6a)	
Room Terpsichore (A)	
Chairs: Kokini,	
08:15-	**Advances in Nanotechnology as Applied to Food Systems (FMS 1107)** **J.L. Kokini** *University of Illinois, USA*
	Molecular encapsulation of citral or d-limonene flavor by spray drying (FMS577) **H. Yoshii[c]**, C. Yamamoto[a], T. Furuta[b], T. Loon Neoh[c] *[a]United Graduate School of Agricultural Sciences, Ehime University, Japan, [b]Department of Biotechnology, Tottori University, Japan, [c]Department of Applied Biological Science, Kagawa University, Japan*
	Modelling of plant tissue microstructure for Finite Element Method (FMS301) P. Mariusz Pieczywek[a], A. Zduneka, M. Umeda[b] *[a]Department of Microstructure and Mechanics of Biomaterials, Institute of Agrophysics, Poland, [b]Laboratory of Field Robotics, Division of Environmental Science and Technology Japan*
	Preparation of protein particles for high protein foods using two-step emulsification (FMS348) **D. Sağlam[a,b]**, P. Venema[a,b],, R. de Vries[b,c], L.M.C. Sagis[a], E. van der Linden[a] *[a]Department of Agrotechnology and Food Sciences, Wageningen University, The Netherlands, [b]Top Institute Food & Nutrition, The Netherlands, [c]Laboratory of Physical Chemistry and Colloid Science, The Netherlands*
	Casein micelles on silicon micro-sieves studied by atomic force microscopy and light scattering (FMS487) R. Gebhardt[a], W. Holzmüller[a], Q. Zhong[b], P. Müller-Buschbaum[b], U. Kulozik[a,c] *[a]Technische Universität München, Chair for Food Process Engineering and Dairy Technology, Germany, [b]Technische Universität München, Physik-Department E13, Germany, [c]ZIEL Center of Nutrition and Food Research, Technology Section, Technische Universität München, Germany*
	Tracing changes of garlic bulbs stored at low temperature by MRI (FMS630) **N. Ishida[a]**, E. Niwata[b], H. Yamazaki[c] *[a]Faculty of Bioresources and Environmental Science, Ishikawa Prefectural University, Japan, [b]Institute of Vegetable Research, Aomori Prefectural Industry Research Center, Japan, [c]National Agricultural Research Center for Tohoku Region, National Agriculture and Food Research Organization (NARO), Japan*
	Developing nano-sized vehicles based on tailored polysaccharides produced by enzymatic synthesis (FMS697) **D. Semyonov[a], Eyal Shimoni** *[a]Faculty of Biotechnology and Food Engineering, Technion - Israel Institute of Technology, Israel*
-10:30	**Encapsulation of beta-carotene in solid lipid microparticles of stearic acid: evaluation of stability and microstructural aspects**

	(FMS95) G.V.L. Gomes[a], T.R. Borrin[a], I.A.S.Simplício[a], J.C.G. Tedesco[b], L.P. Cardoso[b], **S.C. Pinho[a]** *[a]Department of Food Engineering, University of Sao Paulo (USP), Brazil, [b]Department of Applied Physics, Institute of Physics "Gleb Wataghin", State University of Campinas (UNICAMP), Brazil*

Monday, May 23rd	**08:15-10:30**
Session 2 (Parallel): Mechanical properties of foods (EPF 1)	
Room Terpsichore (B)	
Chairs:	
08:15-	**Developing novel 3D measurement techniques and prediction method for food density determination (EPF1120)** S. Kelkar[a], S. Stella[a], C. Boushey[b], **Martin Okos[a]** *[a]Agricultural & Biological Engineering, Purdue University, USA, [b]Department of Foods & Nutrition, Purdue University, USA*
	A Composite Model for Wheat Flour Dough under Large Deformation (EPF351) **M.A.P. Mohammed**, E. Tarleton, M.N. Charalambides, J.G. Williams *Mechanical Engineering Department, Imperial College London, UK*
	Modelling deformation and fracture in confectionery wafers (EPF363) **I.K. Mohammed[a]**, M.N. Charalambides[a], J.G. Williams[a], J. Rasburn[b] *[a]Mechanical Engineering Department, Imperial College London, UK, [b]Nestec York Ltd., Nestlé Product Technology Centre, UK*
	Mechanical properties and microstructural changes during soaking of individual corn and quinoa breakfast flakes (EPF607) **W.T. Medina[a,e]**, A.A. de la Llera[b], J.L. Condori[c], J.M. Aguilera[a] *[a]Pontificia Universidad Católica de Chile, Chile, [b]School of Engineering and Applied Sciences, Harvard University, USA, [c]El Altiplano SAC Company, Peru, [d]Pontificia Universidad Católica de Chile, Chile, [e]School of Agroindustries, Universidad Nacional del Altiplano de Puno, Peru*
	Dimensional analysis of continuous foaming operation by whipping (EPF685) **G. Mary[a,b]**, S. Mezdour[a,b], R. Lauhon[a,b], G. Cuvelier[a,b], F. Ducept[a,b] *[a]AgroParisTech - Ingénierie Procédés Aliments, France, [b]INRA - Ingénierie Procédés Aliments, France*
	Supplementation of extruded foams with wheat bran: Effect on textural properties (EPF176) **F. Robin[a,b]**, C. Dubois[a], H.P. Schuchmann[b], S. Palzer[c] *[a]Nestlé Research Center, Switzerland, [b]Karlsruhe Institute of Technology, Germany, [c]Nestlé Product Technology Centre, UK*
	Impact of steaming conditions on the structure and on the properties of bread crust; in the case of a crispy roll (FMS780) A. Le-Bail[a,b,c], R. Del Carmen Altamirano Fortoul[d], T. Dessev[e], C. Rosell[d], D. Leray[f], T. Lucas[g], S. Chevallier[a,b,c], **V. Jury[a,b,c]** *[a]ONIRIS, UMR 6144 GEPEA CNRS, France, [b]CNRS, Nantes, France, [b]LUNAM Université Nantes Angers Le Mans, France, [d]Institute of Agrochemistry and Food Technology, CSIC Spain, [e]University of Food Technologies, Dpt. by Technology of grain, fodder, bread and confectionery products, Bulgaria, [f]CEMAGREF, Food Process Engineering Research Unit, France*
	Effect of processing on rheological, structural and sensory properties of apple puree (EPF785) **L. Espinosa[a,b]**, N. To[a,b], R. Symoneaux[c], C.M.G.C. Renard[d], N. Biau[e], G. Cuvelier[a,b] *[a]AgroParisTech, Ingénierie Procédés Aliments, France, [b]INRA, Ingénierie*

	Procédés Aliments, France, [c]Laboratoire GRAPPE- ESA, France, [d]Sécurité et Qualité des Produits d'Origine Végétale, INRA, Université d'Avignon et des Pays du Vaucluse, France, [e]Conserves France. Domaine du Grand Frigolet, France
-**10:30**	**Potential application of pre-processed whey protein isolate (WPI) for high protein food (EPF130)** **N. Purwanti[a,b]**, A. Moerkens[b], A. Jan van der Goot[b,a], R. Boom[b] *[a]Top Institute Food and Nutrition, Netherlands, [b]Food Process Engineering, Wageningen University, Netherlands*

Monday, May 23rd	**08:15-10:30**
Session 3 (Parallel): Modelling and simulation -I- (MCF 2)	
Room Erato	
Chairs: Ramaswamy, Bakalis	
8:15-	**Evaluation of heat transfer coefficients associated with thermal processing systems employed for commercial sterilization (MCF1194)** **H.S. Ramaswamy** *Department of Food Science and Agricultural Chemistry, Macdonald Campus of McGill University, Canada*
	Optimal shape design of bypass holding tubes configuration in asepting processing (MCF792) F. Sarghini[a], **A. Silano[b], P. Masi[b]** *[a]University of Naples Federico II – DIIAT, Italy, [b]University of Naples Federico II – CAISIAL, Italy*
	Study of laminar mixing in kenics static mixer by using positron emission particle tracking (PEPT) (MCF656) S. Bakalis**, M. Rafiee, P.J. Fryer, A. Ingram** *School of Chemical Engineering, University of Birmingham, UK*
	Quality degradation of lactic acid bacteria during the freeze drying process: Experimental study and mathematical modelling (MCF474) **I. Douania**, S. Passot, F. Fonseca, S. Cenard, I.C. Tréléa *UMR782 Génie et Microbiologie des Procédés Alimentaires, AgroParisTech, France*
	Computer aided simulation for developing a simple model to predict cooling of packaged foods (MCF378) **M. Gram Christensen**, A. Heilu Fayissa, J. Adler-Nissen *National Food Institute, DTU, Denmark*
	Prediction of quality properties of dried cranberries with combination method of ultrasound-osmotic-microwave using artificial neural networks model (FMS1185) **Z. Emam-Djomeh**, S. Shamaei *Transfer Phenomena Laboratory (TPL), Faculty of agricultural engineering and technology, University of Tehran, Iran*
	Simulation of coating process and validation in actual system: Application of artificial neural network and development of a system analytical model (MCF245) S. Bhattacharya
-10:30	**Drying of spherical food materials: mathematical modeling including stress fields (MCF491)** Mariana Carvalho, Dermeval Jose Mazzini Sartori, **Leonardo da Silva Arrieche**

Monday, May 23rd	**08:00-10:30**
Session 4 (Parallel): Emerging technologies –I- (NFP 3)	
Room Hesperides	
Chairs: Vm. Balasubramaniam, V. Heinz	
08:15-	**Combined pressure-thermal effects on food and biomaterials** (NFP1241) Vm (bala) Balasubramaniamm
	Pulsed Electric Field food treatment - scale up from lab to industrial scale (NFP268) **S. Toepfl**
	Pulsed Electric Fields – assisted vinification (NFP324) **F. Donsì**[a], G. Ferrari[a,b], M. Fruilo[b], G. Pataro[a] *[a]Department of Industrial Engineering, University of Salerno, Italy, [b]ProdAl scarl, Italy*
	High pressure and pulsed electric field pasteurisation of orange juice:evaluation of the substantial equivalence to conventional heat pasteurisation (NFP646) **L. Vervoort,** I. Van der Plancken, T. Grauwet, M. Hendrickx, A. Van Loey *Laboratory of Food Technology and Leuven Food Science and Nutrition Research Center (LFoRCe), Department of Microbial and Molecular Systems (M²S), Katholieke Universiteit Leuven, Belgium*
	Factors affecting microbial inactivation by Pulsed Light in a continuous flow-through unit for liquid products treatment (NFP745) **A. Lasagabaster,** M.L. Artíguez, I. Martínez de Marañón *AZTI-Tecnalia, Food Research Division, Spain*
	The different pathways of spore germination and inactivation of *Bacillus subtilis* under high pressure and elevated temperatures (NFP811) **K. Reineke**[a], I. Doehner[a], D. Baier[a], A. Mathys[a,b], D. Knorr[a] *[a]Technische Universität Berlin, Department of Food Biotechnology and Food Process Engineering, Germany, [b]Nestlé Research Center, Food Science & Technology Department, Switzerland*
	Identification of different physiological states of bacterial spores and distinction from vegetative cells after high pressure treatments via flow cytometry (NFP852) **D. Baier**[a], A. Mathys[a,b], D. Knorr[a] *[a]Technische Universität Berlin, Department of Food Biotechnology and Process Engineering, Germany, [b]Nestlé Research Center, Food Science & Technology Department, Bioprocessing Group, Switzerland*
-10:30	**Quality evaluation of slightly concentrated tomato juice produced under high pressure conditions (NFP1184)** **S. Boulekou**[a], K. Mallides[b], P.S. Taoukis[c], N.G. Stoforos[d] *[a]D. Nomikos S.A., Athens, Greece, [b]Institute of Technology of Agricultural Products, National Foundation of Agricultural Research, Greece, [c]National Technical University of Athens, Greece, [d]Agricultural University of Athens, Greece*

Monday, May 23rd	**08:00-10:30**
Session 5 (Parallel): New technologies for the evaluation of quality and safety (MFS 3)	
Room Santorini	
Chairs: D.W. Sun, H.K Purwadaria, J.M. Frias	
08:15-	**Hyperspectral Imaging Technology: A Non-Destructive Tool for Food Quality and Safety Evaluation and Inspection** (MFS1281)

	D.-W. Sun *Food Refrigeration & Computerised Food Technology, University College Dublin, National University of Ireland, Ireland*
	Novel NMR-Technology to assess food quality and safety (MFS311) **M. Spraul**[a], H. Schäfer[b], B. Schütz[b], F. Fang[b], M. Link[c] *[a]Bruker BioSpin GmbH, NMR Application and Applied Method Development, Germany, [b]Bruker BioSpin GmbH, NMR Applied Method Development, Germany, [c]Bruker BioSpin GmbH, Business Development, Germany*
	Long-range correlations in pork ham surface images using first-order detrended fluctuation analysis (MFS32) N.A. Valous[a], K. Drakakis[b], **D.-W. Sun**[a] *[a]FRCFT Group, Biosystems Engineering, Agriculture and Food Science Centre, University College Dublin, Ireland, [b]Complex and Adaptive Systems Laboratory (CASL), University College Dublin, Ireland*
	Evaluation and identification of markers of postharvest damage in mushrooms (Agaricus bisporus) using a GC/MS metabolomic approach (MFS564) **A. O'Gorman,** C. Barry-Ryana, J.M. Frias *School of Food Science & Environmental Health, Dublin Institution of Technology, Ireland*
	Visualization of the distribution of multiple constituents in bread dough by use of Fluorescence Fingerprint Imaging (MFS641) **M. Kokawa**[a,b], K. Fujita[b], J. Sugiyama[b], M. Tsuta[b], M. Shibata[b], T. Araki[a], H. Nabetani[a,b] *[a]The University of Tokyo, Japan, [b]National Food Institute, Japan*
	Non-destructive Nutrient Determination of Maize Using NIR Method (MFS864) **I.W.Budiastra**[a], H. Andrianyta[b], H.K. Purwadaria[a] *[a]Department of Mechanical and Biosystem Engineering, Bogor Agricultural University (IPB), Indonesia, [b]Indonesian Agency for Agricultural Research and Development, Ministry of Agriculture, Indonesia*
	Establishment Fingerprint of Flavor Components for Typical Chinese Rice Wine (MFS270) **D. Liu**, P. Zhu, J. Tang *Zhejiang University, China*
-10:30	**Rapid assessment of meat quality by means of an electronic nose and support vector machines (MFS169)** O.S. Papadopoulou[a,b], C.C. Tassou[b], L. Schiavo[c,] G.-J.E. Nychas[a], E.Z. Panagou[a] *[a]Department of Food Science and Technology, Agricultural University of Athens, Greece, [b]National Agricultural Research Foundation, Institute of Technology of Agricultural Products, Greece, [c]Biological Division, Technobiochip ScaRL, Italy*

10:30-11:30	**Coffee Break**

Monday, May 23rd	11:30-13:30

Monday, May 23rd	11:30-13:30
Session 1 (Parallel): Automation, process control, intelligent systems & Sensors (MCF 1)	
Room Terpsichore (A)	
Chairs: M. McCarthy, P.J. Cullen, C.P. O'Donnell	
11:30-	**Advanced Sensors, Quality Attributes and Modeling in Food Process Control (MCF13)** M. McCarthy, K. McCarthy *Department of Food Science and Technology, University of California, USA*
	The automatic sorting using image processing improves postharvest blueberries storage quality (MCF1095) **G. Leiva**[a], G. Mondragón[b], D. Mery[b], J.M. Aguilera[a] *[a]Department of Chemical and Bioprocess Engineering, Pontifical Catholic University of Chile, Chile, [b]Department of Computer Science, Pontifical Catholic University of Chile, Chile*
	Optimal on-line decision making for food thermal processes (MCF209) **A.A. Alonso**[a], A. Arias-Mendez[a], E. Balsa-Canto[a], M.R. Garcia[b], J.I. Molina[a], C. Vilas[a], M. Villafin[a] *[a]Process Engineering Group, IIM-CSIC, Spain, [b]Hamilton Institute, National University of Ireland, Ireland*
	Prediction of water content of baking powder using near-infrared spectroscopy (MCF64) **T. Yano**, J. Kohda, Y. Nakano *Department of Information Sciences, Hiroshima City University, Japan*
	Hyperspectral imaging for the detection of microbial spoilage of mushrooms (MCF1004) **E. Gaston**[a,b], J.M. Frías[a], P.J. Cullen[a], C.P. O´Connell[c], A.A. Gowen[c,d] *[a]School of Food Science and Environmental Health, Dublin Institute of Technology, Ireland, [b]Agrofood group, Innovació i Recerca Industrial i Sostenible, Spain, [c]Biosystems Engineering, University College Dublin, Dublin, Ireland, [d]Kobe University, Japan*
	Detection of chicken egg fertility and early embryo development using hyperspectral imaging (MCF894) **L. Liu**, M.O. Ngadi *Department of Bioresource Engineering, McGill University, Canada*
13:30	**Automated detection of softening and hard columella in kiwifruits during postharvestusing X-ray testing (MCF1097)** **G. Leiva**[b], G. Mondragón[a], J.M. Aguilera[b], D. Mery[a] *[a]Department of Computer Science, Pontifical Catholic University of Chile, Chile, [b]Department of Chemical and Bioprocess Engineering, Pontifical Catholic University of Chile, Chile*

Monday, May 23rd	11:30-13:30
Session 2 (Parallel): Food properties (EPF 2)	
Room Terpsichore (B)	
Chairs:	
11:30	**Effect of temperature on the density of whole milk under high pressure (EPF187)** B. Guignon, I. Rey, **P.D. Sanz** *Department of Processes, Food Science Technology and Nutrition Institute (ICTAN-CSIC), Spain*

	T**exture-taste interactions: enhancement of taste intensity by structural modifications of the food matrix (EPF55)** **M. Stieger**[a, b] [a]*TI Food & Nutrition, The Netherlands,* [b]*Agrotechnology & Food Sciences Group, Wageningen University, The Netherlands*
	Decomposition of absorption spectra of multi-layered biological materials by spatially-resolved spectroscopy and parallel factor analysis (EPF223) **M. Tsuta**[a,b], N. Nguyen Do Trong[a], E. Herremans[a], J. De Baerdemaeker[a], W. Saeys[a] [a]*BIOSYST-MeBioS K.U.Leuven, Belgium,* [b]*National Food Research Institute, Japan*
	Correlating Mozzarella cheese properties to production processes by rheological, mechanical and microstructure study: Meltability study and Activation energy (EPF1248) **X.-X. Ma**[a], B. James[a], L. Zhang[b], E. Emanuelsson-Patterson[a] [a]*Department of Chemical and Materials Engineering, University of Auckland, New Zealand,* [b]*Research Centre, Fonterra Co-operative Group Limited, New Zealand*
	Comparison of nutritional composition between Palm Kernel Fiber and the effect of the Supercritical Fluid extraction on its quality (EPF681) **M.M. Ben Nama**[a], N.N. Ab. Rahman[a], S.S. Al-Rawi[b], A.H. Ibrahim[c], M.O. Ab Kadir[b], A.M.S. Abdul Majid[c] [a]*Department of Biology, Universiti Sains Malaysia, Malaysia,* [b]*Department of Environmental Technology, Universiti Sains Malaysia, Malaysia,* [c]*Department of Pharmacology, Universiti Sains Malaysia, Malaysia*
	Practical implications of probe- and sample-related variables in puncture testing of clingstone peaches (EPF536) **R.R. Milczarek**, T.H. McHugh *United States Department of Agriculture – Agricultural Research Service, USA*
	Inflammatory properties of almond milk fermented with potentially probiotic bacteria. (FPE695) **N. Bernat**[a], M. Chafer[a], A. Chiralt[a], Y. Sanz Y[b], C. Gonzalez-Martínez[a], J.M. Laparra[b] [a]*Instituto de Ingeniería de Alimentos para el Desarrollo. Universidad Politecnica de Valencia, Spain,* [b]*Agrochemistry and Food Technology Institute (IATA-CSIC), Microbial Ecophysiology and Nutrition, Spain*
-13:30	**Structural changes of gliadins during sourdough fermentation (FPE476)** **G. Komen,** A.H. Baysal, S. Harsa *Izmir Institute of Technology, Turkey*

Monday, May 23rd	**11:30-13:30**
Session 3 (Parallel): Cooling and freezing (AFT 2)	
	Room Erato
Chairs: Y. Hung, G. Alvarez	
11:30-	**Improving the design and efficiency of the forced-air cooling process of fresh strawberries using computational modelling (AFT203)** **M.J. Ferrua**[a], R. P. Singh[b] [a]*Riddet Institute, Massey University, New Zealand,* [b]*Department of Biological and Agricultural Engineering, University of California, USA*
	Preservation of cell viability in fruit and vegetable tissues after freezing and thawing (AFT81) **F. Gómez Galindo**[a]**,** P. Dejmek[a], P.Y. Phoon[b], E. Velickova[c], U.

	Tylewicz[d] *[a]Food Technology, Engineering and Nutrition, Lund University, Sweden, [b]Food Science, Purdue University, USA, [c]Food Technology and Biotechnology, University SS. Cyril and Methodius, FY Republic of Macedonia, [d]Food Science, University of Bologna, Italy*
	Modelling and validation of robust partial thawing of frozen convenience foods during distribution in the cold chain (AFT634) **J. Adler-Nissen,** G. Ørnholt Zammit *Division of Industrial Food Research, Technical University of Denmark, Denmark*
	Cryotropic gel formation for food nutrients encapsulation - A controllable processing of hydrogel by freezing (AFT813) **K. Nakagawa[a]**, N. Nishimoto[a], N. Sowasod[b], T. Charinpanitkul[c], A. Soottitantawat[c], W. Tanthapanichakoon[c] *[a]Research Centre for Nano-Micro Science and Engineering, University of Hyogo, Japan, [b]Nanoscience and Technology Program, Chulalongkorn University, Thailand, [c]Center of Excellence in Particle Technology, Chulalongkorn University, Thailand*
	Ultrasound assisted nucleation of water during freezing (AFT400) **H. Kiani,** Z. Zhang, A. Delgado, D.-W. Sun *FRCFT, University College Dublin, Ireland*
	Online ice crystal size measurements by the focused beam reflectance method (FBRM) during sorbet freezing (AFT221) **M. Arellano[a,b]**, J.E. Gonzalez[a,b], G. Alvarez[a], H. Benkhelifa[b], D. Flick[b], D. Leducq[a] *[a]Cemagref, France, [b]AgroParisTech, France*
	Recrystallization behavior of ice crystals in sucrose solution in the presence of AFP Type I (AFT1270) **T. Hagiwara,** E. Ohmoto, K. Tokizawa, T. Sakiyama *Department of Food Science and Technology, Tokyo University of Marine Science and Technology, Japan*
-13:30	**Super-cooling phenomena in fruits, vegetables and seafoods (AFT658)** **C. James,** S.J. James *Food Refrigeration and Process Engineering Research Centre (FRPERC), The Grimsby Institute of Further & Higher Education (GIFHE), UK*

Monday, May 23rd	**11:30-13:30**
Session 4 (Parallel): High Pressure Processing (NFP 1)	
	Room Hesperides
Chairs: M. Hendrickx, M.V. Karwe	
11:30-	**High pressure high temperature processing of plant based food systems: mechanisms and kinetics** (NFP285) M. Hendrickx *Laboratory of Food Technology, Leuven Food Science and Nutrition Research Centre, Katholieke Universiteit Leuven, Belgium*
	Pressure and Temperature Non Uniformity during High Pressure Processing (HPP) of Foods (NFP1291) M.V. Karwe Rutgers University, US
	Industrial high pressure processing of foods : review of evolution and emerging trends (NFP1295) F. Purroy and C. Tonello Hyperbaric, Spain
	Illustrating temperature uniformity in high pressure high temperature reactors using temperature sensitive indicators

	(NFP151) **T. Grauwet**[a], I. Van der Plancken[a], L. Vervoort[a], A. Matser[b], M. Hendrickx[a], A. Van Loey[a] *[a]Laboratory of Food Technology, Leuven Food Science and Nutrition Research Centre, Katholieke Universiteit Leuven, Belgium, [b]Wageningen UR Food & Biobased Research, The Netherlands*
	Bioconversion of glutamic acid to gamma-aminobutyric acid in soybean by high pressure with precursor feeding (NFP419) **S. Ueno**[a], T. Katayama[a], T. Watanabe[b], K. Nakajima[b], M. Hayashi[b], T. Shigematsu[b], T. Fujii[a,b] *[a]Innovative Research Center for Agricultural Sciences, Tohoku University, Japan, [b]Dept. of Food Science, Niigata University of Pharmacy and Applied Life Sciences, Japan*
-13:30	**The effect of the high hydrostatic pressure on polyphenols and anthocyanins in red fruit products (NFP67)** **P. Maresca** [b], G. Ferrari [a,b], R. Ciccarone [b] *[a]Department of Industrial Engineering, University of Salerno, Italy, [b]ProdAl Scarl, University of Salerno, Italy*

Monday, May 23rd	**11:30-13:30**
Session 5 (Parallel): Novel foods and ingredients (FPE 4)	
Room Santorini	
Chairs: B. Mckenna, R.H. Mascheroni	
11:30-	**Future developments in Food Process Engineering and functional foods (NFP930)** **B. Mckenna**
	Impact of traditional and innovative technologies on some characteristics and bioactive compounds of Opuntia macrorhiza juice (FPE1105) **T.E. Moussa-Ayoub**[a], H. Jaeger[a], D. Knorr[a], S. El-Samahy[b], S. Rohn[c], L.W. Kroh[a] *[a]Department of Food Chemistry and Analysis, Institute of Food Technology and Food Chemistry, Technical University of Berlin, Germany, [b]Food Technology Department, Agriculture Faculty, Suez Canal University, Egypt, [c]Department of Food Chemistry and Analysis, Institute of Food Chemistry, University of Hamburg, Germany*
	The effects of trans fatty acid alternatives on the sensory acceptability, mechanical texture, and shelf life of bar type components (FPE1000) **M. Richardson** and S. Walker
	Designing food structure to enhance taste intensity (FPE172) **A.C. Mosca**[a,b], F. van de Velde[a,c], J.H.F. Bult[a,c], M. Stieger[a,b] *[a]TI Food & Nutrition, The Netherlands, [b]Agrotechnology and Food Sciences Group, Wageningen University and Research Centre, The Netherlands, [c]NIZO food research, The Netherlands*
	Optimization of osmotic dehydration as a preliminary step for the development of a drying treatment on kiwifruit (Actinidia Chinensis P.) (FPE982) **R.H. Mascheroni**[a,b], A. Rodríguez[a], A.R. Bambicha[a] *[a]CIDCA (CONICET La Plata- UNLP), Argentina, [b]MODIAL - Departamento de Ingeniería Química- Facultad de Ingeniería, UNLP, Argentina*
	Peptide conformational requirements for antifreeze activity (FPE1121) **P.A. Carvajal-Rondanelli**[a,c], F. Guzman[b,d], F. Cardenas[a], S.H. Marshall[b,c,d] *[a]Escuela de Alimentos, Pontificia Universidad Católica de Valparaíso PUCV,*

	Chile, [b]Instituto de Biología, Laboratorio de Genética e Inmunología Molecular, PUCV, Chile, [c]Centro Regional de Alimentos Saludables CREAS, Chile, [d]Núcleo Biotecnología Curauma NBC, Chile
-13:30	**Processing of low polyphenol protein isolates from residues of sunflower seed oil production (FPE555)** **C. Pickardt[a,b]**, G.M. Weisz[b], P. Eisner[a], D.R. Kammerer[b], S. Neidhart[b], R. Carle[b] *[a]Fraunhofer Institute for Process Engineering and Packaging (IVV), Germany, [b]Institute of Food Science and Biotechnology, Hohenheim University, Germany*

13:30	**Lunch Break**

Monday, May 23rd	15:00-17:30

Monday, May 23rd	15:00-17:30
Session 1 (Parallel): Food polymers (FMS 3)	
	Room Terpsichore (A)
Chairs: C. Billiaderis, P. Sobral	
15:00-	**Molecular origin of physical state and functionality of soluble cereal fibers (FMS709)** **C.G. Biliaderis** *Department of Food Science and Technology, Aristotle University of Thessaloniki, Greece*
	Effect of sugars on the phase behaviour, flow and interfacial properties of protein-polysaccharide aqueous two phase systems (FMS1071) **A. Portsch**, F. Spyropoulos, I. Norton *Department of Chemical Engineering, University of Birmingham, UK*
	Properties of film-forming solutions and their films made by spreading: effect of gelatine concentration (FMS181) **P.J. do Amaral Sobral,** M.F. Coronado Jorge, F.M. Vanin, R. Aparecida de Carvalho, I. Cristina, F. Moraes, A. Quinta, B. Bittante *Food Engineering Department, FZEA - University of São Paulo, Brazil*
	Thermomechanical properties of vegetable tissue at 30-90°C (FMS21) **J. Blahovec** *Czech University of Life Sciences in Prague, Czech Republic*
	Application of chitosan-sunflower oil edible films to pork meat hamburgers (FMS425) **M. Vargas**, A. Albors, A. Chiralt *Instituto Universitario de Ingenieía de Alimentos para el Desarrollo (IUIAD), Universidad Politécnica de Valencia, Spain*
	Effect of thermal processing and storage on digestibility of starch in whole grains (FMS205) **A.A. Alsaffar** *Yeditepe University, Istanbul, Turkey*
-17:00	**Locating proteins by using quantum dot nanocrystals in flat bread** (FMS62) **N. Sozer** and J. Kokini *University of Illinois, USA*

Monday, May 23rd	15:00-17:30
Session 2 (Parallel): Food rheological properties (EPF 3)	
	Room Terpsichore (B)
Chairs: M. Dalla Rosa,	
15:00-	**Physico-chemical and rheological changes of fruit purees during storage (EPF814)** **F. Balestra**, E. Cocci, M. Dalla Rosa *Department of Food Science, University of Bologna, Italy*
	The influence of homogenisation on the micro-structure, rheological and sensory properties of some food fiber suspensions (FMS315) **E. Tornberg**[a], H. Bengtsson[b] [a]*Department of Food Technology, Lund University, Sweden,* [b]*Findus Sverige AB, Sweden*
	Viscoelastic behavior of Peruvian carrot starch gels as affected by temperature and Concentration (FMS902)

	V.R. Nicoletti Telis, K.Mislaine Albano, C.M. Landi Franco *São Paulo State University - UNESP, Brazil*
	How the drying rate at bread crust can affect its viscosity? (EPF827) F.M. Vanin[a,b], C. Michon[c], G. Trystram[c], T. Lucas[a,b] *[a]Cemagref, Food Engineering And Processing, [b]Université européenne de Bretagne, F-35000 Rennes, France, [c]UMR 1145, AgroParisTech, France*
	Quantifying the effect of extrusion processing of a confectionery paste (EPF1037) **P. Martin[a]**, A. Walker[b], C. Martin[b], B. Hook[c], D. Cunningham[c], I. Van Damme[c] *[a]School of Chemical Engineering and Analytical Science, The University of Manchester, UK, [b]Department of Engineering Science, University of Oxford, UK, [c]Mars UK Ltd, UK*
	Effect of Incubation Temperature and Caseinates on the Rheological Behaviour of Kefir (EPF447) **G. Dimitreli**, K.D. Antoniou *[a]Department of Food Technology, ATEI of Thessaloniki, Greece*
-17:00	**Possibility of Using Acoustic Techniques for Dough Processing Evaluation (EPF662)** **H. Elfawakhry**, M.A. Hassan, T. Becker *Group of (Bio-) Process Technology and Process Analysis,* *Faculty of Life Science Engineering, Technische Universität München, Germany*

Monday, May 23rd	**15:00-17:00**
Session 3 (Parallel): Thermal processing (AFT 6)	
	Room Erato
Chairs: A. Teixeira, K. McCarthy	
15:00-	**Advances and challenges in thermal processing technology (AFT180)** **A. Teixeira[a]**, G. Ghai[b], S. Almonacid[c] *[a]University of Florida, USA, [b]Food and Drug Administration, USA, [c]Universidad Tecnica Federico Santa Maria, Chile*
	Biological validation of thermal processing using food alginate simulated particles inoculated with bacterial spores (AFT867) **H.F. Hussein**, H.S. Ramaswamy *McGill University, Montreal*
	Temperature Integrators as tools to validate thermal processes in food manufacturing (AFT1183) **P. J. Fryer**, M. Simmons, P. Cox, S. Hansriwijit, F. Challou, S. Bakalis *Chemical Engineering, University Of Birmingham, UK*
	Influence of whey protein aggregation on the residence time distribution in a helically holding tube during heat treatment process (AFT347) **F.T. Ndoye[a,b]**, N. Erabit[a,b], D. Flick[a,b], G. Alvarez[c] *[a]AgroParisTech, France, [b]INRA, France, [c]Refrigeration Processes Engineering Research Unit, Cemagref, France*
	Potato deep-fat frying. The role of buoyancy on heat and mass transfer phenomena (AFT1238) **J.S. Lioumbas,** T.D. Karapantsios *Department of Chemical Technology & Industrial Chemistry, Aristotle University of Thessaloniki, Greece*
	Steam condensation dynamics in annular gap and multi-hole steam injectors (AFT470) **F. Innings**, L. Hamberg *Tetra Pak Processing Systems, Sweden*

17:00	**Commercially sterilized mussel meats (*Mytilus Chilensis*): A study on process yield (AFT1082)** **S. Almonacid[a,c],** J. Bustamante[a], A.R. Simpson[a,c], M. Pinto[a], F. Lancellotti[a], A. Teixeira[b] *[a]Departamento de Ingeniería Quimica y Ambiental, Universidad Técnica Federico Santa María, Chile, [b]Agricultural and Biological Engineering Department, University of Florida, USA, [c]Centro Regional para el Estudio de Alimentos Saludables, Chile*

Monday, May 23rd	**15:00-17:00**
Session 4 (Parallel): Separation and purification processes (NFP6)	
Room Hesperides	
Chairs: A. Voilley,	
15:00-	**Transfer of water and active molecules at the interfaces in complex food systems: theoretical and practical aspects (NFP686)** **A. Voilley[a,b]**, A.-M. Seuvre[a,c], R. Gougeon[a,d], T. Karbowiak[a,b], D. Chassagne[a,d], F. Debeaufort[a,c] *[a]EA EMMA, Université de Bourgogne, France, [b]Agrosup Dijon, France, [c]IUT Génie Biologique, Université de Bourgogne, France, [d]Institut Universitaire de la Vigne et du Vin "Jules Guyot", Université de Bourgogne, France*
	Impact of protein interactions and transmembrane pressure on physical properties of filter cakes formed during filtrations of skim (NFP41) **T. Steinhauer**, W. Kühnl, U. Kulozik *ZIEL Food and Nutrition Research Center, Technische Universität München, Germany*
	Recovery of phenolic compounds from a grape marc extract with colloidal gas aphrons (NFP664) **G. Spigno[a],** D. Amendola[a], M. Dermiki[b], P. Jauregi[b] *[a]Università Cattolica Sacro Cuore, Institute of Oenology and Food Engineering, Italy, [b]University of Reading, Department of Food and Nutritional Sciences, UK*
	Adsorption of polyphenols from ginger rhizomes on an anion exchange resin Amberlite IR-400 – Study on effect of pH and temperature (NFP211) **C. Datta**, A. Dutta, D. Dutta, S. Chaudhuri *Department of Biotechnology, National Institute of Technology, India*
	Fractionation of whey proteins by means of membrane adsorption chromatography (NFP838) **L. Voswinkel**, U. Kulozik *Freising, Germany*
	Extraction of *Thunnus albacares* orbital oil by supercritical carbon dioxide (NFP48) **N. Tao,** M. Zhou, X. Wang, Y. Liu *College of Food Science and Technology, Shanghai Ocean University, China*
-17:00	**Impact of the ionic composition on the separation of glucose/lactate solutions by nanofiltration (NFP746)** **S. Galier[a],** C. Umpuch[b], S. Kanchanatawee[b], H. Roux-de Balmann[a] *[a]Université de Toulouse, INPT, UPS, Laboratoire de Génie Chimique, France, [b]School of biothechnology, Suranaree University of Technology, Thailand*

Monday, May 23rd	15:00-17:00
Session 5 (Parallel):Feeding the World in a Sustainable Environment (Round Table)	
Room Santorini	
Chairs: W. Spiess, D. Mercer, H. Lazarides	
15:00-	**Does biofuel production threaten food security?** (INM732) W.E.L. Spiess *c/o Karlsruhe Institut für Technologie (KIT), Institut für Bio- und Lebensmitteltechnik, Germany*
	IUFoST's strategy to strengthen food security in rural areas of developing countries (INM728) **W.E.L. Spiess**[a], D.B. Lund[b], D.G. Mercer[c] *[a]Karlsruhe Institut für Technologie, Germany, [b]University of Wisconsin, USA, [c]University of Guelph, Canada*
	Hunger and Obesity: Is this the best we – food scientists/engineers - can offer to the world community in the 21st century? (INM925) **H.N. Lazarides** *Department of Food Science and Technology, Aristotle University of Thessaloniki, Greece*
	Challenges facing development within the agri-food sector of Sub-Saharan Africa (INM85) **D.G. Mercer** *Department of Food Science, University of Guelph, Canada*
	Bio-butanol from food wastes – fermentative production, use as biofuel and the influence on the emissions (FEW797) **W. Russ**[a], M. Stoeberl[a,b], R. Werkmeister[a,b], M. Faulstich[b] *[a]Research Group of Environmental Engineering for the food industry, Technische Universität München, Germany, [b]Institute of Resource and Energy Technology, Technische Universität München, Germany*
	Simultaneous production of food protein isolates and a biodiesel from mustard seed (FPE49) **L. Diosady** *Department of Chemical Engineering and Applied Chemistry, University of Toronto*
17:00	**Design of an agricultural productive model by structuring profitable productive units to attend the food demand of the mining complex located in the center of the department of cesar, Colombia** (FPD76) **C. Gutierrez de Piyeres Rocha** and D. Montoya

17:00	**Coffee Break**

Monday, May 23rd	17:30-19:00

Monday, May 23rd	17:30-19:00
Session 1 (Parallel): Food structure and modelling (FMS 7)	
	Room Terpsichore (A)
Chairs: E. Dumoulin, D.S. Reid	
17:30-	**Aroma encapsulation in powder by spray drying, and fluid bed agglomeration and coating (FMS279)** **E. Dumoulin**[a], C. Turchiuli[a,b], M.E. Cuvelier[a], P. Giampaoli[a] [a]*AgroParisTech, France,* [b]*Univ Paris-Sud, France*
	The effect of electrical processing on mass transfer and mechanical properties of food materials (FMS1115) **P. Fryer**, G. Porras-Parral, T. Miri, S. Bakalis *School of Chemical Engineering, University of Birmingham, UK*
	Stokes shape factor for lactose crystals (FMS595) **K. Shaffer**[a], C.E. Davies[a], A.H.J. Paterson[a], G.A. Hebbink[b] [a]*School of Engineering and Advanced Technology, Massey University, New Zealand;* [b]*DMV Fonterra Excipients GmbH and Co KG, The Netherlands*
	Multi-scale mechanics and structure of semi-hard cheese (FMS743) **T.J. Faber**[a,b], P.J.Schreurs[b], J.M.J.G. Luyten[a], H.E.H. Meijer[b] [a]*FrieslandCampina Research, The Netherlands,* [b]*Eindhoven University of Technology, The Netherlands*
-19:00	**Ice crystals nucleation, growth and breakage modelling in a scraped surface heat exchanger (FMS305)** **H. Benkhelifa**[a], M. Arellano[a,b], G. Alvarez[b], D. Flick[a] [a]*UMR 1145 AgroParisTech/INRA, Ingénierie-Procédés-Aliments, France,* [b]*Cemagref UR Génie des Procédés Frigorifiques, France*

Monday, May 23rd	17:30-19:00
Session 2 (Parallel): Thermophysical and physicochemical properties of foods (EPF 4)	
	Room Terpsichore (B)
Chairs:	
17:30-	**Effects of heat treatment on protein denaturation and starch gelatinisation in wheat flour (EPF493)** **T.R.A. Magee**, G.Neill *School of Chemistry and Chemical Engineering, Queen's University Belfast, UK*
	Determination of Drip Loss in Beef by NIR Hyperspectral Imaging and Multivariate Analysis (EPF680) **G. ElMasry**[a], D.-W. Sun[b], P. Allen[b] [a]*School of Agriculture, Food Science & Veterinary Medicine, University College Dublin, Ireland,* [b]*School of Agriculture, Food Science & Veterinary Medicine, University College Dublin, Ireland,* [b]*Ashtown Food Research Centre, Teagasc, Ireland*
	Specific Heat Capacity of Crude Palm Oil (EPF892) J.S. Alakali[a], S.O. Eze[b], **M.O. Ngadi**[c] [a]*Department of Food Science and Technology, University of Agriculture Makurdi, Nigeria,* [b]*Department of Chemistry Abia State, University Uturu, Nigeria,* [c]*Department of Bioresource Engineering, McGill University, Canada*
	Modelling the effect of temperature and relative humidity on physicochemical properties of honey (EPF23) L. Mehryar[a], **M. Esmaiili**[a], A. Hassanzadeh[b] [a]*Department of Food Science and Technology, University of Urmia, Iran,* [b]*Department of Chemistry, University of Urmia, Iran*

	Assessment of physical properties and dissolution behavior of protein-based powders (FMS10) **A. Gianfrancesco[a],** C. Casteran[a,b], J.C. Andrieux[a], M. Giardiello[a], G. Vuataz[a] *[a]Nestle Research Center, Switzerland, [b]Nestle Product Technology Center, Switzerland*
19:00	

Monday, May 23rd	**17:30-19:00**
Session 3 (Parallel): Innovation in traditional processing –I- (AFT 3)	
Room Erato	
Chairs: J.P. Clark, K. Swartzel	
17:30-	**Applying advances in food process technology in industry (AFT1217)** **J.P. Clark** *Consultant, Oak Park, IL, USA*
	Advanced meal processing and preparation (AFT74) **K.R. Swartzel** *Department of Food, Bioprocessing and Nutrition Sciences, North Carolina State University, North Carolina*
	Development of citrus grading system using image processing (AFT1026) **U. Ahmad[a]**, M. Suhil[b], R. Tjahjohutomo[c], and H.K. Purwadaria[d] *[a]Department of Mechanical and Biosystem Engineering, Bogor Agricultural University (IPB), Indonesia, [b]Centre of Agricultural Mechanization Development, Ministry of Agriculture, Indonesia, [c]Centre of Postharvest Technology Development, Ministry of Agriculture, Indonesia, [d]Department of Mechanical and Biosystem Engineering, Bogor Agricultural University (IPB), Indonesia*
	Variation of fluidization velocities during drying-toasting of precooked whole soybeans (AFT389) **S.A. Giner[a,b,c]**, R. Martín Torrez Irigoyen[a] *[a]Centro de Investigación y Desarrollo en Criotecnología de Alimentos (CIDCA) Universidad Nacional de La Plata, Argentina, [b]Facultad de Ingeniería, Universidad Nacional de La Plata, Argentina, [c]Comisión de Investigaciones Científicas de la Provincia de Buenos Aires, Argentina*
-19:00	**Evaluation of anthocyanin content on blackberry juice (*Rubus* spp.) processed by microfiltration (AFT289)** **L.M.C. Cabral[b]**, F.S. Monteiro[a], L.A. Viotto[a] *[a]UNICAMP/FEA, Brazil, [b]Embrapa Food Technology, EMBRAPA/CTAA, Brazil*

Monday, May 23rd	**17:30-19:00**
Session 4 (Parallel): Micro- and nano- sciences and technology -II- (FMS 6b)	
Room Hesperides	
Chairs: T. Becker, E. van der Linden	
17:30	**Challenges in the Identification of Engineered Nanomaterials in Foods (NFP230)** **R. Greiner,** V. Graef, E. Walz, D. Behsnilian *Max Rubner-Institut, Department of Food Technology and Bioprocess Engineering, Germany*
	Production and evaluation of solid lipid microcapsules of Lactobacillus acidophilus produced by spray chilling (FMS786)

	C.S. Favaro-Trindade, D.L. Pedroso, M. Dogenski, M. Thomazini, R.J.B. Heinemann *Faculdade de Zootecnia e Engenharia de Alimentos, Universidade de São Paulo, Brazil*
	Implementation of a novel tool to quantify dough microstructure (FMS829) **M. Jekle,** T. Becker *Technische Universität München, Institute of Brewing and Beverage Technology, Germany*
	Characterization of spray-dried phospholipid particles for the production of beta-carotene-loaded liposomes (FMS92) C.R. Silva, M. Moraes, J.M.P. Carvalho, **S.C. Pinho** *Department of Food Engineering, School of Animal Science and Food Engineering, University of São Paulo (USP), Brazil*
	Multilayer microcapsules based on supramolecular structures produced from bovine serum albumin and high methoxy pectin (FMS501) **Y. Arsianti**, Z. Hui, L. Sagis *Wageningen University, The Netherlands*
19:00	**Metal-based nanocomposites as antimicrobials in food packaging applications (FMS1203)** **A. Fernandez[a],** E. Lloret[b], A. Llorens[a], P. Picouet[b] *[a]Instituto de Agroquímica y Tecnología de Alimentos, CSIC, Spain,* *[b]Departament de Tecnologia dels Aliments, Institut de Recerca i Tecnologia Agroalimentàries (IRTA), Spain*

Monday, May 23rd	**17:30-19:00**
Session 5 (Parallel): Food Engineering Education in a Changing World ROUND TABLE	
Room Santorini	
Chairs: S. Saguy, R. Costa	
17:30-	**Academia-industry innovation interaction: paradigm shifts and avenues for the future (INM148)** **S.I. Saguy** *The Robert H. Smith Faculty of Agriculture, Food and Environment, The Hebrew University of Jerusalem, Israel*
	Food safety and knowledge transfer in Europe – a challenge for all stakeholders (INM142) **S. Braun**, K. Hadwiger *University of Stuttgart, Germany*
	Skills training for food industry workers in Sub-Saharan Africa (INM86) **D.G. Mercer[a],** D.B. Lund[b] *[a]Department of Food Science, University of Guelph, Canada, [b]University of Wisconsin, USA*
	Should Academia support the regulation of professions related to Food Science and Technology? (FMS1306) **R. Costa[a]**, S.S. Možina[b] *[a]CERNAS/ Escola Superior Agrária, Instituto Politécnico de Coimbra, Portugal,* *[b]University of Ljubljana, Biotechnical Faculty, Department of Food Science and Technology, Slovenia*
	Recognition of Prior Learning - a research under ISEKI_Food 3 project (INM1308) **M. Dalla Rosa[a]**, R. Costa[b], C. Silva[c] *[a]Alma Mater Studiorum, University of Bologna, Department of Food Science, Italy, [b]CERNAS/ Escola Superior Agrária, Instituto Politécnico de Coimbra,*

	Portugal, [c]Universidade Católica Portuguesa, Escola Superior de Biotecnologia, Portugal
	Academic and Professional Mobility of Food Scientists and Engineers in Europe: the Introduction of the EQAS Food Label and the Development of a corresponding Quality Assurance Scheme (INM1315) I. Wasser[a], J.M. Frias[b], R. Costa[c] *[a]ASIIN e.V. and ASIIN Consult GmbH, Germany, [b]Dublin Institute of Technology, Ireland, [b]CERNAS/ Escola Superior Agrária, Instituto Politécnico de Coimbra, Portugal*
-19:00	Round Table Discussion

19:00	**End of Sessions**

21:00	**Cultural Event**

Tuesday, May 24th

08:00-15:00	Registration desk open

Tuesday, May 24th	08:15-10:30
Session 1 (Parallel): Concentration and dehydration processes (AFT 1)	
	Room Terpsichore (A)
Chairs: A. Mujumdar, E. Tsotsas	
8:15-	**Food drying as a challenge between process efficiency and product quality (FPD1204)** **E. Tsotsas** *Thermal Process Engineering, Otto von Guericke University Magdeburg, Germany*
	Some Innovative Drying Technologies for Dehydration of Foods (AFT1182) **A. Mujumdar,** S. Jangam *Mechanical Engineering Department, National University of Singapore, Singapore*
	The DCMD-R as an energy efficient process (AFT461) **M.H. Nguyen[a,b],** V.A. Bui[c] *[a]University of Newcastle, Australia, [b]University of Western Sydney, Australia, [c]NongLam University, Vietnam*
	Modeling the effect of osmotic pre-treatment with alternative solutes on the shelf life of gilthead seabream fillets during refrigerated and super-chilled storage (NFP644) **T.N. Tsironi,** P.S. Taoukis *National Technical University of Athens, School of Chemical Engineering, Laboratory of Food Chemistry and Technology, Greece*
	The physical behaviour of food protein's supramolecular structures during freeze-drying (AFT469) **S. Passot[a]**, F. Fonseca[a], S. Bouhallab[b] *[a]UMR782, Génie et Microbiologie des Procédés Alimentaires, INRA, France, [b]UMR1253, Science et Technologie du laitet de l'œuf, INRA, France*
	Aroma composition of microwave vacuum dried dill (*Anethum graveolens* L.) stems (AFT338) **Z. Kruma**, R. Galoburda, M. Sabovics, I. Gramatina, I. Skudra, I. Dabina-Bicka *Department of Food Technology, Latvia University of Agriculture, Latvia*
10:30	**Study on metabolic consequences of vacuum impregnation of apple tissue (AFT950)** **U. Tylewicz[a],** S. Romani[a], P. Rocculi[a], S. Widell[b], M. Dalla Rosa[a], F. Gómez Galindo[c] *[a]Department of Food Science, University of Bologna, Italy, [b]Department of Biology, Lund University, Sweden, [c]Department of Food Technology, Lund University, Sweden*

Tuesday, May 24th	08:15-10:30
Session 2 (Parallel): MODELING DIGESTIVE AND METABOLIC PROCESSES (FPE5)	
	Room Terpsichore (B)
Chairs: R. P.Singh, S. Bakalis	
8:15	**Understanding the fluid dynamics of gastric digestion using computational modelling (MCF204)** **M. J. Ferrua[a],** R. P.Singh[b] *[a]Riddet Institute, Massey University, New Zealand, [b]Department of Biological*

	and Agricultural Engineering, University of California, USA
	Starch digestion and glucose absorption in the small intestine (FPE565) M. J. Fonseca, **S. Bakalis**, P.Fryer *School of Chemical Engineering, University of Birmingham, UK*
	Study on the viability of free and immobilized B. Bifidum under human gastrointestinal in vitro conditions with the presence of meal samples (FPE330) **A.G. Mendoza Madrigal**[a], G.V. del Toro[b], J.J. Chanona Pérez[a], E. Terres Rojas[c], E. Durán Páramo[b] *[a]Departamento de Graduados e Investigación en Alimentos. Escuela Nacional de Ciencias Biológicas, Instituto Politécnico Nacional, México, [b]Departamento de Bioconversiones. Unidad Profesional Interdisciplinaria de Biotecnología, Instituto Politécnico Nacional, México, [c]Laboratorio de Microscopia de Ultra Alta Resolución, Instituto Mexicano del Petróleo, México*
	Behaviour Of Emulsions Stabilized By Maillard-Based Glycoconjugates Under Simulated Gastrointestinal Conditions (FMS327) **U. Lesmes**[a]**,** D. J. McClements[b] *[a]Department of Biotechnology and Food Engineering, Technion – IIT, Israel, [b2]Department of Food Science, University of Massachusetts – Amherst, USA*
	Bioaccessibility and metabolism of flaxseed lignans evaluated in a single batch simulator of digestive process (FPE621) **C. Fuentealba**, O. Muñoz *Instituto de ciencia y tecnología de los alimentos, Universidad Austral de Chile, Chile*
	Experimental characterization of the fluid dynamics in an in-vitro system simulating the peristaltic movement of the stomach wall (FPE218) **F. Marra**[a], M.J. Ferrua[b], R.P. Singh[b,c] *[a]Department of Industrial Engineering, University of Salerno, Italy, [b]Riddet Institute, Massey University, New Zealand, [c]Department of Biological and Agricultural Engineering, University of California, USA*
	Rheological properties of brown and white rice during in vivo digestion in pigs (FPE415) **G.M. Bornhorst**[a], S.M. Rutherfurd[b], N. Stroebinger[b], R.P. Singh[a,b], P. Moughan[b] *[a]University of California Davis, USA, [b]Riddet Institute, Massey University, New Zealand*
	Food breakdown during human mastication – Quantitative characterization (FMS597) **E.H.-J. Kim**[a], M.P. Morgenstern[a], J.E. Bronlund[b,c], K.D. Foster[d], A. Le Got[e] *[a]Food Structure & Engineering Team, The New Zealand Institute for Plant & Food Research Limited, New Zealand, [b]School of Engineering and Advanced Technology, Massey University, New Zealand, [c]Riddet Institute, Massey University, New Zealand, [d]Institute of Food, Nutrition and Human Health, Massey University, New Zealand, [e]Alimentation et Sante, Institut Polytechnique, France*
-10:30	**Peristaltic flow characteristics of non-newtonian fluids in elastic tubes (FPE659)** **S. Nahar**, S.A.K. Jeelani, E.J. Windhab *Institute of Food, Nutrition and Health, ETH Zurich, Switzerland*

Tuesday, May 24th	08:15-10:30
Session 3 (Parallel): Modeling of quality and safety and predictive microbiology (MFS 2)	
	Room Erato
Chairs: J. Van Impe, K. Koutsoumanis	
08:00-	**Stochastic models of microbial growth as a tool for a risk-based management of food quality and safety (MFS1208)** K. Koutsoumanis *Food Science And Technology, Aristotle University Of Thessaloniki, Greece*
	Developing Next Generation Predictive Models: a Systems Biology Approach (MFS1321) J.F.Van Impe *BioTeC-Chemical and Biochemical Process Technology and Control, Department of Chemical Engineering, Katholieke Universiteit Leuven, Belgium*
	Salmonella survival in low aw environment (MFS1156) **E. Margas[a,b]**, A. Alstrom-Moore[a], C. Dodd[b], J. Holah[a] *[a]Campden BRI, UK, [b]The University of Nottingham, UK*
	Predictive model for inactivation of Lactobacillus rhamnosus in apple juice by combined pulsed electric field and thermal processing (MFS431) **R. Buckow**, K. Karpinski, G.Knight *CSIRO Food and Nutritional Sciences, Australia*
	A thermodynamic approach to assess a cellular mechanism of inactivation and the thermal resistance of Listeria innocua (MFS452) **T. Skåra[a,b]**, A.M Cappuyns[b], S.O Johnsen[a], E. Van Derlinden[b], J.T.Rosnes[1], Ø. Olsen[a], J.F.M. Van Impe[b], V.P. Valdramidis[c] *[a]Nofima, Norway, [b]Katholieke Universiteit Leuven, Department of Chemical Engineering, BioTeC, Chemical and Biochemical Process Technology and Control, Belgium CPMF², Flemish Cluster Predictive Microbiology in Foods, [c]Biosystems Engineering UCD, School of Agriculture, Food Science and Veterinary Medicine, University College Dublin, Ireland*
	Operating Characteristic curves for single, double and multiple fraction defective sampling plans developed for Cronobacter in powder infant formula (MFS717) **A. Mussida**, U. Gonzales-Barron, F. Butler *Biosystems Engineering, UCD School of Agriculture, Food Science and Veterinary Medicine, University College of Dublin, Ireland*
	Heat adaptation of Escherichia coli K12: effect of acid shock and glucose (MFS 729) **E.G. Velliou[a]**, E. Van Derlinden[a], A.M. Cappuyns[a], J. Goossens[a], A.H. Geeraerd[b], F. Devlieghere[c], J.F.Van Impe[a] *[a]BioTeC-Chemical and Biochemical Process Technology and Control, Department of Chemical Engineering, Katholieke Universiteit Leuven, Belgium, [b]MeBioS-Division of Mechatronics, Biostatistics and Sensors, Department of Biosystems, Katholieke Universiteit Leuven, Belgium, [c]Department of Food Technology and Nutrition, Ghent University, Belgium*
-10:15	**Neural Network Model for Predicting and Classifying Exotic Tropical Fruits Based on Its Maturity and Ripeness (MFS1029)** **H.K. Purwadaria**, I.W. Budiastra, A. Rejo, D.A. Nasution Department of Mechanical and Biosystem Engineering, Bogor Agricultural University (IPB), Indonesia

Tuesday, May 24th	08:15-10:30
Session 4 (Parallel): Modelling of transport phenomena -I- (MCF 4)	
Room Hesperides	
Chairs: A. Datta,	
8:15-	**Modeling food process, quality and safety: Frameworks and practical aspects (MCF1201)** **A. Datta**, A. Dhall *Cornell University, USA*
	Diffusion mechanisms of solutes in chitosan-based edible films – behaviour in liquid and solid media and comparison between macro and nano scale (MCF1157) **M.A.C. Quintas[a,b]**, A.I. Bourbon[a], J.T. Martins[a], D.A.C. Quintas[c], A.C. Pinheiro[a], A.A. Vicente[a] *[a]IBB - Institute for Biotechnology and Bioengineering, Universidade do Minho, Portugal, [b]CBQF - Escola Superior de Biotecnologia, Universidade Católica Portuguesa, Portugal, [c]Centre for Telecommunications Research, King's College London, UK*
	An Eulerian-Lagrangian approach for coupling CFD and population balance equation (MCF206) **E. Chantoiseau[a,b],** A. Plana-Fattori[a,b], F-T. Ndoye[c], C. Doursat[a,b], D. Flick[a,b] *[a]AgroParisTech, UMR1145 Ingénierie Procédés Aliments, France, [b]AgroParisTech, UMR1145 Ingénierie Procédés Aliments, France, [c]Cemagref, Refrigeration Processes Engineering Research Unit, France*
	Non-equilibrium multiphase modeling approach for convective drying of potato tissues: the spatial reaction engineering approach (S-REA) (MCF605) **X. Dong Chen[a,b]**, A. Putranto[b] *[a]Department of Chemical and Biochemical Engineering, Xiamen University, China, [b]Department of Chemical Engineering, Monash University, Australia*
	3D Pore scale network model for the transport of liquid water, water vapor and oxygen in polymeric films (MCF726) **L.A. Segura[a]**, J.E. Paz[a] *[a]Food Engineering Department, Universidad del Bío-Bío, Chile*
	Multiscale model of structure development in expanded starch snacks (FMS65) **R.G.M. van der Sman**, J. Broeze Agrotechnology Food Sciences Group, Wageningen University & Research, the Netherlands
	Effect of morphology on water sorption in cellular solid foods (MCF1309) **E. Esveld**[a], R. van der Sman[a], M. Witek[b,d], C. Windt[b,e], G. van Dalen[c], H. van As[b], J. van Duynhoven[b,c], M. Meinders[a,f] *[a]Food & Biobased Research, Wageningen University and Research Centre, The Netherlands, [b]Laboratory of Biophysics and Wageningen NMR Centre, Wageningen University, The Netherlands, [c]Unilever R&D, The Netherlands, [d]Institute of Physics, Jagiellonian University, Poland, [e]Jülich Research Centre, Germany, [f]Top Institute Food and Nutrition, The Netherlands*
-10:30	**Fundamentals-based quality prediction: texture development during drying and related processes (EPF1210)** S. Thussu, **A. Datta** *Cornell University, USA*

Tuesday, May 24th	08:15-10:30
Session 5 (Parallel): Food dispersions and emulsions (FMS 2)	
Room Santorini	
Chairs: S. Yanniotis, P. Dejmek	
08:15-	**Texture and morphology of milk foams produced by steam injection (FMS325)** **A. Sher**[a], J.-C. Gumy[b], C. Jimenez-Junca[c], K. Niranjan[c] *[a]Nestle PTC, USA, [b]Nestle PTC, Switzerland, [c]Department of Food and Nutritional Sciences, University of Reading, UK*
	Starch particles for food based Pickering emulsions (FMS443) **M. Rayner**, A. Timgren, M. Sjöö,P. Dejmek *Department of Food Technology, Engineering, and Nutrition, Lund University, Sweden*
	Microstructural design to reduce lipid oxidation in oil-in-water emulsions (FMS489) **M. Kargar**, F. Spyropoulos, I.T. Norton *Department of Chemical Engineering, University of Birmingham, UK*
	Characterization of spray-dried layer-by-layer emulsions (FMS789) **Y. Serfert**[a], J. Schröder[b], A. Mescher[c], J. Laackmann[d], S. Drusch[e], K. Schwarz[a] *[a]University of Kiel, Germany, [b]Karlsruhe Institute of Technology KIT, Germany, [c]University of Dortmund, Germany, [d]University of Hamburg, Germany, [e]Beuth University of Applied Sciences, Germany*
	Production of uniform O/W emulsions through a porous medium of micron-sized glass beads (FMS938) **A. Nazir**, K. Schroën, R. Boom *Wageningen University, Department of Agrotechnology and Food Sciences, The Netherlands*
	Physicochemical characterization of hydroxypropyl methylcellulose based oil-in-water emulsions for edible film formation (FMS956) **R.N. Zúñiga**[a], F. Osorio[b], J.M. Aguilera[a], F. Pedreschi[a] *[a]Department of Chemical and Bioprocess Engineering, Pontificia Universidad Católica de Chile, Chile, [b]Department of Food Science and Technology, Universidad de Santiago de Chile, Chile*
	The effect of different stabilizers on the production of sub-micron o/w emulsions by using ultrasound techniques (FMS1059) O. Kaltsa[a], C. Michon[b], S. Yanniotis[a], **I. Mandala**[b] *[a]Agricultural University of Athens, Dept. Food Science & Technology, Greece, [b]AgroParisTech/CNAM/INRA UMR 1145 IPA, Unit for Food Process Engineering, France*
	Physical stability of beverage emulsions as influences of orange oil, tragacanth and arabic gums concentrations (FMS1064) **E. Rezvani**[a], A.R. Taherian[b], G. Schleining[a] *[a]Department of Food Science and Technology, BOKU-University of Natural Resources and Life Sciences, Austria [b]Food Research and Development Center, Agriculture and Agri-Food Canada, Canada*
-10:30	**Large microchannel emulsification device for producing monodisperse fine droplets (FMS959)** *I.* Kobayashi[a], M.A. Neves[a,b], Y. Wada[c], K. Uemura[a], **M. Nakajima**[a,b] *[a]Food Engineering Division, National Food Research Institute, NARO, Japan, [b]Graduate School of Life and Environmental Sciences, University of Tsukuba, Japan, [c]EP Tech Co., Ltd., Japan*

Tuesday, May 24th	08:15-10:30
Session 6 (Parallel): Emerging technologies -III- (NFP 4)	
Room Santorini	
Chairs: E. Vorobiev, N. Lebovka, Hao Feng	
8:15-	**Enhancing extraction from solid foods and biosuspensions by Electrical Pulsed Energy (Pulsed Electric Field, Pulsed Ohmic Heating and High Voltage Electrical Discharge) (NFP514)** **E. Vorobiev[a],** N. Lebovka[b] *[a]Département de Génie des Procédés, Université de Technologie de Compiègne, Centre de Recherche de Royallieu, France, [b]Institute of Biocolloidal Chemistry named after F. D. Ovcharenko, NAS of Ukraine, Ukraine*
	Efficacy of electrolyzed water produced from different principles (NFP14) **Y.-C. Hung**, P. Pangloli *Department of Food Science and Technology, University of Georgia, USA*
	Aggregation and gelation properties of egg white proteins as affected by high intensity ultrasound (NFP317) **A.M.R. Pilosof[b],** C. Arzeni[a], O.E. Pérez[b] *Departamento de Industrias, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires, Argentina, [a]Agencia Nacional de Promoción Científica y Tecnológica de la República Argentina (ANPCyT), [b]Consejo Nacional de Investigaciones Científicas y Técnicas, Argentina*
	Assessing the mechanism of microbial inactivation during ozone processing (NFP376) **P.J. Cullen [a]**, S. Patil[a], V.P. Valdramidis[b], K.A.G. Karatzas[c], P. Bourke[a] *[a]Food and Health Research Centre, Dublin Institute of Technology, Ireland, [b]Biosystems Engineering UCD School of Agriculture, Food Science and Veterinary Medicine, University College Dublin Belfield, Ireland, [c]Department of Microbiology, National University of Ireland, Ireland*
	High intensity ultrasound as a new food processing and preservation modality (NFP545) **H. Feng[a]**, B. Zhou[a], Y. Li [b], H. Lee[a], J.W. Lee[a], P. Raviyan[c], Z. Zhang[a] *[a]Department of Food Science and Human Nutrition, University of Illinois at Urbana-Champaign, USA, [b]Department of Agricultural and Biological Engineering, University of Illinois at Urbana-Champaign, USA, [c]Chiang Mai University, Faculty of Agro-Industry, Thailand*
	Effects of Ohmic Heating on Denaturation of Whey Proteins Solutions: Influence on Whey-Derived Products (NFP1014) **R.N. Pereira**, J.A. Teixeira, A.A. Vicente IBB-Institute for Biotechnology and Bioengineering, Centre for Biological Engineering, University of Minho, Portugal
	Optimization of microwave cooking of courgette in terms of nutrient preservation and energy consumption (NFP668) **I.D. Bedoui[a],** H. Abdellaoui[b], R. Alexa[a], P. Jacolot[a], C. Druon[a], F.J. Tessier[a], J.-C. Laguerre[a,c] *[a]Institut Polytechnique Lasalle Beauvais, France, [b]Institut Nationale Agronomique de Tunis, Ressources Animales Halieutiques et Technologies Agroalimentaires, Tunisia, [c]UMR GENIAL 1145 - Ingénierie Procédés Aliments (INRA - AgroParisTech - CNAM), France*
-10:30	**Glass Transition Changes During Osmotic Dehydration (FMS931)** **M.E. Rosas-Mendoza[a,b],** J.L. Fernández-Muñoz[b], J.L. Arjona-Román[a] *[a]Departamento Ingeniería y Tecnología, FES-Cuautitlán U_AM, Estado de México, México, [b]Centro de Investigación en Ciencia Aplicada y Tecnología Avanzada del Instituto Politécnico Nacional, México*

10:30	Coffee Break

Tuesday, May 24th	11:30-14:15
Session 1 (Parallel): Water and water related phenomena in foods (FMS 10)	
Room Terpsichore (A)	
Chairs: A. Liapis, T.P. Labuza	
11:30-	**Water Relations In Food: Paradigm Shifts to Supplant "Cook and Look" (FMS1316)** **T.P. Labuza** *Dept. of Food Science and Nutrition Univ. of Minnesota, USA*
	Water-Macromolecule iInteractions in food dehydration and the effects of pore structures on such interactions (FMS147) **A.I. Liapis,** J.-C. Wang *Department of Chemical and Biological Engineering, Missouri University of Science and Technology, USA*
	Quantification in Starch Microstructure as a Function of Baking Time (FMS100) **M. Schirmer,** M. Jekle, T. Becker *Institute of Brewing and Beverage Technology, Technische Universität München, Germany*
	Mass transfer during osmotic dehydration of apple using sucrose, fructose and maltodextrin solution (FMS779) **M.A. Khan**[a], R.N. Shukla[a], S. Zaidi[b] *[a]Dept. of Post Harvest Engg. & Tech., AMU, India, [b]Dept. of Chemical Engg., AMU, India*
	Effect of maltodextrins on water adsorption and glass transition of spray dried soy sauce powders (FMS848) **W. Wang ,**W. Zhou *Department of Chemistry, National University of Singapore, Singapore*
	Water absorption as an evaluation method of cooking quality for yam (Dioscorea alata) and cassava (Manihot esculenta crantz) (FMS932) **K. K. Oliviera**[b], N. Charlemagne[a,b], B. Bassirou[b], N'dri Denis[a], Amani N'guessan Georges[a] *[a]UFR STA, Université Abobo-Adjamé, Côte d'Ivoire, [b]Centre Suisse de Recherches Scientifiques en Côte d'Ivoire (CSRS), Côte d'Ivoire*
	Moisture penetration and crystallization in sugar glasses (FMS822) **R. Bund**[a]**,** R. Hartel[b] *[a]Department of food science, UW-Madison, USA, [b]Department of food science, UW-Madison, USA*
	Osmo-Dehydration of fruits: a thermodynamic approach via Knudsen thermogravimetry (FMS1202) **D. Fessas**, M. Signorelli, A. Schiraldi *DISTAM, Università di Milano, Italy*
-14:15	**Effects of different drying conditions on pasta quality (FMS227)** **L. Zhang,** T. Nishizu, S. Hayakawa, K. Goto *Food Process Engineering Laboratory of Gifu University, Japan*

Tuesday, May 24th	11:30-14:15
Session 2 (Parallel): Design and processing of functional products (FPE 1)	
Room Terpsichore (B)	
Chairs: S. Kaufmann, M. Houska	
11:30-	**Food structure engineering for nutrition, health and wellness (FPE323)** **S.F.M. Kaufmann**[a], S. Palzer$_b$ *[a]Nestlé Research Center, Nestec Ltd, Switzerland, [b]Nestlé Product Technology Centre for Confectionery, Nestec York Ltd, UK*

	Food allergens and processing – review of recent results (FMS997) **M. Houska[a],** I. Setinova[b], P. Kucera[c] *[a]Food Research Institute Prague, Czech Republic, [b]Centre of Allergology Imumed, Ltd., Czech Republic, [c]Department of Allergy and Clinical Immunology, University Hospital Kralovske Vinohrady, Department of Immunology, 3rd Faculty of Medicine, Charles University, Czech Republic*
	Engineering functional foods with high vegetable content (FPE233) **E. Silva**, E. van der Linden, L. Sagis *Food Physics Group, Wageningen University, The Netherlands*
	Synthesis of functional food powder of simple and multiple emulsions through prilling process (FPE382) **B.N. Dubey**, M.R. Duxenneuner, E.J. Windhab *Lab. of Food Process Engineering, Institute of Food, Nutrition and Health, ETH Zurich, Switzerland*
	Self-structuring foods to impact on satiety (FPE1038) **F. Spyropoulos[a]**, A.B. Norton[b], I.T. Norton[a] *[a]School of Chemical Engineering, University of Birmingham, UK, [b]School of Physical Sciences, University of Kent, UK*
	Effects of green tea extract on large-deformation rheological properties of steamed bread dough and some quality attributes of steamed bread (FPE825) **V.K. Ananingsih**, W. Zhou *Department of Chemistry, National University of Singapore, Singapore*
	An eye from industry on recent advances in fluid bed agglomeration of beverage powders (FPE298) **E. Chávez Montes[a]**, M. Peglow[b], R. Hampel[c], J. Mariano[a], C. Filliol[a], J.-C. Gumy[a] *[a]Nestlé PTC Orbe, Switzerland, [b]Otto von Guericke University, Germany, [c]AVA Gmb, Germany*
	Grape Phenolic Infusion into Solids Foods: Studies on Mass Transfer and Antioxidant Capacity (FPE760) **M. Ferrando[a],** A. Rózek[b], I. Achaerandio[c], C. Güell[a] *[a]University Rovira i Virgili, Spain, [b]Shirota Functional Foods, Spain, [c]Departament d'Enginyeria Agroalimentaria i Biotecnologia. Universitat Politècnica de Catalunya, UPC, Spain*
-14:15	**Characterization, concentration and utilization of sweet and acid whey (FPE454)** **A.K. Alsaed[a]**, R. Ahmad[b], H. Aldoomy[a], S. Abd El-Gader[a], D. Saleh[a], H. Sakejha[a], L. Mustafa[a] *[a]Department of Nutrition and Food Technology, University of Jordan, Jordan, [b]Industrial Chemistry Center, The Royal Scientific Society, Jordan*

Tuesday, May 24th	**11:30-14:15**
Session 3 (Parallel): Innovation in traditional processing -II- (AFT 4)	
	Room Erato
Chairs: Y. M. Lo,, S. Papadakis	
11:30-	**Advancements in microbial polysaccharides research for frozen foods and microencapsulation of probiotics (AFT1231)** **Y.M. Lo, P**.D. Williams, P.K. Soma *Department of Nutrition and Food Science, University of Maryland, USA*
	Optical online measurement technique used for process control of the drying step during pasta production (AFT855) **F. Groß[a],** R. Benning[a], U. Bindrich[b], K. Franke[b], V. Heinz[b], A. Delgado[a] *[a]Institute of Fluid Mechanics, Friedrich-Alexander University Erlangen-Nuremberg, Germany, [b]German Institute of Food Technologies, Germany*

	Optimization of lycopene microencapsulation by spray drying (AFT970) **A.M. Goula[a],** K.G. Adamopoulos[b] *[a]Department of Food Science and Technology, Aristotle University of Thessaloniki, Greece, [b]Department of Chemical Engineering, Aristotle University of Thessaloniki, Greece*
	Inactivation of *Bacillus subtilis* spores in soybean milk by radio-frequency flash heating treatment (AFT913) **K. Uemura**, C. Takahashi, I. Kobayashi *National Food Research Institute, Japan*
	Ozone usage for adjustment of technological properties of wheat baking flour (AFT936) **O.N. Safonova[a],** E.A. Kholodova[b], V.I. Golota[c] *[a]Department of Foodstuffs Processing Technology, Petro Vasilenko Kharkiv National Technical University of Agriculture, Ukraine, [b]Department of Foodstuffs Processing Technology, Petro Vasilenko Kharkiv National Technical University of Agriculture, Ukraine, [c]Laboratory of Low-Temperature Non-Equilibrium Plasma Chemistry, National Science Center Kharkiv Institute Of Physics and Technology, Ukraine*
	The effect of high velocity steam injection on the colloidal stability of concentrated emulsions for the manufacture of infant formulations (AFT1094) **E.G. Murphy[a],** J.T. Tobin[a], Y.H. Roos[b], M.A. Fenelon[a] [a]Teagasc Food Research Centre, Ireland, [b]School of Food and Nutritional Sciences, University College Cork, Ireland
	A multi-flash-drying process for obtaining dehydrated crispy fruits (AFT359) **J. Borges Laurindo**, B.D. Almeida Porciuncula, M. Fernanda Zotarelli *Department of Chemical and Food Engineering, Federal University of Santa Catarina, Brasil*
	STEAM ASSISTED BAKING of COOKIES as COMPARED to CONVENTIONAL BAKING (AFT146) T. Kemerli[a], H. Isleroglu, H., M. Sakin Yilmazer[a], G. Guven[a], O. Ozdestan[a], F. Kaymak-Ertekin[a], A. Uren[a], B. Ozyurt[b] *[a]Ege University, Faculty of Engineering, Izmir, Turkey, [b]Arçelik A.S. Çayırova Campus, Turkey*
	Microencapsulation of curcumin in cells of Saccharomyces cerevisiae (FPE551) **E.I. Paramera[a]**, S.J. Konteles[b], S.E. Papadakis[b], V. T. Karathanos[a] *[a]Laboratory of Food Chemistry, Biochemistry & Physical Chemistry, Department of Nutrition & Dietetics, Harokopio University, Greece, [b]Department of Food Technology, Technological Educational Institute of Athens, Greece*
-14:15	**Combined Effect of Ultraviolet (UVC) and Far Infrared (FIR) Radiation on Quality and Microbial Decontamination of Cumin Seeds (MFS140)** **S.B. Erdogdu[a],** H.I. Ekiz[b] *[a]Department of Food Engineering, University of Mersin, Turkey, [b]Department of Food Engineering, University of Mersin, Turkey*

Tuesday, May 24th	**11:30-14:15**
Session 4 (Parallel): Food packaging and materials interaction (FMS 1-AFT)	
Room Hesperides	
Chairs: J. Floros, B. Welt,	
11:30-	**Dynamic accumulation method for measuring oxygen transmission rate of food packaging materials using florescence oxygen detection (FMS326)**

	B. Welt, A. Abdellatief University of Florida, USA
	Modelling of aroma compounds diffusion in polymeric films using artificial neural networks (FMS637) **B. Bolouri**[a], S.M.A. Ebrahimzadeh Mousavi[b] *[a]Department of Food Science and Technology, Islamic Azad University, Iran, [b]Department of Food Science and Technology, University of Tehran, Iran*
	Mathematical modelling and computational analysis of mass transport in perforation-mediated modified atmosphere packaging for strawberries (AFT748) **G. Xanthopoulos**[a]**,** E.D. Koronaki[b], A.G.Boudouvis[b] *[a]Agricultural University of Athens, Dept. of Natural Resources & Agricultural Engineering, 75 Iera Odos Str., 11855, Athens, Greece, [b]National Technical University of Athens, School of Chemical Engineering, Greece*
	Assessment of sustainable antimicrobial polymers with regard to their applicability in the food chain (FMS740) **Y. Ilg**[a], M. Kreyenschmidt[b], R. Lorenz [b], J. Zerbe[a], J. Kreyenschmidt[b] *[a]Cold Chain Management Group, University of Bonn, Germany, [b] Institute for Construction- and Functional Materials, University of Applied Science, Germany*
	Biopolymer-based films as carriers of antimicrobial agents (FMS742) **K.G. Zinoviadou**, K.P. Koutsoumanis, C.G. Biliaderis *Department of Food Science and Technology, Aristotle University of Thessaloniki, Greece*
	Biodegradable fish gelatin/chitosan composite films: homogeneous and bi-layer structures (AFT1169) **V.D. Alves**, A. Fernandes, C. Cordeiro, I. Sousa *CEER – Biosystems Engineering, Technical University of Lisbon, Portugal*
	Controlled release of nisin from biopolymer films (AFT392) J. Chacko[a], **M. Lalpuria**[b], J. Floros[b], R. Anantheswaran[b] *[a]General Mills Inc., Minneapolis, USA, [b]Department of Food Science, The Pennsylvania State University, USA*
	Antimicrobial packaging films with a sorbic acid based coating (AFT619) **C. Hauser**[a,b]**,** J. Wunderlich[a] *[a]Department Food Quality, Fraunhofer Institute for Process Engineering and Packaging IVV, Germany, [b]Henriette Schmidt-Burkhardt Chair of Food Chemistry, Friedrich-Alexander University Erlangen Nürnberg, Germany*
	Ultrasonic sealing of packaging films - influencing material properties (AFT527) **K. Thürling**[a]**,** S. Bach[b] *[a]Fraunhofer Application Centre for Processing Machinery and Packaging Technology, Germany, [b]Institute of Processing Machines and Mobile Machines, Technische Universität Dresden, Germany*
	Mechanical properties of cassava starch-based nano-biocomposites (FMS1007) **C.C. Tadini**[a], O. Teixeira Carvalho[a], L. Avérous[b] *[a]Dept. of Chemical Eng., Escola Politécnica, University of São Paulo, Brazil, [b]LIPHT-ECPM, Université de Strasbourg, France*
-14:15	**Effects of mechanism of gelation on physical, mechanical and antibacterial properties of alginate films with oregano essential oil incorporated (FMS817)** **R. Villalobos-Carvajal**[a], S. Benavides[b], J.E. Reyes[a] *[a]Department of Food Engineering, University of Bio Bio, Chile, [b]Faculty of Engineering and Business, Adventist University of Chile, Chile*

Session 5 (Parallel): Hygienic design and operation of food plants (HDO 1)	
	Room Sandorini
Chairs: P.J. Fryer	
11:30-	**Current knowledge in hygienic design; can we minimise fouling and speed cleaning (HDO488)** **P. Fryer** *School Of Chemical Engineering, University Of Birmingham, UK*
	Plasma technology for sterilization of food packaging material (HDO185) **P. Muranyi**, J. Wunderlich *Fraunhofer IVV, Freising, Germany*
	Local analysis of cleaning mechanisms in CIP processes (HDO371) **M. Schöler[a]**, H. Föste[b], W. Augustin[b], S. Scholl[b], J.-P. Majschak[a] *[a]Institute of Processing Machines and Mobile Machines, Technische Universität Dresden, Germany, [b]Institute for Chemical and Thermal Process Engineering, Technische Universität Braunschweig, Germany*
	Optimization of the cleaning efficiency by pulsed flow using an experimentally validated CFD model (HDO380) **H. Föste[a], M. Schöler[b], J.-P. Majschak[c],** W. Augustin[d]**, S. Scholl[e]** *[a,d,e]Institute for Chemical and Thermal Process Engineering, Technische Universität Braunschweig, Germany, [b,c]Institute of Processing Machines and Mobile Machines, Technische Universität Dresden, Faculty of Mechanical Engineering, Germany*
	Enhanced cleaning of whey protein soils from nanocoated surfaces (HDO403) C. Boxler**, W. Augustin, S. Scholl** *Institute for Chemical and Thermal Process Engineering, Technische Universität Braunschweig, Germany*
	Influencing parameters in spray cleaning of food processing equipment (HDO633) **M. Mauermann[a]**, H. Köhler[b], U. Eschenhagen[c], C. Bellmann[d], A. Calvimontes[d], J.-P. Majschak[b] *[a]Fraunhofer Application centre for Processing Machines and Packaging Technology, Germany, [b]Faculty of Mechanical Engineering, Institute of Processing Machines and Mobile Machines, Technische Universität Dresden, Germany, [c]Faculty of Mechanical Engineering, Institute of Food Technology and Bioprocess Engineering, Technische Universität Dresden, Germany, [d]Leibniz Institut für Polymerforschung Dresden e.V., Germany*
	Using scanning fluid dynamic gauging to study the mechanisms and kinetics of enzyme-based cleaning (HDO788) **P.W. Gordon[a]**, A.D.M. Brooker[b], Y.M.J. Chew[c], J.M. Peralta[d], D.W. York[b], D.I. Wilson[a] *[a]Department of Chemical Engineering and Biotechnology, University of Cambridge, UK, [b]Procter & Gamble Technical Centres Ltd., UK, [c]Department of Chemical Engineering, University of Bath, UK, [d] Instituto de Desarrollo Tecnológico para la Industria Química (INTEC), Argentina*
	Populating the cleaning map: Investigating the feasibility of using physical properties to predict ease of cleaning (HDO795) P.J. Fryer**, P.T. Robbins,** P. Cole, Z. Zhang, **K. Asteriadou** *School of Chemical Engineering, University of Birmingham, UK*
	Cleanabilty study of a scraped surface heat exchanger (HDO90) W. Blel[a], P. Legentilhomme[a], T. Benezech[b], **F. Fayolle** *[a]GEPEA, UMR CNRS 6144, France, [b]UR 638, INRA, France*
-14:15	**Removal kinetics of Bacillus cereus biofilms from food equipment cleaned in place (HDO1271)** Y. Sylla, C. Faille and **T. Benezech**

Tuesday, May 24th	11:30-14:15
Session 6 (Parallel): Food Process Design Economics and Sustainability (FPD 1)	
Room Santorini	
Chairs: M. Okos, R. Boom	
11:30-	**Sustainable food processing systems path to a zero discharge: reduction of water, waste and energy (FPD1125)** **M.R. Okos,** W. Lee *Agricultural and Biological Engineering, Purdue University, USA*
	Food Process Intensification for much better sustainability (FMS 1276) Remko Boom, Atze Jan Van der Goot, Anja E.M. Janssen
	Nature program – Carbon Footprint reduction (AFT1293) R. Charbonnel *Danone Baby Nutrtion, The Netherlands*
	Breakthrough process technologies for a substantially smaller carbon footprint of food processing (AFT1287) **P. de Jong**, A. van Asselt, N. Hotrum, M. Fox, M. de Roode *NIZO food research, the Netherlands*
	Exergy based Process Synthesis: More than optimisation (FMS1303) **T. Baks** , Remko Boom
	A systematic approach to optimization of industrial lactose crystallization (FPD591) **R.W. Hartel[a,b]**, S.Y. Wong[a], R.K. Bund[b], R.K. Connelly[a,b,c] *[a]Department of Biological System Engineering, University of Wisconsin, USA* *[b]Department of Food Science, University of Wisconsin, USA, [c]Solae LLC, USA*
	Improving energy efficiency within the food cold-chain (FPD649) S.J. James**, C. James** *Food Refrigeration and Process Engineering Research Centre (FRPERC), The Grimsby Institute of Further & Higher Education (GIFHE), UK*
	Production based energy management for the food industry (FPD177) **W. Russ[b],** S. Franke[a], J. Höfler[c], M. Bouraia[b], T. Voigt[a], H.-C. Langwoski[a], H. Petermeier[c] *[a]Lehrstuhl für Lebensmittelverpackungstechnik, Germany, [b]Arbeitsgruppe Umwelttechnik in der Lebensmittelindustrie, Germany, [c]Fachgebiet Biostatistik, Germany*
	Theoretical energy calculations for food processing under south african conditions (FPD1189) **A. Murray[a]**, L.F. Lagrange[b] *[a]Andrew Murray Consulting, South Africa, [b]School of Bioresources Engineering and Environmental Hydrology, University of KwaZulu-Natal, South Africa*
14:15	**Sustainable food supply chain management: An essay towards an agenda for organizational sustainable thinking (FPD859)** **V.L. dos Santos Silva,** F. Makishi, A.L. Gabas *Department of Food Engineer, University of São Paulo, Brazil*

14:15	**End of Sessions**

Free Afternoon

Athens Walking Sightseeing Tour
or
Half Day Cruise to Aegina island

Wednesday, May 25th

08:00-17:00	Registration desk open

Wednesday, May 25th	08:00-10:15
Session 1 (Parallel): Food structure, microstructure and nanostructure (FMS 5)	
Room Terpsichore (A)	
Chairs: J.M. Aguilera, E. Shimoni	
08:00-	**Where is the"nano" in foods? (FMS1297)** **J.M. Aguilera**
	Enhancing genistein bioavailability by amylose complexes (FMS283) **R. Cohen**, E. Shimoni *Biotechnology & Food Engineering, Technion – Israel Institute of Technology, Israel*
	Nanostructures and polymorphisms in protein stabilised lipid nanoparticles, as food bioactive carriers: contribution of particle size and adsorbed materials (FMS296) R. Shukat[a], C. Bourgaux[b], F. Meneau[c], **P. Relkin[a]** *[a]AgroParisTech -UMR 1145, Department of Science and Engineering for Food & Bioproducts, France, [b]UMR CNRS 8612, France, [c]Synchrotron SOLEIL, France*
	Technological and nutritional aspects of solid lipid nanoparticles added to o/w emulsions (FMS663) **R. Greiner**, K. Oehlke, E. Walz, V. Graef *Department of Food Technology and Bioprocess Engineering, Max Rubner-Institut, Germany*
	Microstructural analysis of deep-fat fried formulated products by confocal laser scanning microscopy (clsm) and fluorescent labelling (FMS1179) **M.C. Moreno**, P. Bouchon *Pontifica Universidad Católica de Chile, Chile*
	Gas bubbles in structured foods: technical advances to monitor their growth and impact on process understanding and modeling (FMS1030) **T. Lucas[a,b]**, D. Grenier[a,b], Y. Laridon[a,b], S. Challois[a,b], C. Doursat[c], D. Flick[c] *[a]Cemagref, Food Engineering And Processing, France, [b]Université européenne de Bretagne, France, cUMR 1145, AgroParisTech, France*
	Effect of pore structure and starch retrogradation on physical properties of breadcrumb (FMS219) **M. Tashiro,** T. Nishizu, K. Hashizume, H. Sako, K. Goto *Food Process Engineering Laboratory, Gifu University, Japan*
-10:15	**Chitin nanocrystal o/w stabilized emulsions (FMS 763)** M.V. Tzoumaki[a], T. Moschakis[a], V. Kiosseoglou[b], C.G. Biliaderis[a] *[a]Department of Food Science and Technology, School of Agriculture Aristotle University of Thessaloniki, Greece, [b]Department of Chemistry, Aristotle University of Thessaloniki, Greece*

Wednesday, May 25th	08:00-10:15
Session 2 (Parallel): Transport properties (EPF 5)	
Room Terpsichore (B)	
Chairs:	
08:00-	**MRI Texture Analysis as Means for Addressing Rehydration and Milk Diffusion on Cereals (EPF116)** **A. Melado**[a], P. Barreiro[a], L. Rodríguez-Sinobas[b], M.E. Fernández-Valle[c], J. Ruíz Cabello[d], S. Chassagne-Berces[e], H. Chanvrier[e] *[a]Physical Properties Laboratory and Advanced Technologies in Agrofood, UPM, Spain, [b]Rural Engineering Department, UPM, Spain, [c]CAI RMN Universidad Complutense, Spain, [d]Insituto de Estudios Biofuncionales, UCM, Spain, [e]NESTEC S.A., Switzerland*
	Texture changes in bolus to the "point of swallow" - fracture toughness and back extrusion to test start and end (EPF255) **B. James**[a], A. Young[a], B. Smith[a], E. Kim[b], A. Wilson[b], M.P. Morgenstern[b] *[a]Chemical and Materials Engineering, University of Auckland, New Zealand, [b]The New Zealand Institute for Plant and Food Research, New Zealand*
	Moisture Distribution in Broccoli: Measurements by MRI Hot Air Drying Experiments (EPF360) **X.Jin**[a], R.G.M. van der Sman[b], E. Gerkema[c], F.J. Vergeldt[c], H. van As[c], A.J.B. van Boxtel[a] *[a]Systems and Control Group, Wageningen University, The Netherlands, [b]Food Process Engineering Group, Wageningen University, The Netherlands, [c]Laboratory for Biofysics, Wageningen University, The Netherlands*
	Rate kinetics of bread bolus disintegration during in vitro digestion (EPF414) **G.M. Bornhorst**[a], R. P. Singh[a,b], D.R. Heldman[a] *[a]University of California Davis, USA, [b]Massey University, New Zealand*
	Moisture sorption characteristics of heat treated flour, culinary flour and high ratio cake (EPF515) **T.R.A. Magee**[a], G. Neill[a], A.H. Al-Muhtaseb[b] *[a]Queen's University Belfast, UK, [b]Al-Hussein Bin Talal University, Jordan*
	Effect of feed liquid viscosity on flavor retention of bergamot oil encapsulated in spray-dried modified starch powder (EPF602) **P. Penbunditkul**[a], H. Yoshii[b], U. Ruktanonchai[c], T. Charinpanitkul[a], A. Soottitantawat[a] *[a]Department of Chemical Engineering, Chulalongkorn University, Thailand, [b]Department of Applied Biological Science, Kagawa University, Japan, [c]National Nanotechnology Center (NANOTEC), National Science and Technology Development Agency (NSTDA), Thailand*
	The Influence of freeze drying conditions on microstructural changes of food products (EPF375) **V.P. Oikonomopoulou**[a], M.K. Krokida[a], V.T. Karathanos[b] *[a]Department of Chemical Engineering, National Technical University of Athens, Greece, [b]Department of Nutrition, Harokopio University, Greece*
	The effect of Supercritical Fluid extraction parameters on the nutmeg oil extraction and its cytotoxic and antiangiogenic properties (EPF700) S.S. Al-Rawi[a], A.H. Ibrahim[b], N.N. Ab Rahman[c], M.M. Ben Nama[c], A.M.S. Abdul Majid[b], M. O. Ab Kadir[a] *[a]Department of Environmental Technology, School of Industrial Technology, Universiti Sains Malaysia, Malaysia, [b]Department of Pharmacology, School of Pharmaceutical Sciences, Universiti Sains Malaysia, Malaysia, [c]Department of Biology, School of Distance Education, Universiti Sains Malaysia, Malaysia*
-10:15	

Wednesday, May 25th	08:00-10:15
Session 3 (Parallel): Food product development (FPE 3)	
	Room Erato
Chairs: Keshavan Niranjan, Luis M. Cunha	
08:00-	**Engineering deep fat frying for favourable health impact (FPE 1216)** Azmil Ahmad Tarmizi and **Keshavan Niranjan**
	Probiotic cashew apple juice (FPE924) **S. Rodrigues**, A.L.Fernandes Pereira, T. Cavalcante Maciel *Food Technology Department, Federal University of Ceará, Brazil*
	Novel source of pectin from young sugar palm by microwave assisted extraction (FPE642) **S. Rungrodnimitchai**, G. Leaungvongpaisan *Department of Chemical Engineering, Faculty of Engineering, Thammasat University, Thailand*
	Application of Multicriteria Decision Methods (MCDM) for the development of functional food products in Venezuela (FPE160) **A. Harrar de Dienes**[a], M. García Melón[b], J. Alcaide Marzal[b] *[a]Universidad Metropolitana, Venezuela, [b]Universidad Politécnica de Valencia, Spain*
	Modification of food products properties by use of transglutaminase (FPE83) **A.G. Shleikin**, N.P. Danilov, G.V. Ternovskoy *Saint-Petersburg State University of Refrigeration & Food Engineering, Russia*
	Application of the flash-profile technique to gain consumer insights regarding a newly developed symbiotic yoghurt with honey (FPE 1173) Sandra Gomes, **Luis M. Cunha**, Rui Costa Lima, Ana Gomes
	Development of salt double fortified with iodine and iron for the prevention and cure of micronutrient deficiency disieases (FPE28) **L. Diosady** *Department of Chemical Engineering and Applied Chemistry, University of Toronto, Canada*
-10:15	**Development of an extruded snack from the legume Vicia faba minor (FPE598)** **J. Smith**, A. Hardacre *Institute of Food Nutrition and Human Health, Massey University, New Zealand*

Wednesday, May 25th	08:00-10:15
Session 4 (Parallel): Bioprocess Engineering (NFP 7)	
	Room Hesperides
Chairs: Antonio José de Almeida Meirelles	
08:15	**Detoxification of Sago Trunk Hydrolysate Using Activated Charcoal for Xylitol Production (NFP1003)** **S.M. Mustapa Kamal**[a], N.L. Mohamad[a], A.G. Liew Abdullah[b], N. Abdullah[b] *[a]Department of Process and Food Engineering, [b]Department of Chemical and Environmental Engineering, Faculty of Engineering, Universiti Putra Malaysia, Malaysia*
	***Aspergillus niger* biofilms for lipases production, applying fibrous network of *Opuntia ficus-indica* (NFP297)** **H. J. L. Martínez,** C. J.C. Cano, D. N. Uresti, A. Iliná *Facultad de Ciencias Químicas, Universidad Autónoma de Coahuila, México*
	Effects of Physical Stress Factors On Isoflavonoid Biosynthesis From The Soy Plant Tissue Culture (NFP546)

	A. Gueven[a], D. Knorr[b] *[a]Tunceli University, Turkey, [b]Berlin University of Technology, Germany*
	A Flow Cytometric Approach to Monitor the Effects of Gentle Preservation Techniques in the Postharvest Chain (NFP672) **A. Fröhling[a]**, M. Baier[a], S. Klocke[a], D. Knorr[b], O. Schlüter[a] *[a]Leibniz Institute for Agricultural Engineering Potsdam, Dept. of Horticultural Engineering, Germany, [b]Technical University of Berlin, Department of Food Biotechnology and Food Process Engineering, Germany*
	Development of an Integrative Process for the Production of Bioactive Peptides from Whey by Proteolytic Commercial Mixtures (NFP889) **F.T. Welderufael**, P. Jauregi *The University of Reading, United Kingdom*
	Influence of the milieu conditions on trypsin hydrolysis of β-lactoglobulin (NFP465) **S.C. Cheison[a,b],** J. Brand[a], E. Leeb[a], U. Kulozik[c] *[a]ZIEL-Junior Research Group: Bioactive Peptides and Protein Technology, Technische Universität München, Germany, [b]School of Public Health and Community Development, Maseno University, Kenya, [c]ZIEL Technology Section, Technische Universität München, Germany*
	Design and techno-economic evaluation of microbial biopolymer production from food industry wastes and agricultural crops (FPD679) **I. Lopez García[a],** M. Pilar Dorado Perez[a], J.A. López[b], M.A. Villar[b], S. Yanniotis[c], A. Koutinas[c] *[a]Department of Chemical Physics and Applied Thermodynamics, University of Cordoba, Spain, [b]Planta Piloto de Ingeniería Química, PLAPIQUI-UNS-CONICET, Argentina, [c]Department of Food Science and Technology, Agricultural University of Athens, Greece*
	Production of galactooligosaccharides and biosurfactants by Pseudozyma tsukubaensis using cassava wastewater as an altenative pre-inoculum medium (FPE799) A.E. Cavalcante Fai[a], **A.P. Resende Simiqueli[a]**, G. Ghiselli[b], G.M. Pastore[a] *[a]Department of Food Science, Faculty of Food Engineering, University of Campinas, Brazil, [b]Department of Food Engineering, Faculty of Food Engineering, University of Campinas,Brazil*
-10:15	

Wednesday, May 25th	**08:00-10:15**
Session 5 (Parallel):Mechanical Processing of Foods (AFT 5)	
	Room Santorini
Chairs:	
08:00-	**On flow-fields in a high pressure homogenizer and its implication on drop fragmentation (AFT944)** **A. Håkansson[a],** L. Fuchs[b], F. Innings[c], J. Revstedt[b], C. Trägårdh[a], B. Bergenståhl[a] *[a]Food Technology, Lund University, Sweden, [b]Energy Sciences, Lund University, Sweden, [c]Tetra Pak Processing Systems, Sweden*
	Can protein functionalities be enhanced by high-pressure homogenization? – A study on functional properties of lupin proteins (AFT517) **S. Bader**, J. Bez, P. Eisner *Fraunhofer Institute for Process Engineering and Packaging, Freising, Germany*
	Homogenisation in the dairy process – conventional processes and novel techniques (AFT139)

	K. Köhler, H.P. Schuchmann *KIT, LVT, Germany*
	Understanding and analysis of wear in homogenizers for processing liquid food (AFT457) **F. Innings**[a], E. Hultman[a], F. Forsberg[a], B. Prakashb[b] [a]*Tetra Pak Processing Systems, Sweden,* [b]*Luleå University of Technology, Sweden*
	Experimental laboratory-scale study of thermo-mechanical treatment of whey protein solution in industrial process-like conditions (AFT302) **N. Erabit**[a]**,** G. Alvarez[a], D. Flick[b] [a]Cemagref, Refrigeration Processes Engineering Research Unit, France, [b]AgroParisTech, France
	Extrusion processing of DDGS based aquaculture feeds (AFT1290) **K. Muthukumarappan**[a], F. Ayadi[a], K. A. Rosentrater[b] [a]*Department of Agricultural and Biosystems Engineering, USA,* [b]*North Central Agricultural Research Laboratory, USA*
	Preliminary study on microbeads production by co-extrusion technology (FPE1259) **L. Piazza**, T. Roversi *Department of Food Science and Microbiology, University of Milan, Italy*
	Gas-assisted oilseed pressing – design and tests with a novel high-pressure screw press (AFT247) **A.Pietsch**[a]**,** R.Eggers[b] [a]*Eurotechnica GmbH, Germany,* [b]*Technical University Hamburg-Harburg, Hamburg, Germany*
-10:15	**Experimental and CFD studies of fluid dynamic gauging in cross-flow microfiltration systems (HDO494)** **W. Lewis**, J. Chew, M. Bird *Department of Chemical Engineering, University of Bath, UK*

10:15	**Coffee Break**

Wednesday, May 25th	**11:15-13:15**
Session 1 (Parallel): Food rheology (FMS 4)	
	Room Terpsichore (A)
Chairs: M.A. Rao	
11:15-	**<u>Rheological and structural characteristics of nanometer-scale food protein fibril dispersions and gels (FMS1299)</u>** **M. A.Rao**[b], S.M. Loveday[a], H. Singh[c] [a]*The Riddet Institute, Massey University, New Zealand,* [b]*Cornell University, USA,* [c]*The Riddet Institute, Massey University, New Zealand*
	Influence of wheat bran on wheat dough rheology and subsequent texture of bread (FMS989) **K. Katina**[a], H. Chiron,[b], A.-L. Requerre[b], L. Chanier[b], K. Poutanen[a], G. Del Valle[b] [a]*VTT, Finland,* [b]*INRA, France*
	Rheological Modelling of Polymeric Systems for Foods: Experiments and Simulations (FMS1027) **P.H.S. Santos**[a], M.A. Carignano[b], O.H. Campanella[a] [a]*Department of Agricultural and Biological Engineering, Purdue University, USA,* [b]*Department of Biomedical Engineering and Chemistry of Life Processes Institute, Northwestern University, USA*
	Viscoelastic characterization of fluid and gel like food emulsions stabilized with hydrocolloids (FMS332)

	N.E. Zaritzky[a,b], G. Lorenzo[a,b], A.N. Califano[a] [a]*Centro de Investigación y Desarrollo en Criotecnología de Alimentos (CIDCA), Facultad de Ingeniería, UNLP, Argentina,* [b]*Departamento de Ingeniería Química, Facultad de Ingeniería, UNLP, Argentina*
	Non-destructive Characterization of Food Microstructure and Composition by Spatially-Resolved Spectroscopy (FMS940) **N. Nguyen Do Trong**[a], M. Tsuta[a, b], E. Herremans[a], R. Watté[a], C. Erkinbaev[a], E. Verhoelst[a], P. Verboven[a], B. M. Nicolaï[a], W. Saeys[a] [a]*Division of Mechatronics, Biostatistics and Sensors (MeBioS), Department of Biosystems, K.U.Leuven, Belgium.* [b]*National Food Research Institute, Tsukuba, Ibaraki, Japan*
	Characteristics of hydroxy propyl methyl cellulose (HPMC) based edible film developed for blueberry coatings (FMS215) **F. Osorio,** P. Molina, S. Matiacevich, J. Enrione, O. Skurtys *Dpto. Ciencia y Tecnología Alimentos, Facultad Tecnológica, Universidad de Santiago de Chile-USACH, Chile*
-13:15	**Using particle tracking to probe the local dynamics of barley β-glucan solutions (FMS756)** **T. Moschakis**, A. Lazaridou, C.G. Biliaderis *First Department of Food Science and Technology, School of Agriculture, Aristotle University, Greece*

Wednesday, May 25th	**11:15-13:15**
Session 2 (Parallel): Modelling and simulation II (MCF 3a)	
Room Terpsichore (A)	
Chairs: D. Heldman, F. Payne	
11:15-	**<u>Food preservation process design (MCF250)</u>** D.R. Heldman *Heldman Associates, USA*
	Empirical modeling for spray drying process of sticky and nonsticky products (MCF1028) **F. Saleena Taip**[a], L. Woun Tan[a], M. Nordin Ibrahim[a], R. Kamil[b] [a]*Department of Process and Food Engineering, Universiti Putra Malaysia, Malaysia,* [b]*Department of Electrical and Electronic Engineering, Universiti Putra Malaysia, Malaysia*
	Optimal design of experiments for the modelling of food processes (MCF269) **F. Courtois**[a,b], D. Goujot[a,b], X. Meyer[c] [a]*INRA, UMR1145 Ingénierie Procédés Aliments, France,* [b]*AgroParisTech, UMR1145 Ingénierie Procédés Aliments, France,* [c]*Laboratoire de Génie Chimique, Université de Toulouse, France*
	Artificial neural network model flexibly applicable to retort processes under various operating conditions (AFT423) Y. Llave**, T. Hagiwara, T. Sakiyama** *Department of Food Science and Technology, Tokyo University of Marine Science and Technology, Japan*
	Dynamic simulation of batch freezing tunnels for fish using Modelica (MCF632) **H.T. Walnum**[a], T. Andresen[a], K. Widell[b] [a]*SINTEF Energy Research, Norway,* [b]*Norwegian University of Technology and Science, Norway*
	Light backscatter applications in milk and dairy foods processing (MCF412) **F. Payne**[a], M. Castillo[b], M.-G. Danao[c] [a]*Biosystems and Agricultural Engineering, University of Kentucky, USA,* [b]*Food Science Department, University Autònoma de Barcelona, Spain,* [c]*Agricultural and Biological Engineering, University of Illinois, USA*

-13:15	**Finite element modelling of fish cooking by microwave (AFT299)** **S. Liu**, M. Fukuoka, N. Sakai *Department of Food Science and Technology, Tokyo University of Marine Science and Technology, Japan*

Wednesday, May 25th	**11:15-13:15**
Session 3 (Parallel): Engineering of delivery systems of bioactive foods (FPE 2)	
Room Erato	
Chairs: Erich Windhab	
11:15-	**Personalized nutrition a challenging global concept and its implications on innovations in food processing (FPE 933)** **Erich Windhab**
	Encapsulation and delivery of carotenoids-rich extract from tomato pomace in a prebiotic matrix (FPE1102) **M.L. Beirão-da-Costa[a]**, C. Duarte[a], S. Beirão-da-Costa[a,b], A.I. Bourbon[b], A.C. Pinheiro[b], A.T. Serra[c], M. Moldão-Martins[a], A.A. Vicente[b], C.M.M. Duarte[c] *[a]CEER, Biosystems Engineering, ISA, Technical University of Lisbon, Portugal [b]IBB, Institute for Biotechonology and Bioengineering, Centre of Biological Engineering, University of Minho, Portugal, [c]Instituto de Biologia Experimental e Tecnológica, Avenida da República, Quinta-do-Marquês, Estação Agronómica Nacional, Portugal*
	Microencapsulation of bioactive bilberry anthocyanins by means of whey protein gels (FPE137) **M. Betz**, U. Kulozik *Research Center for Nutrition and Food Sciences (ZIEL)-Department Technology, Technische Universität München, Germany*
	Microencapsulation of macadamia oil by spray drying (FPE127) **K. Laohasongkram**, T. Mahamaktudsanee, S. Chaiwanichsiri *Department of Food Technology, Chulalongkorn University, Thailand*
	Production and evaluation of alginate-chitosan microcapsules as an enteric delivery vehicle for probiotic bacteria (FPE819) **D. Charalampopoulos[a]**, M.T. Cook[a,b], V.V. Khutoryanskiy[b] *[a]Department of Food and Nutritional Sciences, University of Reading, UK, [b]Reading School of Pharmacy, University of Reading, UK*
	Encapsulation of bioactive compounds in nanoemulsion-based delivery systems (FPE794) **F. Donsi[a,b]**, M. Sessa[a], G. Ferrari[a,b], A. Mgaidi[c], H. Mediouni[c] *[a]Department of Industrial Engineering, University of Salerno, Salerno, Italy, [b]ProdAl Scarl-Competence Center on Agro-Food Productions, University of Salerno, Italy, [c]Faculty of Science, University of Tunis "El Manar", Tunisia*
-13:15	**Maillard-reaction based nano-capsules for protection of water-insoluble nutraceuticals in clear drinks (FPE467)** **Y.D. Livney**, G. Markman *The Faculty of Biotechnology and Food Engineering, The Technion, Israel Institute of Technology, Israel*

Wednesday, May 25th	**11:15-13:15**
Session 4 (Parallel): Emerging technologies -IV- (NFP 5)	
Room Hesperides	
Chairs: D. Knorr, M. Balaban	
11:30-	**Emerging technologies for targeted food processing (NFP1263)** **D. Knorr[a],** H. Jaeger[a], K. Reineke[a], K. Schoessler[a], O. Schlueter[b] *[a]Technical University of Berlin, Dept. of Food Biotechnology and Food Process Engineering, Germany, [b]Leibniz Institute for Agricultural Engineering Potsdam, Dept. of Horticultural Engineering, Germany*

	Effect of UV irradiation on the properties of whey protein solutions treated using a novel UV light reactor (NFP1132) **E. Kristo**, A. Hazizaj, M. Corredig *Department of Food Science, University of Guelph, Canada*
	Modification of polyphenols and cuticular surface lipids of Kale (B. *oleracea* convar. *sabellica*) with non-thermal oxygen plasma gaseous species (NFP306) **F. Grzegorzewski[b]**, M. Zietz[b], S. Rohn[c], L. W. Kroh[b], O. Schlueter[a] *[a]Leibniz Institute of Agricultural Engineering Potsdam-Bornim, Germany, [b]Technical University Berlin, School of Process Science, Germany, [c]University of Hamburg, Department of Chemistry, Institute of Food Chemistry, Germany*
	Dense Phase Carbon Dioxide Processing of Liquid Foods: a Review (NFP45) **M. O. Balaban[a],** G. Ferrentino[b] *[a]University of Alaska, U.S.A., [b]University of Trento, Italy*
	Diagnostic and Efficacy Characterisation of a Novel In-package Cold Atmospheric Plasma System (NFP520) **V.P. Valdramidis[a,b],** E. Byrne[a], J. Connolly[c], K.-A.G. Karatzas [d], K. Keener [e], J.-P. Mosnier[c], P.J. Cullen[a] *[a]School of Food Science and Environmental Health, Dublin Institute of Technology, Ireland, [b]Biosystems Engineering, School of Agriculture, Food Science and Veterinary Medicine, University College Dublin, Ireland, [c]School of Physical Sciences and NCPST, Dublin City University, Ireland, [d]Department of Microbiology, National University of Ireland, Ireland, [e]Food Science, Purdue University, US*
	Ultra High Pressure Homogenization (UHPH) treatment of vegetable milks: improving hygienic and colloidal stability (FMS480) **V. Ferragut**, M. Hernández-Herrero, F. Poliseli, D. Valencia, B. Guamis *Departament de Ciència Animal i dels Aliments, Universitat Autónoma de Barcelona, Spain*
-13:30	**Adjustment of milling, mash electroporation and pressing for the development of a pulsed electric field (PEF) assisted juice processing in industrial scale (NFP885)** **H. Jaeger,** M. Schulz, P. Lu, D. Knorr *Technical University of Berlin, Department of Food Biotechnology and Food Process Engineering, Germany*

Wednesday, May 25th	**11:15-13:15**
Session 5 (Parallel): Reaction kinetics in food processing (MFS 4)	
Room Santorini	
Chairs: C.L.M. Silva, G. Efremov	
11:15-	**Dynamic approach for assessing food quality and safety characteristics: the case of processed foods (MFS653)** T.R.S. Brandão, **C.L.M. Silva** *Centro de Biotecnologia e Química Fina, Escola Superior de Biotecnologia, Universidade Católica Portuguesa, Portugal*
	Interest of modeling heat transfer inside a reactor to estimate kinetic parameters (MFS477) N. Jiménez[a], **P. Bohuon[b]**, M. Dornier[b], C. Bonazzi[c], F. Vaillant[d] *[a]Universidad de Costa Rica, Costa Rica, [b]Montpellier SupAgro, UMR Qualisud, France, [c]INRA, UMR1145 Ingénierie Procédés Aliments, France, [d]CIRAD, UMR Qualisud, France*
	Methodology for extracting an observable reaction pathway for the simulation and control of Maillard reaction during baking of sponge-cake like products (MFS682) **C. Bonazzi[a,b]**, M. Courel[a,b], S. Fehaili[b,a], B. Broyart[b,a], B. Rega[b,a], X.M. Meyer[c], P. Giampaoli

	[a]*INRA, UMR1145 Ingénierie Procédés Aliments, France,* [b]*AgroParisTech, UMR1145 Ingénierie Procédés Aliments, France,* [c]*Université de Toulouse, Laboratoire de Génie Chimique CNRS/INPT/UPS, France*
	Investigation of acrylamide formation in curcumin-asparagine model system (MFS712) **A. Hamzalioğlu**[a], V. Gökmen[a,b] [a]Department *of Food Engineering,* [b]*Food Research Center, Hacettepe University, Turkey*
	Modeling the stability of green tea catechins EGCG and ECG during the biscuit making process (MFS853) **A. Sharma**, W. Zhou *Food Science and Technology Programme, Department of Chemistry, National University of Singapore, Singapore*
	Predicting the extent of Maillard reactions in infant formula during sterilization by ohmic heating (MFS433) **C. Mathilde**[a], R. Stéphanie[b], B.-A. Inès[c], P. Jean-Pierre[b] [a]*UMR1145 Ingénierie Procédés Aliments, France,* [b]*UMR Qualisud, Université Montpellier II, France,* [c]*Spectralys Innovation, France*
13:15	**Application of experiment design method for determination of drying kinetics (FMS1262)** **G. Efremov**[a], T. Kudra[b] [a]*Moscow State Open University, Russia,* [b]*CANMET Energy Technology Centre, Canada*

13:15	**Lunch Break**

Wednesday, May 25th	**14:30-16:30**
Session 1 (Parallel): State and phase transitions of food materials-relation to quality (FMS 8)	
Room Terpsichore (A)	
Chairs: Yrjö Roos, Pilar Buera	
14:30-	**Relaxations, glass transition and engineering properties of food solids (FMS773)** **Y.H. Roos** *School of Food and Nutritional Sciences, University College Cork, Ireland*
	Modelling crystal polymorphisms in chocolate processing (FMS1123) **P.J. Fryer**, S. Bakalis, B.J.D. Le Révérend, N.Z. Rois Anwar *School of Chemical Engineering, University of Birmingham, UK*
	The role of the glassy state in production and storage of freeze-dried starter cultures (FMS456) **M. Aschenbrenner**, U. Kulozik, P. Först *Food Process Engineering and Dairy Technology, TU München, Germany*
	Maillard reaction markers in cornflake production. Influence of process conditions and formulation (FMS 896) Abel Farroni, **Gabriela Lagorio**, Pilar Buera
	Development of state diagram of bovine gelatine by measuring thermal characteristics using Differential Scanning Calorimetry (DSC) (FMS11) **M. Shafiur Rahman**[a], G. Al-Saidi[a], N. Guizani[a], A. Abdullah[b] [a]*Department of Food Science, College of Agricultural and Marine Sciences, Sultan Qaboos University, Oman,* [b]*Faculty of Science and Technology, Universiti Kebangsaan Malaysia, Malaysia*
	Control of resistant starch content of cookie by pre-dehydration treatment (FMS33)

	K. Kawai, H. Kawai, Y. Hagura *Department of Biofunctional Science and Technology, Hiroshima University, Japan*
-16:30	**Stability of α-tocopherol in amorphous freeze-dried carbohydrate-protein systems (FMS200)** **Y. Zhou,** Y.H. Roos *University College Cork, Ireland*

Wednesday, May 25th	**14:30-16:30**
Session 2 (Parallel): Modelling of transport phenomena -II- (MCF 5)	
Room Terpsichore (B)	
Chairs: F. Erdogdu, M. Havet	
14:30-	**Mathematical modeling of transport phenomena for simulation and optimization of food processing operations (MCF31)** F. Erdoğdu *Department of Food Engineering, University of Mersin, Turkey*
	A hybrid CST/Neural network model for moisture prediction in milk powder during drying in a spouted bed (MCF157) **J.T. Freire[a]**, A.B. da Silva[a], A.R.F. de Almeida[b], F.B. Freire[a] *[a]Chemical Engineering Department, Federal University of São Carlos, Brazil, [b]Federal University of Pampa, Brazil*
	Simulations of Coupled Electro-, Fluid- and Thermo-Dynamics and Lactoperoxidase Inactivation during Continuous Pulsed Electric Field Treatments (MCF434) **R. Buckow,** J. Semrau, Q. Sui, K. Knoerzer *CSIRO Food and Nutritional Sciences, Australia*
	A discrete population balance to simulate the particle size distribution in a bolus of chewed rice (MCF600) **E.M. Gray-Stuart[a,b]**, J.R. Jones[b], J.E. Bronlund[a,b], A. Moongnarm[c], M.P. Morgernstern[d] *[a]The Riddet Institute, Massey University, New Zealand, [b]School of Engineering and Advance Technology, Massey University, New Zealand, [c]Department of Food Technology and Nutrition, Mahasarakham University, Thailand, [d]Food structure & engineering Team, The New Zealand Institute for Plant & Food Research Limited, New Zealand*
	Electrohydrodynamic modelling and its application to heat transfer enhancement (MCF687) **M. Havet,** S.'A. Ould Ahmedou *ONIRIS, LUNAM Université, France*
	CFD simulations in still cans filled with solid food items in liquid (MCF991) S. Yanniotis**, A. Dimou, N.G. Stoforos** *Department of Food Science and Technology, Agricultural University of Athens, Greece*
-16:30	**Modelling of beer microfiltration for process control (MCF939)** **M. Vollebregt,** R. van der Sman *Food & Biobased Research, The Netherlands*

Wednesday, May 25th	**14:30-16:30**
Session 3 (Parallel): Emerging technologies –II- (NFP 2)	
Room Hesperides	
Chairs: S. Sastry, **Xiaojun Liao**	
15:00-	**Ohmic and moderate electric field processing: developments and new applications (NFP121)** **S. K. Sastry[a],** M. Shynkaryk[a], R. Somavat[b] *[a]The Ohio State University, Columbus, USA, [b] Abbott Nutrition, Columbus, USA*
	Exploring the heating patterns of multiphase foods in a continuous

	flow, simultaneous microwave and ohmic combination heater (NFP1045) **S. Jun[a],** L.T. Nguyen[a], W. Choi[a], S.H. Lee[b] *[a]Department of Human Nutrition, Food and Animal Sciences, University of Hawaii, USA, [b]Department of Molecular Biosciences and Bioengineering, University of Hawaii, USA*
	Understanding Enzyme Inactivation Mechanisms during Pulsed Electric Field Treatments (NFP1154) **N. Meneses,** H. Jaeger, D. Knorr *Department of Food Biotechnology and Food Process Engineering, Berlin University of Technology, Germany*
	Enzyme inactivation in food processing using high pressure carbon dioxide technology (NFP265) **X. Liao**, W. Hu, L. Zhou, Z. Xu, Y. Zhang *College of Food Science and Nutritional Engineering, China Agricultural University, China*
	Influences of ultrasound and Ohmic heating on growth of Sake yeast (NFP132) **H. Hu[a]**, Y. Yonezawa[b], A. Matsuda[b], N. Ishida[a], A. Noguchi[a] *[a]Ishikawa Prefectural University, Japan, [b]Industrial Research Institute of Ishikawa, Japan*
	Supercritical extraction of petals and pellets of marigold flowers using ethanol-modified CO_2 (NFP1103) **K. Araus[a],** F. Temelli[b], J.M. del Valle[a], J.C. de la Fuente[c,d], P. Robert[e] *[a]Departamento de Ingeniería Química y Bioprocesos, Pontificia Universidad Católica de Chile, Chile, [b]Departament of Agricultural, Food and Nutritional Science, University of Alberta, Canada, [c]Departamento de Ingenería Química y Ambiental, Universidad Técnica Federico Santa María, Chile, [d]Centro Regional de Estudios en Alimentos Saludables, Chile, [e]Departamento de Ciencia de Alimentos y Tecnología Química, Universidad de Chile, Chile*
-17:00	**Effect of Electric Field on some functional properties on α-lactalbumin bovine analyzed as well with circular dichroism (NFP373)** **Robles López Ma. Reyna[a]**, Robles de la Torre R. René[a], Hernández Sánchez Humberto[b] Hernández Arana Andés *[a]CIBA-IPN. Centro de Investigación en Biotecnología Aplicada-IPN, México, [b]ENCB-IPN, México*

Wednesday, May 25th	**14:30-16:30**
Session 4 (Parallel): NUT PROCESSING AND COFFEE ROASTING	
Room Hesperides	
Chairs: Henry Schwartzberg, R.P. Singh	
14:30-	**Batch coffee roasting; roasting energy use; reducing that use (FPD260)** **H. Schwartzberg** *Food Science Dept., Univ. of Massachusetts, USA*
	Predictive modelling of textural quality of almonds during commercial storage and distribution (MFS292) L.Z. Taitano, **R.P.Singh** *Department of Biological and Agricultural Engineering, University of California, U.S.A.*
	X-ray imaging for fungal necrotic spot detection in pistachio nuts (MCF990) **S. Yanniotis[a]**, A. Proshlyakov[b], A. Revithi[a], M. Georgiadou[a] , J. Blahovec[b] *[a]Department of Food Science and Technology, Agricultural University of*

	Athens, Greece, [b]Department of Agricultural Engineering, Prague University of Life Sciences, Czech Republic
	Nanoemulsions of grape marc extract as natural additives to improve hazelnut paste shelf-life (FPE676) **G. Spigno[a]**, D. Amendola[a], Francesco Donsì[b], Mariarenata Sessa[b], Giovanna Ferrari[b], D.Marco De Faveri[a] *[a]Institute Of Oenology And Food Engineering, Università Cattolica Sacro Cuore, Italy, [b]Department of Chemical and Food Engineering, University of Salerno, Italy*
	Effect of the roasting process on glass transition and phase transition of Colombian Arabic coffee beans (FMS125) **W. Rivera[a],** X. Velasco[a], C. Galvez[a], C. Rincon[a], A. Rosales[b], P. Arango[b] *[a]Universidad del Cauca, Colombia, [b]Universidad Nacional de Colombia – Sede Manizales, Colombia*
	Determination of aflatoxin level in peanut paste using Fourier transform mid-infrared spectroscopy with attenuated total reflection (MFS1244) **H. Kaya-Celiker[a]**, P. Kumar Mallikarjunan[a], O. Dalay[b] *[a]Biological Systems Engineering, Virginia Polytechnic Institute and State University, USA, [b]Virginia Bioinformatics Institute, Virginia Polytechnic Institute and State University, USA*
-16:30	**An Artificial neural network modelling based optimisation method: a pistachio colour control during roasting process (MCF608)** B. Lamrini[a], R. Yeganeh[a,b], **G. Trystram[b]** *[a]UMR 1145 (GénIAL), AgroParisTech, INRA, France, [b]Department of Farm Machinery, Faculty of Agricultural Engineering, Ilam University, Iran*

Wednesday, May 25th	**14:30-16:30**
Session 5 (Parallel): Food Product and Process Applications	
	Room Santorini
Chairs: Viktor Nedovic	
14:30-	**<u>An overview of encapsulation technologies for food applications (FPE1305)</u>** **V. Nedovic[a]**, A. Kalusevic[a], V. Manojlovic[b], B. Bugarski[b] *[a]Department of Food Technology and Biochemistry, University of Belgrade, Sebia, [b]Department of Chemical Engineering, University of Belgrade, Serbia*
	Formulation of banana aroma impact ester in water-based microemulsion nanodelivery system for flavoring applications using sucrose laurate surfactant (FMS54) **A.E. Edris[a]**, C.R. Malone[b] *[a]Aroma & Flavor Chemistry Department, National Research Centre, Egypt, [b]School of Chemistry & Pharmacy, University of Reading, UK*
	Applicability of monoglyceride-oil-water gel to produce low-saturated fat products (FPE71) **S. Calligaris,** S. Da Pieve, B. Quarta, L. Manzocco, M. Anese, M.C. Nicoli *Dipartimento di Scienze degli Alimenti Università degli Studi di Udine, Italy*
	pH reduction of vegetables by the application of the vacuum impregnation method (AFT533) **A. Derossi**, T., De Pilli, M.P. La Penna, C. Severini *Department of Food Science University of Foggia, Italy*
	Nutritional effects of folic acid controlled release from mesoporous materials (FMS1286) **J. Barat[a]**, É. Pérez-Esteve[a], A. Bernardos[a,b], R. Martínez-Máñez[b] *[a]Universidad Politécnica De Valencia, Food Technology Department, Spain, [b]Universidad Politécnica De Valencia, Institute of Molecular Recognition and*

	Technological Development, Spain
	Enzymatic formation of copolymers and block-copolymers based on derivatized polysaccharides (FMS466) **A. M. Moscovici,** E. Shimoni *aThe Interdepartmental Program in Biotechnology, Biotechnology & Food Engineering, Technion – Israel Institute of Technology, Israel*
-16:30	**Assessing the use of Dielectric Spectroscopy to analyse composition and component mobility in a model cheese system (FMS335)** **J. Smith[a,b],** A. Carr[a], M. Golding[a], D. Reid[b], L. Zhang[b] *[a]Institute of Food Nutrition and Human Health, Massey University, New Zealand, [b]Fonterra Research Centre, New Zealand*

16:30	**Coffee Break**

Wednesday, May 25th	**17:00-18:30**
Session 1 (Parallel): Modelling and simulation III (MCF 3b)	
	Room Terpsichore (A)
Chairs: G. Trystram	
17:00	**New modelling stakes and tools to face complex food systems (MCF1304)** **G. Trystram**, N. Perrot and C. Trelea
	Modelling the formation of the fat droplets interface during homogenisation in order to describe texture (MCF498) **J. Foucquier[a]**, S. Gaucel[a], C. Surel[b], A. Riaublanc[b], C. Baudrit[a], N. Perrot[a] *[a]UMR782 Génie et Microbiologie des Procédés Alimentaires, AgroParisTech, France, [b]UR1268 BIA Biopolymères, Interactions, Assemblages, INRA, France*
	The complex system science for optimal strategy of management of a food system: the camembert cheese ripening (MCF136) **N. Perrot[a,b]**, S. Mesmoudi[b], R. Reuillon[b], E. Lutton[c], I. Alvarez[d] *[a]UMR 782 Génie Microbiologique et Procédés Alimentaires, AgroParisTech, France, [b]Institut des Systèmes complexes de Paris Ile de France, ISCPIF, France, [c]INRIA, Saclay Ile de France, France, [d]Cemagref, France*
	Analysis and modeling of drying kinetics of potatoes considering the shrinkage (MCF1214) **M.S. Bacelos[a],** P.I.F. Almeida[b] *[a]Departamento de Engenharias e Computação, Universidade Federal do Espírito Santo, Brazil, [b]Departamento de Engenharia Química, Universidade Federal de São Carlos, Brazil*
18:30	**The absorption of 2-acetyl-1-pyrroline during cooking of rice (Oryza sativa L.) with Pandan (Pandanus amaryllifolius Roxb.) leaves (MCF678)** **F. Yahya[a,b]**, P.J. Fryer[a], S. Bakalis[a] *[a]School of Chemical Engineering, University of Birmingham, UK, [b]Department of Food Science, Faculty of Agriculture and Food Science, Universiti Malaysia, Malaysia*

Wednesday, May 25th	**17:00-18:30**
Session 2 (Parallel): Food Waste Engineering (FEW 1)	
	Room Terpsichore (B)
Chairs: V. Gekas, Apostolis Koutinas	
17:00	**Membrane technology for the separation and the clarification of food additives recovered from olive mill wastewater (NFP458)** C.M. Galanakis[a], E. Tornberg[b], **V. Gekas[c]** *[a]Department of Environmental Engineering, Technical University of Crete, Greece, [b]Department of Food Technology, Engineering and Nutrition, Faculty of Engineering, Lund University, Sweden, [c]Department of Agricultural Sciences,*

	Biotechnology and Food Science, Cyprus University of Technology, Cyprus
	Production of enzymes by *Bacillus subtilis* using cassava wastewater as substrate (FEW1124) **A.P. Resende Simiqueli**, F.F. Cavalcante Barros, C. Serafini Pereira, B. Cavicchioli, G.M. Pastore *Department of Food Science, University of Campinas, Brazil*
	Pulsed light as a novel decontamination technology for pesticides residues in wastewaters (FEW702) **A. Baranda**, A. Lasagabaster, M.L. Artíguez, I. Martínez de Marañón *Food Research Division, AZTI-Tecnalia, Spain*
	Application of a combined biological and chemical system for the treatment of phosphorus-containing wastewater from the food industry (FEW35) **N.E. Zaritzky[a,b]**, C. De Gregorio[a], A.H. Caravelli[a] *[a]Centro de Investigación y Desarrollo en Criotecnología de Alimentos (CIDCA), UNLP-CONICET, Argentina, [b]Facultad de Ingeniería, UNLP, Argentina*
	Valorisation of confectionary industry wastes for the microbial production of polyxydroxyalkanoates (FEW677) **A. Koutinas[c],** J.A. López[a], M.A. Villar[a], I. López García[b], M. Pilar Dorado Pérez[b], F. Tsekoura[c], M. Komaitis[c], S. Papanikolaou[c] *[a]Planta Piloto de Ingeniería Química, PLAPIQUI (UNS-CONICET), Argentina, [b]Department of Chemical Physics and Applied Thermodynamics, University of Cordoba, Spain, [c]Department of Food Science and Technology, Agricultural University of Athens, Greece*
-18:30	**Effect of configuration of biomass on the behavior of anaerobic batch reactors in pilot-scale treating dairy wastewater (FEW381)** A.A. Pretti, J. Gaspar Moreno, R. S. de Souza Santana, S.C. de Pinho, G. Tommaso, **R. Ribeiro** *Department of Food Engineering - School of Animal Science and Food Engineering, University of São Paulo (USP), Brazil*

Wednesday, May 25th	**17:00-18:30**
Session 3 (Parallel): Risk assessment and safety assurance (MFS 5)	
	Room Erato
Chairs:	
17:00-	**<u>Meta-analysis for Quantitative Microbiological Risk Assessment</u> (MFS194)** **M.H. Zwietering**, Heidy M.W. den Besten *Wageningen University, The Netherlands*
	Incorporation of microbiological and molecular methods in HACCP monitoring scheme of molds and yeasts in a Greek dairy plant: A case study (MFS718) E. Beletsiotis, **D. Ghikas**, K. Kalantzi *DELTA FOODS S.A., Greece*
	Poisson-gamma and Poisson-lognormal models for the characterisation of within-batch and between-batch variability in microbial counts in foods (MFS182) **U. Gonzales-Barron**, F. Butler *Biosystems Engineering, UCD School of Agriculture, Food Science and Veterinary Medicine, University College Dublin, Ireland*
	The heterogeneous heat stress response of Escherichia coli K12 (MFS791) **I. Cornet[a,b]**, E. Van Derlinden [a], A.M. Cappuyns [a], W. Bruyninckx [b], A. Kovacs[a], J.F. Van Impe [a] *[a]BioTeC, Chemical and Biochemical Process Technology and Control,*

	Department of Chemical Engineering, KULeuven, Belgium, [b]Artesis University College, Belgium
-18:30	**On the influence of the experimental set-up on the heterogeneous heat response of E. coli K12 (MFS724)** **E. Van Derlinden**, K. Boons, I. Lule, J. Van Impe *BioTeC - Chemical and Biochemical Process Technology and Control, Katholieke Universiteit Leuven, Belgium*

Wednesday, May 25th	**17:00-18:30**
Session 4 (Parallel): Management and optimization of the food chain-from production to consumption (MFS 1)	
Room Hesperides	
Chairs: Peter Raspor,	
17:00-	**Food chain safety management systems: The impact of good practices (MFS1319)** **Peter Raspor**
	Bayesian networks to explain the effect of label information on product perception (MFS1072) **V.-A. Phan[a]**, A.P.W. Kole[b], U. Garczarek[c], M. Dekker[a], M.A.J.S. van Boekel[a] *[a]Product Design and Quality Management, Wageningen University, the Netherlands, [b]Centre for Consumer Research, the Netherlands, [c]Unilever Food and Health Research Institute, the Netherlands*
	A meta-analysis study of the effect of chilling on prevalence of microbiological indicators on pig carcasses (MFS759) **D. Bergin**, F. Butler *Biosystems Engineering, UCD School of Agriculture, Food Science and Veterinary Medicine, University College Dublin, Ireland*
	Milk transport security and traceability system (MFS868) **F. Payne[a]**, C. Thompson[b] *[a]Biosystems and Agricultural Engineering, University of Kentucky, USA, [b]Division of Regulatory Services, University of Kentucky, USA*
18:30	**Comparative life cycle assessment (LCA) of production and transport of chilled versus superchilled haddock (*Melanogrammus aeglefinus*) fillets from Norway to France (FEW674)** I.C. Claussen[a]**, E. Indergård[b], M. Grinde[b]** *[a]SINTEF Energy research, Norway, [b] Department of Energy and Process Engineering, NTNU – the Norwegian University of Science and Technology, Norway*

Wednesday, May 25th	**17:00-18:30**
Session 5 (Parallel): Unit operations for designed foods (FPE 6)	
Room Santorini	
Chairs:	
17:00-	**Impact of thermal processing on stability of milk glycoproteins (FPE462)** **N. Siegert**, E. Leeb, U. Kulozik *Technische Universität München, Food Process Engineering and Dairy Technology, Germany*
	Processing and product design for natural food products (FPE1272) **Dr.-Ing U. Bobe**, Dr. M. Michel *Nestlé Research Center, Switzerland*
	Ability of some food preservation processes to modify the overall nutritional value of food (MCF887)

	N. Achir[a], P. Bohuon[a], A. Collignan[a], I. Trezzani[b], **G. Trystram[b]** *[a]UMR 95 QualiSud (CIRAD, Montpellier SupAgro, France, [b]AgroParisTech, INRA, Food Process Engineering, France*
	Utilization of citrus peel by sub- and supercritical fluid technology (FPE908) **M. Goto[a]**, Siti Machmudah[a], Mitsuru Sasaki[b], Masahiro Tanaka[c] *[a]Bioelectrics Research Center, Kumamoto University, Japan, [b]Graduate School of Science and Technology, Kumamoto University, Japan*
	Effect of processing conditions on the physicochemical and structural characteristics of pregelatinised starch-fatty acid-glycerol extrudates (FPE196) **S.N. Raphaelides**, G. Dimitreli, S. Exarhopoulos, D. Mintzas, A. Lykidou *Department of Food Technology, ATEI of Thessaloniki, Greece*
-18:30	**W/O/W emulsions stabilised by fat crystals - Their formulation, stability and ability to retain salt (FMS1054)** **F. Spyropoulos**, S. Frasch-Melnik, I.T. Norton *School of Chemical Engineering, University of Birmingham, UK*

18:30	**End of Sessions**

20:30

Conference Gala Dinner

Thursday, May 26th

08:00-13:00	**Registration desk open**

Thursday, May 26th	**08:30-10:30**
Session 1 (Parallel): The Marcus Karel Symposium on Food Materials Science	
	Room Terpsichore (A)
Chairs:	
8:30-	Invited Opening Lecturers: Ted Labuza, Dietrich Knorr **Professor Marcus Karel: Building Paradigms for Food Engineering and Material Science as Influenced by Water, An Historical Journey (FMS1317)** T.P.Labuza **Relevance of Water in the High Pressure Processing Domain (NFP1314)** D. Knorr, K. Reineke + 4 selected original research papers
	Effect of sugar substitute on sucrose crystal growth rate (FMS818) J. He[a], **R. Bund[b]**, R. Hartel[b] *[a]James Madison Memorial High School, Madison, USA, [b]Department of food Science, UW-Madison*
	Effect of native crystalline structure of isolated potato starch on gelatinization behavior, then on glycemic response (FMS61) J. Parada and J.M. Aguilera

	Effect of pre-crystallization process and solid particle addition on cocoa butter crystallization and resulting microstructure during storage in chocolate model systems (FMS521) **L. Svanberg[a,b],** L. Ahrné[a], N. Lorén[a], E. Windhab[b] *[a]SIK- the Swedish Institute for Food and Biotechnology, Sweden, [b]Swiss Federal Institute of Technology, Institut für Lebensmittelwissenschaften, Switzerland*
10:30	**Crystallization in amorphous lactose-maltodextrin mixtures (FMS198)** **N. Potes[a],** Y.H. Roos[b] *[a]School of Food and Nutritional Sciences, University College Cork, Ireland, [b]School of Food and Nutritional Sciences, University College Cork, Ireland*

Thursday, May 26th	**08:30-10:30**
Session 2 (Parallel): The Walter Spiess Symposium on Food Processing Technology	
	Room Terpsichore (B)
Chairs:	
8:30-	Invited Opening Lecturers: Brian McKenna, Harry Lazarides **The Walter Spiess Symposium on Food Processing Technology** B. McKenna **(AFT1323)** **Food Processing Technology in a Sustainable Food Supply Chain** H. Lazarides **(AFT1322)** + 4 selected original research papers
	Efficacy of Some Non Thermal Operations on Shelf Life of Packaged Black Olive in the Absence of Brine (NFP102) S. B. Gök [a], **F. Pazir[b]** *[a]Namık Kemal University, Faculty Of Agriculture, Department of Food Engineering, Turkey, [b]Ege University, Faculty Of Engineering, Department of Food Engineering, Turkey*
	Development of breakfast cereals substitute enriched in bioactive compounds (FEW1050) S. Beirao-da-Costa, M. Fonseca, M. Moldao-Martins, M.L. Beirao-da-Costa *CEER – Biosystems Engineering. ISA. Technical University of Lisbon. Portugal*
	Development of infrared heating technology for tomato peeling (NFP1213) **Z. Pan[a,b]**, X. Li[b], Y. Wang[b,c], G. Atungulu[b], T.H. McHugh[a], M. Delwiche[b] *[a]Processed Foods Research Unit, Western Regional Research Center, USDA-ARS, USA, [b]Department of Biological and Agricultural Engineering, University of California Davis, USA, [c]College of Engineering, China Agricultural University, China*
-10:30	**Osmotic dehydration processing of kiwifruit pericarp tissue studied by means of LF-NMR relaxometry (FMS975)** **P. Santagapita[a,b]**, L. Laghi[a], V. Panarese[a], U. Tylewicz[a], P. Rocculi[a], M. Dalla Rosa[a] *[a]Alma Mater Studiorum, University of Bologna, Department of Food Science, Italy, [b]University of Buenos Aires, Faculty of Exact and Natural Sciences, Industry Department, National Council of Scientific and Technical Research (CONICET), Argentina*

10:30	**Coffee Break**

Thursday, May 26th	**11:00-13:00**
Session 3 (Parallel): The Henry Schwartzberg Symposium on Food Process Engineering Operations	
Room Terpsichore (A)	
Chairs:	
11:00-	Invited Opening Lecturers: Paul Singh, Gustavo Barbosa **Food engineering education in the digital age (FPD1302)** R.P. Singh **Henry G. Schwartzberg and his enlightening career (FPD1324)** G. V. Barbosa-Canovas + 4 selected original research papers
	Use of Near Infrared spectroscopy for in- and off-line performance determination of continuous and batch powder mixers: Opportunities & challenges (AFT963) **V. Kehlenbeck** *Nestlé PTC Lebensmittelforschung GmbH, Germany*
	A novel approach for optimal operation of freeze-drying processes based on time-scale model decomposition (AFT208) L.T. Antelo**, E. López-Quiroga**, A.A. Alonso *Process Engineering Group, IIM-CSIC, Spain*
	Stabilization of liquid-liquid interface in membrane contactors: application to the selective extraction of oxygenated terpenes from citrus essential oils (NFP809) **V. Athes**, A. Dupuy, I. Souchon *UMR GMPA 782 Microbiology and Food Process Engineering, AgroParisTech,INRA, France*
13:00	**Study of pressurized fluid extraction (PFE) conditions to obtain extracts from Brazilian cherry seeds (*Eugenia uniflora* L.) rich in phenolic compounds (NFP769)** **A.L. Oliveira**[a], E. Destandau[b], L. Fougère[b], C. Elfakir[b], M. Lafosse[b] *[a]ZEA, Faculdade de Zootecnia e Engenharia de Alimentos, Universidade de São Paulo, Brazil, [b]ICOA, Université d'Orléans, France*

Thursday, May 26th	**11:00-13:00**
Session 4 (Parallel): The George Saravacos Symposium on Transport Properties of Foods	
Room Terpsichore (B)	
Chairs:	
11:00-	Invited Opening Lecturers: Andy Rao, Vaios Karathanos **Research studies of Prof. Saravacos at Cornell University and their impact on Food Engineering (EPF336)** M.A. Rao **Transport Properties of Foods and their Impact in the Design of Food Processes (EPF1325)** V. T. Karathanos, Z.B. Maroulis + 4 selected original research papers
	Measurement of the effective diffusion coefficient of water in spray dried amorphous lactose particles (EPF665) **A.H.J. Paterson**, G. Ripberger *School of Engineering and Advanced Technology, Massey University, New Zealand*

	Development of tribology equipment to characterise food structures (EPF693) **T. Mills**, S. Bakalis, I. Norton *Chemical Engineering, University of Birmingham, UK*
	Effect of convective drying on quality of lemon balm (Melissa officinalis L.) (EPF440) **D. Argyropoulos**, J. Müller *Institute of Agricultural Engineering, Universität Hohenheim, Germany*
13:00	**Estimation of manufacturing cost of clove (*Eugenia caryolhyllus*) extracts obtained by supercritical fluid extraction using a commercial simulator (FPD807)** **J.M. Prado**, M.A.A. Meireles *LASEFI/DEA/FEA (School of Food Eng.), UNICAMP (University of Campinas), Brazil*

13:00- 13:30	**Conclusions –Closing remarks- End of Conference**

14:30- 19:00	**WORKSHOPS**