

Scientific Programme
1st. Day – 22 March 2010

9.00 – 9.10	Opening of Conference Prof. Xavier COQUERET (<i>Université de Reims Champagne-Ardenne</i>) Dr. Riaz KHAN (<i>Association Andrew VanHook</i>)
Session I:	Water Structure and Interactions in Food Chaired by: Dr. Riaz KHAN (<i>Association Andrew VanHook</i>)
9.10 – 9.50	PL1 : Role of water in the denaturation of proteins under high pressure, J. Raul GRIGERA , <i>IFLYSIB, CONICET-University of La Plata, Argentina</i>
9.50 – 10.10	IL1 : Water activity and volumetric properties of carbohydrate solutions - thermodynamic implications of a simple model, Maciej STARZAK , <i>Univ. KwaZulu Natal, Durban, RSA</i>
10.10 – 10.30	IL2 : Role of water in the polymorphic transitions of small carbohydrates, Mohamed MATHLOUTHI , <i>Univ. Reims Champagne-Ardenne, Reims, France</i>
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10.30 – 11.20	COFFEEBREAK POSTERS and EXHIBITION
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Session II:	Water Structure and Interactions in Food Chaired by: Prof. Maciej STARZAK (<i>Univ. KwaZulu Natal, Durban, RSA</i>)
11.20 – 11.40	OC1 : What are the mechanisms of deliquescence leading to early dissolution of crystalline NaCl-Sucrose mixtures? Laurent FORNY , Gilles Vuataz, <i>Nestl Research Center Vers-chez-les-Blanc, Switzerland</i>
11.40 – 12.00	OC2 : Characteristics of dehydration kinetics from dihydrate trehalose to anhydrous trehalose by ethanol in DSC pan, Nicolas VERHOEVEN , Ohashi Tetsuya, Sayaka Kurozumi, Eiyu Izumo, Yoshii Hidefumi, Furuta Takeshi, <i>Faculty of Engineering, Tottori University, Tottori, Japan</i>
12.00 – 12.20	OC3 : Hydration Properties and Proton Exchange in Aqueous Sugar Solutions Studied by Time Domain Nuclear Magnetic Resonance, Vincent AROULMOJI , M. Mathlouthi*, L. Feruglio ⁺ , E. Murano ⁺ , M. Grassi, <i>Protos, Trieste, Italy</i>
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12.30 – 14.00	LUNCH BREAK
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Session III:	Water Content and Food Quality Chaired by: Prof. Heinz-Dieter ISENGARD , <i>University of Hohenheim, Germany</i>
14.00 – 14.40	PL2 : Influence of moisture content and humectant type on aggregation of protein, hardening and nutritional quality loss during storage of protein nutritional bars, Ted LABUZA , Peng Zhou, Dan Zhu, Heather Taterka & Amy Tran, <i>University of Minnesota, St. Paul, USA</i>
14.40 – 15.00	IL3 : Calibration of On-line - NIR moisture measurement systems in food production processes, Hartmut FEDERLE , <i>Faculty of Product Engineering, Furtwangen, Germany</i>
15.00 – 15.20	IL4 : Water content of flavonoid/cyclodextrin nanoparticles, Daniel I. HADARUGA , Nicoleta G. Hădărugă ^b , Geza N. Bandur ^a , Heinz-Dieter Isengard, <i>University of Timișoara, Romania</i>
15.20 – 15.35	OC4 : Rapid moisture measurement with microwave resonance technology in infant formulas, Georg MERKH , Marion Dambacher and Heinz-Dieter Isengard, <i>University of Hohenheim, Germany</i>
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15.50 – 16.30	COFFEEBREAK POSTERS and EXHIBITION
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Session IV:

Water Content and Food Quality

Chaired by: **Prof. Kirsi JOUPPILA**, *University of Helsinki, Finland*

- 16.30 – 16.45 **OC5** : New methods to assess water diffusion in amorphous matrices: a critical comparison, **Alessandro GIANFRANCESCO**, G.. Vuataz, L. Forny, X. Mesnier, F. Salaun, *Nestlé Research Centre, Vers-Chez-Les Blanc, Switzerland*
- 16.45 – 17.00 **OC6**: Microwave Resonance Technology (MWR) for Process Control in Food Industry, **Jochen SCHOLZ**, Jochen Scholz, *Sartorius AG, Göttingen, Germany*
- 17.00 – 17.15 **OC7** : Non-destructive prediction of water activity, water and fat contents in dry-cured ham by computed tomography, **Eva SANTOS GARCES**, Pere Gou, Núria Garcia-Gil, Israel Muñoz, Jacint Arnau & Elena Fulladosa, *IRTA, Monells, Spain*
- 17.15 – 17.45 **Round Table**: Water content in industrial food: is scientific evidence enough to establish an analytical standard method? *Moderators*: **Heinz-Dieter ISENGARD**, *Univ. Hohenheim, Germany* and **Karl-Heinz GROBECKER**, *IRMM, Geel, Belgium*

2nd. Day – 23 March 2010

Session V:	Water Activity, barriers and Food Stability
	Part 1: Encapsulation and barriers
	Chaired by: Dr. Gilles VUATAZ (<i>Nestlé Research Centre, Vers-Chez-Les Blanc, Switzerland</i>)
9.00 – 9.30	PL3: Encapsulation and stabilization of bioactives in food: a water-management perspective, Job UBBINK , <i>Nestlé Research Centre, Vers-Chez-Les Blanc, Switzerland</i>
9.30 – 9.50	IL5 : Physico-chemical properties of edible films and coatings affected by moisture and/or flavour compounds interactions , Frédéric DEBEAUFORT , Alicia Hambleton., Andrée Voilley, <i>Université de Bourgogne, Dijon</i>
9.50 – 10.10	IL6: Building encapsulation systems by controlled polymer-polymer interactions in solutions, Jochen WEISS , <i>University of Hohenheim, Germany</i>
10.10 – 10.25	OC8: Water vapour permeability of bread crust is key to crispness retention, Anita HIRTE , Rob J. Hamer, Juliën A. Voogt, Marcel B.J. Meinder, and Cristina Primo-Martin <i>Wageningen University, The Netherlands</i>
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10.25– 11.05	COFFEEBREAK, POSTERS and EXHIBITION
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Session VI:	Water Activity and Food Stability
	Part 2a: Food Stability
	Chaired by: Prof. Ted LABUZA (<i>University of Minnesota, St. Paul, USA</i>)
11.05 – 11.35	PL4: Food stability determination: Challenges beyond water activity and glass transition, Shafiur RAHMAN , <i>Sultan Qaboos University, Muscat, Sultanate of Oman</i>
11.35 – 11.55	IL7: Modeling of water vapor adsorption on foods by using the grand canonical ensemble in a statistical physics treatment, Salah KNANI , A. Ben Lamine, M. Khalfaoui, M. A. Hachicha and M. Mathlouthi, <i>Université de Monastir, Tunisia and University of Reims Champagne Ardenne, France</i>
11.55 – 12.15	IL8: Estimation of energy requirements for air drying of fresh and blanched pumpkin, yam, and sweet potato slices, : Kolawole FALADE , <i>University of Ibadan, Ibadan, Nigeria</i>
12:15 – 12:30	OC9 : Keeping the quality of spray dried dairy ingredients: dependence on water activity and glass transition, Pierre SCHUCK , Serge Méjean, Anne Dolivet and Romain Jeantet, <i>INRA Rennes and AgroCampus Ouest, Rennes, France</i>
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12.30 – 14.00	LUNCHBREAK
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Session VII:	Water Activity and Food Stability
	Part 2b: Food Stability
	Chaired by: Prof. Hartmut FEDERLE , <i>Faculty of Product Engineering, Furtwangen, Germany</i>)
14.00 – 14.20	OC10: Determining Critical Water Activities for Phase Transitions Using the Dynamic Dew point Isotherm Method, Brady P. CARTER , <i>Decagon, Pullman, USA</i> - Shelly J. Schmidt and Xioda Yuan, <i>University of Illinois, Urbana, USA</i>
14.20 – 14.35	OC11: Water adsorption properties of cork material, Sonia LEQUIN , Jean-Pierre Bellat, Thomas Karbowiak, Régis Gougeon, Laurent Brachais, David Chassagne, <i>Université de Bourgogne, Dijon, France</i>
14.35 – 14.50	OC12: Crystallization behaviour of freeze-dried lactose and lactitol as detected from the loss of sorbed water, Kirsi JOUPPILA , P. Laine, <i>Univ. Helsinki, Finland</i>
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14.50 – 15.20	COFFEEBREAK, POSTERS and EXHIBITION
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Session VIII:

Water Activity and Food Stability

Part 2c: Food Stability

Chaired by: **Prof. Frédéric DEBEAUFORT** (*Université de Bourgogne, Dijon*)

- 15.20 – 15.35 **OC13** : Analysis of water transport through thin cereal food products using 3D NMR images and estimation of swelling and apparent water diffusivity, **DAUDIN J.D.**, Foucat L. and Wallecan J, *INRA Saint Genès Champanelle, France*
- 15.35 – 15.50 **OC14**: Water in freeze-dried lactic acid bacteria: Friend or Foe, **Stéphanie PASSOT**, Stéphanie Cenard, Inès Douania, Ioan Cristian Tréléa, Fernanda Fonseca, *INRA Thiverval Grignon, France*
- 15.50 – 16.05 **OC15** : Water study by DSC and LF-NMR during osmotic dehydration of kiwifruit, Tylewicz U., Laghi L., **ROCCULI P.**, Panarese V., Placucci G., Dalla Rosa M., *University of Bologna, Italy*
- 16.05 – 16.50 Oral presentations of selected posters:
Chaired by: **Prof. Mohamed MATHLOUTHI**, *Université de Reims Champagne-Ardenne, Reims, France*
- 16.05 – 16.20 **OP 29**: Water in Cosmetics: A mouth-watering thought for skin or food for thought?, **Luigi M. RIGANO**¹, Johann W. Wiechers², ¹*ISPE Laboratories, Milano, Italy*; ²*JW Solutions, Gouda, The Netherlands*.
- 16.20 – 16.30 **OP1**: Effect of microwave treatment on physical and functional properties of orange peel and leaves (*Citrus sinensis*), KAMMOUN Asma , Nourhène BOUDHRIOUA , **Nabil KECHAOU** ⁽¹⁾*Groupe de Génie des Procédés Agro-alimentaires Unité de Recherche en Mécanique des Fluides Appliquée et Modélisation Ecole Nationale d'Ingénieurs de Sfax, BP 1173, 3038, Sfax, Tunisie*
- 16.30 – 16.40 **OP3** : An innovative antimicrobial multilayer film containing nisin for moist food packaging and preservation, **A. GHARSALLAOUI**, S. Galland, E. Peyrol & P. Degraeve, *Université de Lyon, université Lyon 1, Laboratoire de Recherche en Génie Industriel Alimentaire (LRGIA) EA 3733, Rue Henri de Boissieu, 01000 Bourg-en-Bresse, France*
- 16.40 – 16.50 **OP4** : Water expulsion during meat heating assessed by MRI, **M. BOUHRARA**, J.L Damez, S. Clerjon, C. Chevarin, A. Benmoussa, and J.M Bonny., *UR370 Qualité des Produits Animaux, INRA, F-63122 Saint Genès Champanelle, France*.
- 16.50 Concluding remarks, **Prof. Mohamed MATHLOUTHI**, *Université de Reims Champagne-Ardenne, Reims, France*