

Monday 8 March

- 08 h 00** Welcome / Poster installation / Registration
- 09 h 00** **Opening Ceremony**
- 10 h 30** **Break**
- 11 h 00** **Plenary lecture**
The importance of Engineering for Competitvity in the Food Industry.
 Prof. Werner Bauer, Nestlé S.A., Executive Vice President, Technical, Production and R&D,
 Vevey, Switzerland
- 11 h 45** **Plenary lecture**
Designing Food Processing Systems for Long-Duration Space Explorations.
 Prof. R. Paul Singh - University Davis, USA
- 12 h 30** **Lunch**
- 14 h 00** **Plenary lecture**
Emerging Technologies: Challenges and Opportunities.
 Prof. D. Knorr, Berlin University of Technology, Germany
- 15 h 00** ***Drying: engineering aspects on drying of food***
- 15 h 00** 26
 Water distribution and mobility in food during microwave vacuum drying studied by magnetic resonance.
 Regier M., Knoerzer K., Schubert H., Schuchmann H.P.
- 15 h 20** 911
 NMR assessment of water transport in breakfast cereals: a quantitative approach.
 Lucas T., Cadoret E., Le Ray D., Mariette F.
- 15 h 40** 420
 Stress building and cracks apparition during drying of pasta.
 Ponsart G., Vasseur J., Méot J.M.
- 16 h 00** 617
 Experiments and modelling of chestnuts drying and rehydration.
 Brucato V., Albanese D., Attanasio G., Di matteo M.
- 16 h 20** 871
 Application of grape must in functional food development: Stabilization of fresh impregnated apple
 by combined drying technologies.
 Puente L., Pagán M., García M., Betoret N., Fito P.
- 16 h 40** **Break**
- 17 h 10** **Other Parallel Oral Sessions**
- 18 h 30** End of the Day

Tuesday 9 March

- 08 h 30** **Plenary lecture**
Food Process Engineering for the purpose of tailored microstructure, rheology and related product characteristics
 Prof. Dr.-Ing. Erich J. Windhab - Swiss Federal Institute of Technology, Zurich, Switzerland
- 09 h 20** **Presentation of ISFE**
G. Barbosa Canovas
- 09 h 30** ***Rehydration of foodstuffs***
- 09 h 30** 34
 Water imbibition in dry porous foods.
 Saguy I.S., Marabi A., Wallach R.
- 09 h 50** 39
 Agglomeration properties of wheat flour particles upon a continuous water addition process.
 De Broucker T., Morel M.H., Cuq B.
- 10 h 10** 203
 Rehydration properties of microwave dried apple samples.
 Bilbao C., Andrés A., Guilherme B., Fito P.
- 10 h 30** 409
 Rehydration study of osmotically pre-treated fruits.
 Bakalis S., Karathanos V.T.
- 10 h 50** **Break**
- 11 h 20** ***Impregnation***
- 11 h 20** 435
 Use of vacuum impregnation in pickling process of whole jalapeño pepper.
 Valdez-Fragoso A., Argüelles-Piña L.D., Márquez-Rodríguez A.S, Leal-Ramos M.Y., Welti-Chanes J., Mújica-Paz H.
- 11 h 50** 943
 Pressure effect during Spanish cured ham manufacturing.
 Barat J.M., Grau R., Albarracín W., Fito P.
- 12 h 10** 959
 Meat marination in organic acid-containing solutions : most influent process parameters on mass transfer and evolution of physicochemical characteristics.
 Goli T., Abi Nakhoul P., Zakhia-Rozis N., Bohuon P., Trystram G.
- 12 h 30** **Lunch**
- 14 h 00** **Plenary lecture**
Computers and processes engineering in food manufacturing : promises, challenges and realities. A subjective point of view
 P. Escure, P. Cornillon, A. Genovesi, A. Pajonk - Danone Vitapole, Palaiseau, France
- 15 h 00** ***Drying: Shrinkage and products properties evolution during drying***
- 15 h 00** 525
 Shrinkage of spheres during fluidized drying.
 Laguna-Cortes J.O., Santacruz-Vázquez V., Santacruz-Vázquez C., Tobon-Osorio P., Welti-Chanes J.
- 15 h 20** 582
 Comparison of three methods of estimating the effective diffusivity of moisture in meat from drying data.
 Trujillo F.J., Wiangkaew C., Pham Q.T.

- 15 h 40** 664
Detachment of maltodextrin films during drying over glass plate surface and the effect of molecular weight.
Collares F.P., Finzer J.R.D., Kieckbusch T.G.
- 16 h 10** 751
Foam-mat drying and freeze-drying of apple juice.
Raharitsifa N., Varennes C. de, Ratti C.
- 16 h 30** 811
Air drying of small size food materials - heat or mass transfer controlled?
Chen D.X.
- 16 h 50** **Break**
- 17 h 10** ***Poster session: Rehydration of foodstuffs***
- 64
Water distribution in complex wheat flour dough.
Cuq B., Morel M.H., Georget D., Guilbert S.
- 886
Modelling of rehydration process in osmotically pre-dehydrated pear (var. blanquillan).
Xue K., Pastor C., Cháfer M., González-Martínez C., Chiralt A.
- 17 h 10** ***Poster session: Impregnation***
- 141
Evaluation of nisin diffusion in a polysaccharide gel: influence of agarose and fatty content.
Ripoche Carnet A., Sebti I.
- 142
Sorption isotherms of turnip tops in the range of temperatures from 293 to 323 K.
Chenlo F., Moreira R., Vázquez M.J., Cameán P.
- 160
Mahon cheese ripening evaluation by using of electromyography.
Rey A., González R., Martínez-de-Juan J.L., Benedito J., Mulet A.
- 186
Multi-component mass transfer of phosphate diffusion in meats.
Ünal S.B., Erdoğan F., Ekiz H.I., Özdemir Y.
- 218
Water vapour transmission rate study of amaranth (*amarantus hypocondriacus*) flour.
Zambrano-Zaragoza M.L., Meléndez P.R., Rosas M.E.
- 327
Instrumental and physicochemical measures and their correlation with sensory attributes of marinated salmon.
Larrazábal M.J., Zapata A., Chiralt A., Camacho M.M.
- 396
Use of died solutions to visualize different aspects of vacuum impregnation of Minas cheese.
Hofmeister L.C., Souza J.A.R., Laurindo J.B.
- 397
Moisture isotherms of cassava bagasse composites impregnated with starch acetate.
Matsui K.N., Larotonda F.D.S., Pires A.T.N., Laurindo J.B.
- 437
Impregnation and infiltration isotonic solution into whole jalapeño pepper under vacuum conditions.
Mújica-Paz H., Martínez-Monteagudo S.I., Salais-Fierro F., Welti-Chanes J., Valdez-Fragoso A.
- 438
Mass transfer during the vacuum dehydration-impregnation of jalapeño pepper with pickling solutes .
Valdez-Fragoso A., Salais-Fierro F., Martínez-Monteagudo S.I., Welti-Chanes J., Mújica-Paz H.
- 497
Salmon salting studies as affected by ageing.
Gallart-Jornet L., Rustad T., Barat J.M., Escriche I., Fito P.

504
Na-MRI quantification of sodium movements in pork during brine curing as related to meat pH.
Vestergaard C., Risum J., Adler-Nissen J.

599
Dehydrated and marinated rabbit meat.
González H., Ibarra A., Galindo D., Terrazas S., Cardona G.

608
Mass transfer study during French Emmental cheese ripening;
Influence of the ripening stage on NaCl diffusion coefficient values.
Saurel R., Pajonk A.S., Andrieu J.

760
Effect of molality and molecular weight of solutes on mass transfer processes
during dewatering-impregnation by soaking of meat.
Santchurn S.J., Collignan A., Trystram G.

770
Effect of ripening temperature on secondary proteolysis of Fynbo cheeses.
Sihufe G.A., Zorrilla S.E., Rubiolo A.C.

978
Water and nonionic surfactant self-diffusion in Tween-80 aqueous solution
studied by pulsed field gradient NMR.
Hong Y.S., Kim K.C., Volkov V.I., Lee C.H.

17 h 10***Poster session: Drying***

517
Crispness in banana at high temperature drying.
Hofsetz K., Lopes C.C.

161
Drying kinetics of meat cylinders from Biceps femoris.
Clemente G., Sanjuán N., Bon J., Cárcel J.A., Mulet A.

163
Effect of blanching on drying kinetics of Curcuma longa.
García-Pérez J.V., Blasco M., Carreres J.E., Mulet A.

255
The drying kinetics of white crumb .
Edmondson P.T., Fryer P.J., Handy B.S., Polgreen M.A.

318
Fruit dryer equipment for the use of rural producers .
Nogueira R.I., Cornejo F.E.P., Wilberg V.C., Park K.J.

385
Trehalose as flavouring additive in dehydrated fruit products .
Komes D., Lovrić T., Kovačević Ganić K., Gajdoš Kljusurić J., Banović M.

25
Development of a model food for microwave vacuum drying and the prediction of its physical properties.
Knoerzer K., Regier M., Pardey K.K., Idda P., Schubert H.

512
Air-drying kinetics, shrinkage and rehydration ability of persimmons.
Nicoletti J.F., Silveira-Jr. V., Telis-Romero J., Telis V.R.N.

529
Design and cost estimation to a dried tomatoes in oil production line.
Freitas S.P., Cornejo F.E.P., Toniato K., Nogueira R.I.

606
Drying kinetics of peeled almonds.
Bon J., Carreres J.E., Garcia-Reverter J., Mulet A.

663

Influence of the glass transition on the drying of maltodextrin films spreading over stainless steel surfaces.
Collares F.P., Finzer J.R.D., Kieckbusch T.G.

740

Salting and drying of sardine (*Sardinella Aurita*).
Sahli A., Bellagha S., Farhat A., Kechaou N., Glenza A.

836

Vacuum microwave drying of germinated pea seeds.
Kadlec P., Skulinova M., Dostalova J., Hoke K., Kyhos K., Bubnik Z., Valentova O., Houska M.

849

Prediction of moisture and salt content of cheese by dielectric sensing.
Fagan C.C., Everard C., O'Donnell C.

850

A proposal of analysis of shrinkage during drying using fractal theory.
Santacruz-Vázquez V., Santacruz-Vázquez C., Welti-Chanes J., Gutiérrez-López G.

864

Stability of dl- α -tocopherol acetate in enriched lyophilised apple samples.
Cortes M., Chiralt A., Puchades J.

869

Colour and anthocyanins content of dried strawberry as affected by drying conditions.
Contreras C., Penagos L., Martín E., Martínez-Navarrete N., Chiralt A.

881

Microwave drying of lactose and starch powders.
Farrell G., Mc Minn W.A.M., Magee T.R.A

883

Drying kinetics of gelatinized potato and corn starches .
Al-Muhtaseb A.H., Mc Minn W.A.M., Magee T.R.A

891

Production and chemical characterisation of protein concentrate and isolate from cupuacu (*Theobroma grandiflorum* Schum) seeds .
Carvalho A.V., Pezoa-Garcia N.H., Amaya-Farfán J., Wada J.K.A.

892

Study of the drying of tomatoes in slices after osmotic pre-treatment.
Souza J.S, Magalhães M.M.A., Medeiros M.F.D., Alsina O.L.S., Oliveira E.L.

893

Drying of tropical fruit bagasse in conventional spouted bed with inert particles. .
Lima L.M.O., Alsina O.L.S., Magalhães M.M.A., Medeiros M.F.D., Oliveira E.L., Rocha S.C.S.

923

Influence of drying processes on the protein and sugar content of dried spirulina.
Hernandez F., Desmorieux H., Magouri S.

967

Influence of osmotic and vacuum drying on the ascorbic acid content and drying rate of papaya.
Azuara E., Pascual L.A., Beristain C.I.

18 h 50

End of the day

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

Wednesday 10 March

- 08 h 30** **Plenary lecture**
Active packaging for food processing and preservation
 Prof. Nathalie Gontard, Montpellier University II, France
- 09 h 30** ***Osmotic dehydration of fruit, meat and vegetable***
- 09 h 30** 256
 Continuous osmotic dehydration of apples.
 Zweytick G., Bettina Kniewasser K., Berghofer E.
- 09 h 50** 278
 Shelf life of osmodehydrated papaya pieces stored under passive modified atmosphere.
 Rodrigues A.C.C., Pereira L.M., Sarantópoulos C.I.G.L., Cardello H.M.A.B, Cunha R.L., Hubinger M.D.
- 10 h 10** 746
 Study of transport phenomena in osmotic dehydration of apple protoplasts.
 Seguí L., Albors A., Fito P.J., Fito P.
- 10 h 30** 865
 Osmotic dehydration of pineapple slabs: fluxes and mass transfer kinetics.
 Barrera C., Sobrino I., Betoret N., Tarrazó J., Fito P.
- 10 h 50** **Break**
- 11 h 20** **Other Parallel Oral Sessions**
- 11 h 20** ***Poster Session: Osmotic dehydration of fruit, meat and vegetable***
- 88
 Histo-cytochemical and kinetic studies of persimmon (*Diospyros kaki*, Thunb.) fruit tissue during osmotic dehydration.
 Prinzivalli C., Maffi D., Testoni A., Torreggiani D.
- 143
 Effect of blanching time on osmotic dehydration kinetics of chestnut using sucrose solutions.
 Vázquez G., Chenlo F., Moreira R., Fernández-Herrero C.
- 171
 Changes on pineapple and apple slabs during osmotic dehydration process.
 Vargas-ugalde M.E., Cruz-Diaz B., Martínez-Limón R.
- 204
 Kinetics of osmotic dehydration of cassava (*Manihot esculenta* Crantz) slices.
 Influence of temperature and sodium chloride concentration.
 Betoret N., Andrés A., Alexandre B.B., Martínez L., Fito P.
- 222
 Osmotical dehydration of kiwi and color conservation by microwaves energy treatment.
 Jimenez-Vieyra M.E, Zambrano-Zaragoza M.L., Aguilar-Rodríguez M.R.
- 307
 Experimental study and modelling of the kinetics of the acerola (*Malpighia emarginata* DC) osmotic dehydration.
 Silva V.A., Alsina O.L.S., Araújo S.W.C.
- 313
 Viscoelastic properties of apple tissue during glucose osmotic dehydration.
 Martínez V.Y., Nieto A.B., Viollaz P.E., Alzamora S.M.
- 367
 The effect of osmotic agents modifying water activity on thermo and baroresistance of yeasts.
 Donsi G., Ferrari G., Maresca P.
- 394
 Osmotic dehydration of yacon using sucrose and sorbitol as dehydrating agents.
 Ventura F., Pezoa-Garcia N.H., Wada J.K.A.

483

Evaluation of osmo-convective drying of apple cubes.

Garcia-Quintero M., Ochoa-Martinez L.A., Morales-Castro J., Gallegos-Infante J.A., Rios-Reyes R.

532

Mass transfer kinetic in the osmotic treatment and combined process air-drying impregnation to impregnate b-carotene in apple slices.

Santacruz-Vázquez C., Santacruz-Vázquez V., Jaramillo-Flores E., Mendoza-Anaya D., Gutiérrez-López G., Welte-Chanes J.

813

Evaluation of osmotic evaporation in the concentration of camu-camu juice (*Myrciaria dubia*).

Rodrigues R.B., Menezes H.C., Cabral L.M.C., Dornier M., Reynes M., Rios G.M.

857

Alfa-pinene development in osmotic dehydration of mango "Kent var".

Torres J.D., Talens P., Escriche I., Chiralt A.

858

Effect of calcium, osmotic solution concentration and vacuum pulse on osmotic dehydration kinetics of Papaya.

Ceballos G., Puchades C., Talens P., Chiralt A.

860

Effect of osmotic dehydration and vacuum impregnation on respiration rate of cut strawberries.

Castelló M.L., Garcia C., Fito P.J., Chiralt A.

867

Calcium influence on osmotic dehydration kinetics of apple slices.

Barrera C., Betoret N., Fito P.

885

Effect of glucose and sucrose concentration on osmotic dehydration kinetics of orange slices.

Pérez S., Cháfer M., Chiralt A.

912

Shrinkage of osmotically dehydrated sardine sheets at changing moisture contents.

Corzo O., Bracho N.

913

Osmotic dehydration kinetics of sardine sheets using Zugaraamurdi and Lupin model .

Bracho N., Corzo O.

12 h 20**Lunch****14 h 00****Plenary lecture****Predictive microbiology of foods: past, present and future.**

Prof. Jan van Impe, University of Louvain, Belgium

15 h 00**Other Parallel Oral Sessions****16 h 40****Break****17 h 20****Other Parallel Oral Sessions****18 h 40**

End of the day

19 h 00**Gala Dinner**