

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** **Other Parallel Oral Sessions**
- 16 h 40** **Break**
- 17 h 10** ***Computational Fluids Dynamics (1)***
- 17 h 10** 36
 Numerical studies of heat transfer with shear thinning fluids in scraped-surface heat exchangers.
 Pyle D.L., Sun K.H., Hall-Taylor N., Fitt A.D., Please C.P., Baines M.
- 17 h 30** 173
 Measurement of velocity distributions of viscous fluids using Positron Emission Particle Tracking.
 Bakalis S., Cox P.W., Fryer P.J.
- 17 h 50** 365
 Prediction of optimal heat transfer from slot air jets impinging on cylindrical food products using CFD.
 Olsson E.E.M., Ahmné L.M., Trägårdh A.C.
- 18 h 10** 492
 Investigation of porous media flow with regard to the emulsion process.
 Hövekamp T., Windhab E.J.
- 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** ***Computational Fluids Dynamics (2)***
- 09 h 30** 505
 A numerical method for virtual cleaning testing.
 Jensen B.B.B., Friis A.
- 09 h 50** 554
 Effect of liquid flowrate and flow geometry on the breakage of whey protein precipitate particles.
 Heffernan S.P., Byrne E.P., Cartland-Glover G.M., Peron N., Fitzpatrick J.J.
- 10 h 10** 600
 The use of Computational Fluid Dynamics for predicting the microbiological safety of foods.
 Asteriadou K., Hasting A.P.M., Bird M.R., Melrose J.
- 10 h 30** 628
 Study of the flow and heat transfers in a wall jet carrying droplets - Mist-flow in refrigerated display cabinets.
 Darbouret M., Moureh J., Letang G., Boisson H., Alvarez G.
- 10 h 50** **Break**
- 11 h 20** **Other Parallel Oral Sessions**
- 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** ***Modelling: New tools for innovation and design of products and process***
- 15 h 00** 85
 Computer model operation of a composition of combined foodstuff.
 Tujilkin V.I., Plaksin J.M., Filatov V.V.
- 15 h 20** 325
 Modelling-based analysis of the influence of product image and information on consumer evaluation of functional orange drinks.
 Pagidas N., Oliveira J.C.
- 15 h 40** 429
 Food process design using computer spreadsheets.
 Saravacos G.D., Maroulis Z.B.
- 16 h 10** 602
 An approach of "KANSEI" engineering for designing the novel bitter beverage based on consumer characteristics in acceptance of bitter taste.
 Hioki M., Ikeda G., Nagai H., Sagara Y.
- 16 h 30** 680
 Shelf-life prediction of fresh orange juice.
 Zanoni B., Pagliarini E., Galli A.
- 16 h 50** **Break**

17 h 10

Other Parallel Oral Sessions

17 h 10

Poster session: Computational Fluids Dynamics

4

Design changes to shell flows in tubular heat exchangers to effect heat recovery.
Tucker G.S., Shaw G.H., Cronje M.C., Jones T.E.R., James P.W., Hughes J.P.

249

Drying of yeast in spouted bed: Fluid dynamic studies.
Alsina O.L.S., Rocha A.P.T., Silva V.S., Silva F.L.H.

328

A sensitivity analysis of a continuous ohmic heating process for hydrocolloid solutions.
Marcotte M., Chen C.R., Ramaswamy H.S.

478

Analysis of the airflow patterns inside a French cheese ripening room –
Influence of the design of the blowing duct on the ventilation homogeneity.
Mirade P.S., Carles A., Rougier T.

479

Airflow modelling by computational fluid dynamics in an industrial plant filled with food products.
Mirade P.S., Agabriel E., Brunet Y., Boulard T.

507

Prediction and optimisation of asymmetric mixing patterns in tanks .
Tress A.J.G., Stubbe P., Jensen B.B.B., Friis A.

560

Dynamic gauging for measuring thickness and mechanical properties of soft solid deposit layers.
Chew J.Y.M., Höfling V., Augustin W., Paterson W.R., Wilson D.I.

626

One-equation model for two dimensional turbulent flow and heat transfer
throughout food macroporous media. .
Alvarez G., Moureh J., Laguerre O., Flick D.

630

Numerical simulation and experiment in domestic refrigerators.
Ben Amara S., Flick D., Moureh J., Alvarez G., Laguerre O.

643

The modelling of the flow of smoke in an electrostatic smoking process.
Havet M., Pierrat D., Delanoue N., Pottier L., Baron R.

694

Combined Discrete Elements and CFD modelling of air flow through randomly filled boxes
with spherical food products .
Verboven P., Tijsskens E., Ho Q.T., Ramon H., Nicolai B.M.

829

Airflow and heat transfer in packed bed of agricultural produce (potatoes and broccoli):
comparison of different predictive approaches.
Jacobsson A., Sarkar A., Singh R.P.

874

CFD simulation of airflow in a full scale flatbed dryer in the Mekong delta, Vietnam.
Nguyen Thuan N., Verboven P., Baelmans M., De Baerdemaeker J., Nicolai B.M.

960

Air impingement freezing and thawing of foods.
Anderson B.A., Sarkar A., Singh R.P.

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** *Modelling: Methods*
- 09 h 30** 172
 Numerical simulation of bread dough fermentation.
 Bikard J., Coupez T., Della Valle G., Vergnes B.
- 09 h 50** 511
 Modelling and optimisation of solid door refrigerated display cabinets for chilled foods.
 Love R.J., Cleland D.J.
- 10 h 10** 534
 Advances toward computer-aided food process engineering.
 Datta A.K.
- 10 h 30** 929
 Effective scraping in a scraped-surface heat-exchanger: some fluid flow analysis.
 Pyle D.L., Sun K.H., Lee M.E.M., Please C.P., Fitt A.D., Wilson S.K., Duffy B.R., Hall-Taylor N.
- 10 h 50** **Break**
- 11 h 20** **Other Parallel Oral Sessions**
- 11 h 20** *Poster session: Modelling*
- 53
 Effect of the characteristic behavior of roaster blowers on coffee bean heating in batch roasters.
 Schwartzberg H.
- 59
 Physical refining of coconut oil: batch and continuous simulation.
 Ceriani R., Meirelles A.J.A.
- 77
 Simplified solutions for inverse heat conduction problems using neural networks .
 Sablani S.S.
- 78
 Sorption isotherms and state diagram for evaluating stability criteria of abalone.
 Sablani S.S., Kasapis S., Rahman M.S., Al-Jabri A., Al-Habsi N.
- 105
 FEM based advanced tools for simulation of food preservation processes.
 Maggiolo C., Balsa-Canto E., Chiumenti M., Cervera M., Oñate E.
- 151
 Thermo-mechanical modelling during freezing.
 Tréméac B., Lefeuvre J., Hayert M., Le Bail A., Moes N.
- 182
 Effective use of analytical solutions of regular geometries to experimentally determine heat and mass transfer parameters.
 Erdođdu F.
- 183
 Infinite geometry approximations and errors in heat and mass transfer problems.
 Turhan M, Erdođdu F.

- 197
Temperature and water activity calculations at the surface of unwrapped food products during decontamination by jets of hot air.
Kondjoyan A., Belaubre N., Daudin J.D., Rouaud O., Havet M., Foster A., Swain M.
- 301
HTST Milk processing: evaluating the thermal lethality inside plate heat exchangers.
Gut J.A.W., Fernandes R., Tadini C.C., Pinto J.M.
- 322
A product design model for orange juice sensory quality as a function of sweetness, bitterness, carbonation and orange flavour.
Pagidas N., Oliveira J.C., Jova L.
- 323
A product design system based on kansei engineering for functional orange-juice based drinks.
Pagidas N., Oliveira J.C.
- 344
Mathematical modelling of *Saccharomyces* sp. yeast growth.
Kurz T.
- 378
Mathematical modelling of microwave heating process.
Campañone L.A., Zaritzky N.E.
- 389
A numerical investigation on the effect of thermal diffusivity and heat transfer coefficient on heating rate of foods.
Palazoglu T.K.
- 417
Diffusion coefficients of Algerian rosemary oleoresin during solvent extraction under different operating conditions.
Krim S., Boutekedjiret C., Bentahar F.
- 422
Heat transfer in canned foods of big particles suspensions during sterilization.
Rabiey L., Duquenoy A.
- 426
A mathematical model for ohmic thawing.
Icier F., Ilicali C., Sastry S.K.
- 462
Simulation of deep bed dryers: application to the drying of rice in Iran.
Courtois F., Khoshhal M., Matthieu O., Lalanne V.
- 466
Experimental and numerical investigation of the wire cutting of cheese.
Goh S.M., Charalambides M.N., Williams J.G.
- 472
Two-dimensional thermal expansion of a foamed food product : modeling and simulation.
Doursat C., Flick D.
- 601
A study of designing techniques to incorporate consumers 'Kansei' into tea beverage.
Ikeda G., Hioki M., Nagai H., Sagara Y.
- 604
Consumer-oriented design of sesame-flavored dressing using gas chromatography/olfactometry and artificial neural network.
Tomizawa A., Ikeda G., Imayoshi Y., Iwabuchi H, Hinata T., Sagara Y.
- 619
Shelf-life prediction in minimally processed potatoes.
Russo L., Albanese D., Cinquanta L., Orilio P., Di matteo M.
- 634
Prediction of moisture transfer in composite foods with edible films.
Guillard V., Broyart B., Bonazzi C., Guilbert S., Gontard N.

637

Modeling of partition coefficient in food/packaging system.

Arab Tehrani A., Desobry S.

674

Analysis of heat loads and optimisation of refrigeration systems for wineries.

Delves T.R., Weedon M., Louis J.P.

736

Modelling of texture and colour during vegetables blanching.

Olaverri A., Fernández T., Arroqui C., Virseda P.

762

Simulation of the behavior of volatile components in continuous alcohol distillation.

Coustel J., Ariouat N., Decloux M.

769

Finite difference modeling during immersion freezing of solid foods.

Zorrilla S.E., Rubiolo A.C.

774

Turbidimetric kinematics of milk during rennet coagulation and relation with composition.

Bornaz S., Sammari J., Sahli A.

779

A mathematical model to describe the temperature and time evolution of phenols extraction from Sangiovese grapes .

Andrich G., Venturi F., Silvestri S., Zinnai A.

835

Modelling the quality attributes of yoghurt: texture development.

Dubert A., Grandison A.S., Niranjan K.

904

Diffusion of substrates and metabolites within solid medium in relation with the growth of *Penicillium camembertii*.

Aldarf M., Aziza M., Fourcade F., Amrane A.

922

Wine fermentation: a deterministic model to study the yeast growth cycle, monitoring specific analytes.

Altieri C., Del Nobile M.A., D'Amato D., Corbo M.R., Centonze D., Sinigaglia M.

957

Some limitations of finite difference methods when used to calculate the effective thermal conductivity of a random resistor network.

Carson J.K., North M.F., Lovatt S.J., Tanner D.J., Cleland A.C.

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

Prof. Jan van Impe, University of Louvain, Belgium

15 h 00***Modelling: Thermal processing*****15 h 00**

45

Novel combination heating ovens: numerical modeling and experimental validation.

Geedipalli S., Almeida M., Datta A.

15 h 20

104

Advanced tools for simulation, optimisation and control of food preservation processes.

Maggiolo C., Balsa-Canto E., Chiumenti M., Cervera M., Oñate E., Alonso A.A., Banga J.R.

15 h 40

346

Heat and moisture transfer simulation during freezing in bread.

Hamdami N., Monteau J.Y., Le Bail A.

16 h 00

668

Prediction of thawing and freezing of bulk palletised butter.

Nahid A., Bronlund J., Cleland D.J., Oldfield D.J., Philpott B.

- 16 h 20** 948
Modelling the small scale production of speciality malts.
Robbins P.T., Fryer P.J.
- 16 h 40** **Break**
- 17 h 20** *Modelling: Heat and Mass transfer*
- 17 h 20** 326
Modelling the uptake of guar gum into potatoes with variable diffusion coefficient and external mass transfer resistance based on experimental data.
Carbonell S., Oliveira J.C., Oliveira F.A.R.
- 17 h 40** 461
Equivalences between diffusion, compartmental and transfert function models in drying: application to the thin layer drying of rice.
Courtois F., Trystram G.
- 18 h 00** 612
Process evaluation and simulation of apple juice pasteurization on plate heat exchangers.
Welti-Chanes J., Vergara-Balderas F., Martínez-Gordillo R.
- 18 h 20** 757
Modeling the spaghetti hydration kinetics during cooking and overcooking.
Del Nobile M.A., Buonocore G.G., Conte A., Gambacorta G.
- 18 h 40** End of the day
- 19 h 00** **Gala Dinner**

Thursday 11 March

- 08 h 30** **Plenary lecture**
Food Engineering and Processing in Southern Africa - A Double Agenda
Andrew Murray, Consulting Food Processes and Projects Engineer, South Africa
- 09 h 30** *Modelling: Simulation tools and environments*
- 09 h 30** 471
An efficient dynamic simulation environment for the operation of food processing plants.
Vilas C., Garcia M.R., Villafin M., Banga J.R., Alonso A.A.
- 09 h 50** 631
Computer simulation of sugar crystallization in confectionery products.
Ben-yosef E., Hartel R.W.
- 10 h 10** 673
Texture testing of composite foods.
Scanlon M.G., Anand A.
- 10 h 30** 837
An interactive software for computer aided learning in industrial plants operating.
Gros B., Selves J.L., Descargues R.
- 10 h 50** **Break**
- 11 h 25** **Concluding remarks**
Prof. Helmar Schubert, Karlsruhe University, Germany
Scientific President of the Congress
- 12 h 30** **Lunch**
- 14 h 00** **Laboratories and Industrials Visites (Technical Tours)**