

ISOPOW X Technical Program (tentative)

Sept 2, 2007-Sunday

- 15.00 Registration and posters mounting
- 17.00 Welcome and opening address
Dr. Tanaboon Sajjaanantakul, Local Chair, Report to KU President
KU President Welcome and Opening address
Dr. David Reid, ISOPOW Chair, ISOPOW Greeting
- 17.30 Opening Talk: **Water: Significance in Science and Technology Development**
Dr. Sakarindr Bhumiratana, Director of The National Science and Technology Development Agency, Thailand
International Academy of Food Science and Technology (IAFoST) fellows for IUFoST
- 18.30 Dinner

Sept 3, 2007-Monday

Session I. Water dynamics in aqueous systems

UChairman: *Yrjo H. Roos* (University College, Cork, Ireland)

- 8.30 *Pilar Buera* (Universidad de Buenos Aires, Argentina).
Complementary thermodynamics and non/equilibrium criteria and water dynamics for the development of foods and ingredients
- 9.30 *Shelly Schmidt* (University of Illinois at Urbana-Champaign, USA).
Scope : *Water/NMR and multi-level analytical probe for the mobility and stability of food system*
- 10.30 Coffee break and Poster viewing
- 11.00 Oral presentation (1)
- 11.15 Oral presentation (2)
- 11.30 Oral presentation (3)
- 11.45 Oral presentation (4)
- 12.00 Lunch

Session II. Water essence and the stability of foods and biological systems

Chairman: *Pilar Buera* (Universidad de Buenos Aires, Argentina)

13.00 *Gerald H. Pollack* (Department of Bioengineering University of Washington)
Cells, Gels and the Engines of Life: the Fundamental Role of Water in Living Cells

14.00 *M-C Bellissent-Funel* (Laboratoire Le´on Brillouin (CEA-CNRS), France).
Scope : Dynamic of water hydration in biological systems

15.00 Coffee break and Poster viewing

16.00 *J.M. Perrier-Cornet* (Université de Bourgogne, France).
High pressure and cold stresses in microorganisms: the role of water

17.00 Oral presentation (5)

17.15 Oral presentation (6)

17.30 Oral presentation (7)

18.00 Oral presentation (8)

19.30 Dinner

Sept 4, 2007-Tuesday

Session II. Water essence and the stability of foods and biological systems (*continued*)

Chairman: *Peter J. Lillford* (University of York, UK)

8.30 *Laurent Beney* (Laboratoire de Génie des Procédés ENSBANA – Université de Bourgogne, France)
Scope : Water stress in microorganisms and living cells

9.30 *Theodore P. Labuza* (University of Minnesota, USA).
Scope : Water influences on stability of amorphous foods, especially on texture and glass transition phenomena.

10.30 Coffee break and Poster viewing

11.00 *CC Seow* (Food Technology consultant, Malaysia).
Antiplasticization of food polymer systems by low-molecular mass diluents

12.00 Lunch

13.00 Oral presentation (9)

13.15 Oral presentation (10)

13.30 Oral presentation (11)

13.45 Oral presentation (12)

14.00 Poster and Coffee break

18.30 Leave for Dinner

20.00 Excursion to Cultural Show

Sept 5, 2007-Wednesday

Session III. Micro and Nano-structured changes in food

Chairman: *Jorge Welte-Chanes* (Universidad de las Americas, Mexico)

8.30 *David S. Reid* (University of California, USA).

Scope : Role of water in mediating micro and nano food structure.

9.30 *Richard W. Hartel* (University of Wisconsin, USA)

Scope : Sugar crystallization during drying of thin films on food products

10.30 Coffee break and Poster viewing

11.00 *Sam Saguy* (The Hebrew University of Jerusalem, Israel).

Rehydration and water kinetics in porous media

12.00 Lunch

Chairman: *Tanaboon Sajjaanantakul* (Kasetsart Univeristy, Thailand).

13.00 *Peter J. Lillford* (University of York, UK).

Scope : Protein hydration in structure creation

14.00 *Miang Hoong Lim* (University of Otago, New Zealand).

Changes in physical states of confectionery products due to the availability of water

15.00 Coffee break and Poster viewing

16.00 *Pavinee Chinachoti* (Science and Technology Center, Hill's Pet Nutrition, Inc., USA).

Scope : Water mobility and its structural effect in pet food

17.00 Oral presentation (13)

17.15 Oral presentation (14)

17.30 Oral presentation (15)

17.45 Oral presentation (16)

19.30 Gala Dinner

Sept 6, 2007-Thursday

Session IV. Biomaterial Sciences: Water in stability and delivery of active biomolecules

Chairman: *David Lechuga-Ballesteros* (Nektar Therapeutics, USA).

8.30 *David Lechuga-Ballesteros* (Nektar Therapeutics, USA).

The role of water as a stabilizer, a catalyst, a reactant and a vehicle in pharmaceutical systems

9.30 *Thomas Rades* (University of Otago, New Zealand).

Scope : Water in drug substances

10.30 Coffee break and Poster viewing

11.00 *Brad Anderson* (University of Kentucky, USA)

Scope : Understanding the role of water in pharmaceutical systems

12.00 Lunch

Chairman: *David Reid* (University of California Davis, USA)

13.00 *Yrjo H. Roos* (University College, Cork, Ireland).

Scope : Phase and state transitions in foods and design, sugar crystallisation, reaction kinetics and water relations in foods.

14.00 *Lynne Taylor* (Purdue University, USA).

Scope : The effect of mixing deliquescent materials on the phase transformation in minimum RH environment

15.00 Excursion and Shopping

19.30 Dinner

Sept 7, 2007-Friday

Session V. Role of water in the development of functional and health food

Chairman: *Miang Lim* (University of Otago, New Zealand).

8.30 *Imad Farhat* (Firmenich, Switzerland).
Flavor encapsulation

9.30 *Norio Murase* (Tokyo Denki University, Japan).
Ice crystallization in gels and foods manipulated by the polymer network

10.30 Coffee break and Poster viewing

11.00 *David Reid* (University of California, Davis).

ISOPOW Round Table Discussion

Traditional techniques and their retooling in the light of modern understanding of the roles of water in foods.

Tactical various approaches in manipulation of water

A “Multilingual” dictionary on the roles and properties of water

11.50 Closing