

ISBC 2018 program

Tuesday, 12 June 2018

17:00 – 18:00 Registration and Reception,
18:00 – 20:00 **Welcome party**

Wednesday, 13 June 2018

9:00 – 9:45 Registration
9:45 – 10:00 **Welcome speeches**
(President of ISBC and Director of the IPP PAS)
10:00 – 10:40 The history of ISBC
Wadsö and Li
10:45 – 11:10 **Coffee break**

Session 1. Microbiology and biomedical applications of calorimetry

11:10 – 11:50 Biofilms calorimetry: you'll never walk alone (helpful techniques, tips and tricks)
Braissant et al.
11:50 – 12:15 Chip calorimetric studies of the leaching-active bacteria's metabolic activity during growth on mineral surfaces
Hoffmann et al.
12:15 – 12:40 Bacterial extracellular polymeric substances as potential treatment for dry mouth
Kardas et al.
12:40 – 13:05 About the non-equivalence of calorimetric and respirometric data obtained in investigations on the energy metabolism of *Trypanosoma cruzi*
Lerchner et al.

13:05 – 14:00 Lunch

14:00 – 14:25 Beyond the protein corona - lipids matter for biological response of nanocarriers
Prozeller et al.
14:25 – 14:50 How Gibbs energies, enthalpies, entropies, and crystallographic structures of CA protein-ligand binding help drug design
Matulis et al.

15:00 – 15:30 Coffee break

15:30 – 16:30 Sponsor viewing and discussion

15:30 – 15:50 Calorimetry as a large scale *in vitro* diagnostic tool – CSO Symcel
Janson M. Sverige AB
15:50 – 16:10 Solutions for protein characterization using multi-attribute techniques on multiple platforms – TA Instruments USA
Quinn C.
16:10 -16:30 The flexible and efficient I-Cal Flex for the life sciences – Calmetrix -
Zacharias M. Boston USA

16:30 – 17:30 Afternoon lunch

17:45 – 21:00 **A trip to the Wieliczka Salt Mine**

Thursday, 14 June 2018

- 9:30 – 10:30 **Lavoisier lecture by Thomas Maskow**
The future of biocalorimetry and biothermodynamics from the biotechnologist's perspective
- 10:30 – 11:00 Coffee break**
- Session 2. Molecular**
- 11:00 – 11:25 Szalaniec et al. Calibration of QM calculations with isothermal titration calorimetry - theoretical modeling of ketone reduction by SDR
11:25 – 11:50 Sedov et al. Activation energy of lysozyme unfolding in the presence of organic denaturants
- Session 3. Food technology and related product calorimetry**
- 11:50 – 12:15 Duong et al. Calorimetric monitoring of solid-state fermentations
12:15 – 12:40 Tappi et al. Effect of innovative non-thermal technologies on the metabolism of fruit and vegetable tissues
12:40 – 13:05 Wadsö L. A calorimetric method to study grain germination
- 13:05 – 14:05 Lunch**
- 14:05 – 16:00 Poster session over coffee**
- 19:00 – 23:00 Conference Diner**

Friday, 15 June 2018

- Session 4. Soil, ecology and plants**
- 9:30 – 10:10 Barros et al. Application of TAM III to study the response of soil microbial metabolism to heat stress
10:15 – 10:35 Normant-Saremba et al. Portable calorimeter on guest appearances – physiological consequences of exposure to ammonia in the 'killer shrimp' *Dikerogammarus villosus*
10:40 – 11:05 Xu et al. Calorimetry for real time monitoring and clarification of the mode of action of prophage activation by nanomaterials
- 11:05 – 11:35 Coffee break**
- Session 4. Soil, ecology and plants (continued)**
- 11:35 – 12:00 Fahmy et al. The metrics of calorimetry in radionuclide-affected plant metabolism

12:00 – 12:25
Bravo et al. Antagonist activity of *Trichoderma* spp. and *Bacillus amyloliquefaciens* against *Moniliophthora roreri* Mn004 using isothermal microcalorimetry to enhance the cacao crop in Colombia

12:25 – 12:50
Cardoso et al. Calorespirometry for assessing efficiency of adventitious rooting in *Olea europaea* L.

12:50 – 14:00 **Lunch**

14:00 – 15:00 **Closing Ceremony**

- next ISBC
- topics proposed by the audience

ISBC 2018 Poster session

Al-Fathi et al. Thermokinetic analysis of the growth and product formation of lactic acid bacteria

Braissant et al. Biofilms calorimetry: Tuberculosis biofilms

Korth et al. BioElectroCalorimetry: Revealing the microbial electrochemical Peltier effect

Kula et al. Metabolic activity of *Polytrichum commune* Hedw. in a high concentration of ozone

Kula et al. Growth temperature as a key factor of metabolic rate and longevity of *Drosophila melanogaster*

Oliwa et al. Preliminary research on the protection of humidly corn seeds stored in silo-bags

Ostrowska et al. The effects of zearalenone on spring wheat germination

Ostrowska et al. The effects of zearalenone on soybean metabolic activity at early stages of plant growth

Sadura et al. Acclimation of brassinosteroid-deficient barley plants to low temperature. Changes in lipid composition and metabolic activity

Saja and Kula The role of silicon ions as a factor regulating heat production and chemical composition in seedlings of *Brassica napus* var. *napus* L.

Skoczowski Metabolic energy changes accompanying seed germination and initial stages of seedlings growth of several plant species

Szczęsna Thermal characteristics of saphenous veins in patients with chronic venous insufficiency

Vogel et al. How to get the glycolysis thermodynamically feasible

Wadsö and Johansson Oscillating metabolism in decay fungi revealed by isothermal calorimetry

Ziemianin et al. The influence of air pollution on the metabolic activity and proteins profile of silver birch (*Betula pendula* Roth) allergenic pollen