

## **Invited Lecture**

**How can mitochondrial dynamics postpone ageing?**

J. Bereiter-Hahn

**Dynamics of mitochondria during cell death - analysis by time-lapse microscope-assisted cytometry.**

M. Červinka, E. Rudolf, Z. Vacková, M. Bunčec

## **Coffee Break**

## **Session 2**

Chair: E. Rudolf

**Road to the development of quantitative phase contrast in digital holographic microscope**

R. Chmelík

**Dry mass dynamics evaluated in starving tumour cells by DHM**

H. Janeckova (Uhlířova)

**Imaginable future of phase contrast time-lapse cinemicrography**

P. Veselý

**Thresholding and watershed segmentation used to analyse an immunohistochemical image of tumour cells**

U. Neuman, A. Korzyńska, C. Lopez, M. Lejeune

**Laser based nanosurgery of cellular structures using 405 nm picosecond laser**

J. Pechl , N. Maghelli , M. Šerý , A. Pochylý , Z. Lošťák , P. Zemánek

**Effects of zinc on intracellular signaling of colon cancer cells**

E. Rudolf, S. John, M. Červinka

**High Content Screen Assay of Endosomes Movement**

M. Esner, F. Meyenhofer, M. Bickle

**I Analysing mechanisms of metastasis**

D. Zicha

**Coffee Break & Discussion by Posters**

**Catecholamine-induced cardiotoxicity and possibility of its prevention by iron chelation**

P. Haskova, P. Kovarikova , T. Simunek

**HI-6 antidote against nerve agents and tularemia disease progress**

O. Pavliš , M. Pohanka , J. Pikula , H. Band'ouchová, F. Tremel

**Session 4 - Panel discussion**

**Quo vadis Cytokinematics?**

**(Brave New World of image-based cytometry)**

Moderator: M. Červinka

**Maximisation of image contrast in label-free microscopy of living cells using information entropy computation**

J. Urban, J. Vaněk, D. Štys

**Development and applications of microfluidic systems combined with optical micromanipulations and spectroscopy for live-cell analysis and sorting**

J. Ježek, M. Šerý, P. Zemánek, A. Jonáš

**Roentgen imaging of biological dynamic processes in real-time with detector Medipix2**

J. Dammer, F. Weyda, V. Sopko, J. Jakůbek, P. Škrabal

**High speed digital photography in biology with camera Casio Exilim Pro EX-F1**

F. Weyda

**Coffee Break**

**Session 6**

Chair: F. Weyda

**Protein diffusion in mitochondria**

D. Dikov, M. Jendrach, S. Mai, V. Sukhorukov, J. Bereiter-Hahn

**Visualization of patterns of gene expression in live *Drosophila* embryos**

R. Ejsmont, S. Preibisch, P. Tomancak

**Cluster analysis for automatic processing of low SNR microscopy data**

V. M. Sukhorukov, D. Dikov, J. Bereiter-Hahn