



## 30TH INTERNATIONAL SYMPOSIUM ON MICROSCALE SEPARATION

### PROGRAM

**APRIL 27, 2014**

**SUNDAY**

**Workshop 1**

**10:00**

*Drahos, László*

**How can mass spectrometry help chromatographers?**

**Workshop 2**

**14:00**

*Kutter, Jörg Peter*

**Microfluidic Devices in the Life Sciences: Basics and Applications**

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**APRIL 28, 2014**

**MONDAY**

**09:00**

**Opening ceremony**

**09:15**

**Beckman Medal Award Ceremony**

**Plenary session 1**

**09:25**

**PL-1**

*Karger, Barry L.*

**Separation science – a fifty year perspective and the future**

**10:10**

**PL-2**

*Kitamori, Takehiko*

**Single molecule ELISA in Extended-Nano Fluidic Device**

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**10:55**

**Coffee break**

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## PARALLEL SESSIONS A AND B

### A Proteins

- 11:20**      **KN-01**      *Pirmoradian, Mohammad; Zhang, Bo; Chingin, Konstantin; Astorga-Wells, Juan; Lavold, Thorleif; Zubarev, Roman A.*  
**Membrane-assisted isoelectric focusing device as a micro-preparative fractionator for two dimensional shotgun proteomics**
- 11:50**      **L-01-1**      *Nehmé, Reine; Nehmé, Hala; Benedetti, Hélène; Routier, Sylvain; Morin, Philippe*  
**Capillary electrophoresis for miniaturization enzymatic assays on kinases of signaling pathways**
- 12:10**      **L-01-2**      *Hjertén, Stellan*  
**The coupling between the optimal experimental conditions for the purification of proteins and the formulation of a novel type of antibioticum with an extremely high selectivity**
- 12:30**      **L-01-3**      *Tavares, Marina*  
**TBA**

### B Sample preparation

- 11:20**      **KN-02**      *Kanemori, Koichi; Ota, Hiroya; Kawai, Takayuki; Naito, Toyohiro; Kubo, Takuya; Otsuka, Koji*  
**STRATEGIES FOR IMPROVING DETECTABILITY OF CAPILLARY ELECTROPHORESIS**
- 11:50**      **L-02-1**      *Yang, Kaiguang; Li, Qinran; Liu, Jinxiang; Li, Senwu; Zhang, Lihua; Liu, Jiangxi*  
**Protein imprinted materials for the target protein capture in the proteomic sample**
- 12:10**      **L-02-2**      *Nixdorf, Suzana L.; Marques, Leticia A.; Almeida, Marian B.; Hirooka, Elisa, Y.*  
**Evaluation of a “home- made” mini stir bar for fluoxetine determination in human plasma by PDMS SBSE/HPLC-UV applying experimental design**
- 12:30**      **L-02-3**      *Lu, Chia-Ming; Lin, Lie-Chwen; Tsai, Tung-Hu*  
**Application of microdialysis in pre-clinical pharmacokinetic study**

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**12:50**      *Science Cafe*      **Vendor Seminars**

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**14:00**      *Poster session 1*

*PARALLEL SESSIONS A AND B*

**A Novel instrumental techniques 1**

- 15:00**      **KN-03**      *Foret, Frantisek; Tycova, Anna; Kleparnik, Karel*  
**Extended electrospray needle for CE-MS separations**
- 15:30**      **L-03-1**      *do Lago Claudimir L.; Vidal Denis T. R.; Francisco, Kelliton J. M.; Bezerra, Vagner*  
**DETECTION OF MONOALKYL CARBONATES BY CE-MS/MS**
- 15:50**      **L-03-2**      *van de Goor, Tom*  
**Rethinking the Proteomics strategy for LC/MS - Scaling for optimal results**

**B Chiral analysis 1**

- 15:00**      **KN-04**      *Fanali, Salvatore*  
**Application of core-shell silica based chiral stationary phases in nano-LC and CEC**
- 15:30**      **L-04-1**      *Kasicka, Václav; Koval, Dusan; Sazelova, Petra; Severa, Lukas; Vavra, Jan; Adriaenssen, Louis; Tepy, Filip*  
**Capillary electrophoretic chiral analysis and determination of helix inversion barrier of HELQUATS using sulfated cyclodextrins as stereoselectors**
- 15:50**      **L-04-2**      *Wang, Tingting; Feng, Ying; Chankvetadze, Bezhan; Jiang, Zhengjin; Crommen, Jacques*  
**Enantioseparation of beta-blockers with different cyclodextrins in aqueous and non-aqueous CE with special emphasis on enantiomer affinity patterns**

*PANEL DISCUSSION*

- 16:30**      **PD-1**      *Righetti, Pier Giorgio*  
**The Trimurti of Electrokinetic Methodologies: A Chronicle**
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**APRIL 29, 2014**

**TUESDAY**

**Plenary session 2**

- 09:00**      **PL-3**      *Yates, III J.R.; Pankow, S.; Bamberger, C.; Wang, Y.; Fonslow, B.; Han, X.*  
**Using microscale separations and mass spectrometry to understand the biological mechanisms of diseases**
- 09:45**      **PL-4**      *Wirth, Mary J.; Wu, Zhen; Zhang, Ximo*  
**LCMS OF PROTEINS USING SLIP FLOW CAPILLARIES**
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**10:55**      *Coffee break*

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**PARALLEL SESSIONS A AND B**

**A Hyphenated techniques**

- 11:00**      **KN-05**      *Lindner, Herbert H.*  
**Qualitative and quantitative analysis of protein modifications using Sheathless Capillary Electrospray Mass Spectrometry (CESI-MS)**
- 11:30**      **L-05-1**      *Bonvin, Grégoire; Rudaz, Serge; Schappler, Julie*  
**In-spray supercharging of intact proteins by capillary electrophoresis-mass spectrometry using a sheath liquid interface**
- 11:50**      **L-05-2**      *Benavente, Fernando; Ortiz-Villanueva, Elena; Gimenez, Estela; Yilmaz, Fatma; Barbosa, Jose; Sanz-Nebot, Victoria*  
**"Plug-and-play" C18-silica monolithic microcartridges for the analysis of neuropeptides by on-line solid phase extraction capillary electrophoresis**
- 12:10**      **L-05-3**      *Huynh Suong T.N.; Averseng Olivier; Basset Christian; Vidaud Claude; Hagège Agnès*  
**CE- ICP/MS for screening proteins targeted by uranium**

**B Chiral analysis 2**

- 11:00**      **KN-06**      *Chankvetadze, Bezhan*  
**Recent studies on enantiomer separation mechanisms in capillary electrophoresis**

- 11:30**      **L-06-1**      *Scriba, Gerhard K. E.; Heinemann, Stefan, H.; Schönherr, Roland; Zhu, Qingfu*  
**STEREOSPECIFIC CAPILLARY ELECTROPHORESIS ASSAYS FOR METHIONINE SULFOXIDE REDUCTASE ENZYMES**
- 11:50**      **L-06-2**      *Péter, Antal; Ilisz, István; Gecse, Zsanett; Lindner, Wolfgang*  
**HIGH-PERFORMANCE LIQUID CHROMATOGRAPHIC ENANTIOSEPARATION OF UNUSUAL AMINO ACIDS**
- 12:10**      **L-06-3**      *Szökő, Éva; Wagner, Zsolt; Jakó, Tamás; Zachar, Gergely; Csillag, András; Tábi, Tamás*  
**Chiral analysis of amino acid transmitters in the CNS**
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**12:30**      *Science Cafe*      **Vendor Seminars**

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**13:30**      *Poster session 2*

**PARALLEL SESSIONS A AND B**

**A Glycomics**

- 14:30**      **KN-07**      *Guttman, András; Váradi, Csaba; Guttman, Miklós; Lee, Kelly*  
**COMPARATIVE GLYCOPROFILING OF HIV GP120 IMMUNOGENS BY CAPILLARY ELECTROPHORESIS AND MALDI-MS**
- 15:00**      **L-07-1**      *Rizzi, Andreas; Michael, Claudia; Sic, Sinisa; Gimenez-Lopez, Estela*  
**Quantitative profiling of glycans released from proteins using stable-isotope-coded glycan labeling and shape-selective HPLC hyphenated to MS**
- 15:20**      **L-07-2**      *Engel, Nicole; Weiss, Victor U.; Wenz, Christian; Rüter, Andreas; Kratzmeier, Martin; Glück, Susanne; Marchetti-Deschmann, Martina; Allmaier, Günter*  
**Lectin affinity enrichment in combination with microchip capillary gel electrophoresis for sensitive and selective glycoprotein analysis**
- 15:40**      **L-07-3**      *Kammeijer, Guinevere S.M.; Jansen, Bas C.; Mayboroda, Oleg A.; Hensbergen, Paul J.; Wührer, Manfred*  
**Sialic Acid Linkage Analysis on Glycopeptides using CE-ESI-MS/MS**

## **B Theory and methodologies**

- 14:30**      **KN-08**      *Estrada, Roy T.; Vigh, Gyula*  
**Method and Solid Phase Reagent for Labeling of Analytes**
- 15:00**      **L-08-1**      *Ibrahim, Amal; Allison, Stuart A.; Cottet, Hervé*  
**Extracting information from the ionic strength dependence of the electrophoretic mobility using the ‘slope-plot’**
- 15:20**      **L-08-2**      *Horvatovich, Péter; Mitra Vikram; Christin Christin; Hoefsloot Huub; Amilde Age; Suits Frank; Bischoff Rainer*  
**Current challenges in development of retention time alignment algorithms**
- 15:40**      **L-08-3**      *Dziomba, Szymon; Olędzka, Ilona; Bączek, Tomasz; Bekasiewicz, Adrian; Prahl, Adam; Kowalski, Piotr*  
**Pseudo-isotachopheresis vs. pH-mediated stacking using hydrodynamic sample injection method in micellar electrokinetic chromatography**

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**19:00**      **Concert**

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**APRIL 30, 2014**

**WEDNESDAY**

**Plenary session 3**

- 09:00**      **PL-5**      *Viovy, Jean-Louis; Venzac, Bastien; Champ, Jerome; Cisse, Ismail; Bockelmann, Ulrich; Descroix, Stephanie; Malaquin, Laurent*  
**PUTTING ARTEFACTS TO WORK: TURNING DNA SEPARATION PROBLEMS INTO ULTRA-PORTABLE AND SENSITIVE LAB-ON-CHIP DNA DETECTION SOLUTION**
- 09:45**      **PL-6**      *Marko-Varga, György*  
**Improving Patient Outcome by Strategic Technology Development in the Healthcare Sector**

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**10:55**      *Coffee break*

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## PARALLEL SESSIONS A AND B

### A Microfluidics

- 11:00** KN-09 *Krylov, Sergey N.; Musheev, Michael U.; Kanoatov, Mirzo*  
**Unusual Behavior of DNA in a Uniform Electric Filed**
- 11:30** L-09-1 *Sola, Laura, Chiari, Marcella*  
**Modulation of electroosmotic flow and capillary surface properties in capillary electrophoresis using charged polymer coatings**
- 11:50** L-09-2 *Taverna, Myriam; Pereiro, Iago; Mesbah, Kiarach; Hiraoui, Mohamed; Oukacine Farid; Malaquin, Laurent; Viovy, Jean-Louis; Smadja, Claire; Descroix, Stephanie*  
**Efficient preconcentration and separation of amyloid peptides: toward a miniaturized diagnostic tool**
- 12:10** L-09-3 *Járvás Gábor; Guttman András; Foret Frantisek*  
**NUMERICAL MODELING OF MICROFABRICATED CE-ESI-MS NEBULIZER INTERFACE**

### B Sample preparation

- 11:00** KN-10 *Lämmerhofer, Michael*  
**ANALYSIS OF OXIDIZED PHOSPHOLIPIDS AS BIOMARKERS OF OXIDATIVE STRESS**
- 11:30** L-10-1 *Weiss; Victor U.; Lehner, Angela; Dehalu, Vincent; Linsinger, Thomas; Marchetti-Deschmann, Martina; Allmaier, Günter*  
**Detection of glutaraldehyde cross-linked gelatin nanoparticles in liquid food matrix via fluorescence labeling, immunoprecipitation and chip CE**
- 11:50** L-10-2 *Leclercq, Laurent; Jin, Xiaoyun; Cottet, Herve*  
**Determination of polycation log D distributions by micellar and microemulsion electrokinetic chromatography**
- 12:10** L-12-3 *Janáky, Tamás; Virók, Dezső; Simon, Dóra; Gyebrovszki, Andrea; Bozsó, Zsolt; Fülöp, Livia; Verdier, Yann; Busa-Fekete, Róbert; Penke, Botond*  
**Rational design of peptides against Alzheimer's disease: a proteomic approach**

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**12:30** *Science Cafe* Vendor Seminars

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**13:30** *Poster session 3*

PARALLEL SESSIONS A AND B

A Novel instrumental techniques 2

- 14:30** KN-11 *Svec, Frantisek*  
**Hypercrosslinking: A new route to porous polymer monoliths in capillaries and thin layers with enhanced surface area, reactivity, and chromatographic**
- 15:00** L-11-1 *Shimizu, Hisashi; Liu, Yilin; Morikawa, Kyojiro; Smirnova, Adelina; Mawatari, Kazuma; Kitamori, Takehiko*  
**DEVELOPMENT OF FEMTOLITER SCALE LC USING EXTENDED-NANO CHANNEL TOWARD SEPARATION OF PROTEINS WITH MILLION PLATE NUMBERS**
- 15:20** L-11-2 *Preisler, Jan; Tomalova, Iva; Bednarik, Antonin; Foltynova, Pavla; Kanicky, Viktor; Vaculovic, Tomas*  
**NEW DETECTION APPROACHES FOR MICROSCALE SEPARATIONS BASED ON LASER DESORPTION MASS SPECTROMETRY**
- 15:40** L-11-3 *Matysik, Frank M; Grundmann, Marco; Mark, Jonas P.*  
**Novel approaches for the study of ultrasmall samples by fast capillary electrophoresis-mass spectrometry**

B Proteomics

- 14:30** KN-12 *Tóth Eszter; Ozohanics, Oliver; Bobály, Balázs; Gömöry, Ágnes; Drahos, László; Vékey, Károly*  
**MICROSCALE PROTEIN ISOLATION/ENRICHMENT USING RP-HPLC**
- 15:00** L-12-1 *Fleurbaaij Frank; Heemskerk Anthonius A. M.; Klychnikov Oleg; Mayboroda Oleg A.; Kuijper Ed J.; van Leeuwen Hans C.; Hensbergen Paul J.;*  
**A next generation mass spectrometry platform for the rapid identification of (multi-)drug resistant Gram-negative bacteria**
- 15:20** L-12-2 *Panic-Jankovic, Tanja; Detlef, Pietrowski; Gorshkov, Mikhail; Laskay, Ünige Anna; Mitulović, Goran*  
**Improving prediction of IVF success: looking for putative biomarkers in IVF-media upon embryo cultivation**
- 15:40** L-12-3 *Mitulović Goran; Tretter, Verena; Stefanits, Harald; Schmid, Rainer*  
**Use of alcohols as mobile phases for enhanced peptide separation and improved sequence coverage**

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**18:00** *Symposium Dinner*

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**MAY 1, 2014**

**THURSDAY**

*PARALLEL SESSIONS A AND B*

**A Affinity CE**

- 09:00**      **KN-13**      *Guzman, Norberto A.*  
**Assessment of the Effect of Food Supplements in Acute-on-Chronic Diseases by Monitoring Biomarkers of Inflammation Using Immunoaffinity Capillary Electrophoresis**
- 09:30**      **L-13-1**      *Shimura, Kiyohito; Nagai, Toshihiko*  
**Direct coupling of affinity chromatography and capillary isoelectric focusing in a single capillary**
- 09:50**      **L-13-2**      *Krylova, Svetlana*  
**Using Non-Equilibrium Capillary Electrophoresis of Equilibrium Mixtures (NECEEM) for Simultaneous Determination of Concentration and Equilibrium Constant**
- 10:10**      **L-13-3**      *Haselberg, Rob; Dominguez, Vega Elena; Somsen, Govert W.; de Jong, Gerhardus J.*  
**Affinity capillary electrophoresis-mass spectrometry: isoform-selective assessment of protein-protein interactions**

**B Novel instrumental techniques 3**

- 09:00**      **KN-14**      *Jönsson, Alexander; Bllaci, Loreta; Kjellström, Sven; Lemos, Sandra; Eliasson, Lena; Friend, James R.; Yeo, Leslie Y.; Nilsson, Staffan*  
**SAW-MALDI MS: open chip for biomolecule sample handling - painful cell experiments?**
- 09:30**      **L-14-1**      *Kelly, Ryan T.; Wang, Chenchen; Hallfors, Nicholas G.; Rausch, Sarah J.; Smith, Richard D.; Tang, Keqi*  
**Pneumatic Microvalve-Based Hydrodynamic Sample Injection for High Throughput, Quantitative Zone Electrophoresis in Microchips and Capillaries**
- 09:50**      **L-14-2**      *Nagy, Andrea; Gáspár, Attila*  
**Packed Multi-channels for parallel chromatographic separations in microchip**
- 10:10**      **L-14-3**      *Moldovan, Radu; Dascăl, Gabriel; Tălmăciu, Mona; Gavriș, Ioana; Bodoki, Ede; Oprean, Radu*  
**APPROACHES TO CHIRAL SEPARATION PREDICTION ON IMMOBILIZED POLYSACCHARIDE CHIRAL STATIONARY PHASES**

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**10:30**      *Coffee break*

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## Plenary session 4

**11:00**      **PL-7**            *Bergquist, Jonas*  
**Why do we lose it? Analytical insights into human neuromuscular degeneration**

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**11:45**      **Student Award**

**12:00**      **MSB 2015 Invitation**

**12:10**      **Closing the Symposium**

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**Farewell**