

MSB 2024

40th International Symposium on Microscale Separations and Bioanalysis

May 19-22, 2024, Brno, Czech Republic

PRELIMINARY PROGRAM

 MSB 2024 Young Scientists Award Nomination

May 19, 2024 (Sunday)	
12:30	Registration desk opens
13:00- 16:00	SHORT COURSES, registration required - Rooms 4, 6, 7
	SC1 - Ion Mobility Spectrometry
	SC2 - Mass Spectrometry Imaging
	SC3 - Introduction to Miniaturization and Microfluidics
16:30- 16:40	Opening Ceremony - Room 1 Chair: Frantisek Foret, Institute of Analytical Chemistry of the CAS, Brno, Czech Republic
16:40- 17:00	Interview of Barry Karger with the MSB 2024 chair
	Plenary Lectures 1 - Room 1 Chair: Frantisek Foret, Institute of Analytical Chemistry of the CAS, Brno, Czech Republic
17:00- 17:40	PL1 Microdroplet Arrays: The Next Generation of Multi-Well Plates for High Throughput Analysis Petra Dittrich
17:40- 18:20	PL2 Applications of DNA Capillary Electrophoresis in Molecular Cancer Diagnostics: Above and Beyond Sanger Sequencing Marek Minarik
18:20- 20:00	Welcome Reception

May 20, 2024 (Monday)

	Session 1 - Microfluidics I - Room 2 Chair: Jan Petr, Palacký University Olomouc, Olomouc, Czech Republic		Session 2 - Glycomics - Room 3 Chair: Gabor Jarvas, University of Pannonia, Veszprem, Hungary	
09:00-09:30	KN1	Novel Electrokinetic Approaches for Particle Separation Applied to Organelles and Microplastics Alexandra Ros	KN2	Comprehensive Characterization of Mammalian Brain N-Glycome: Isomer-Sensitive Nano-LC-MS/MS Analysis and its Application to Alzheimer's Disease Models Hyun Joo An
09:30-09:50	O1	On-Chip Depletion-Zone Isotachopheresis of Exosomes: A Solution to Overcome the Purity Limitations of Current Techniques Andrea Capuano	O4	SSSMuG: Same Sample Sequential Multi-Glycomics Edward S.X. Moh
09:50-10:10	O2	Frontal Analysis Continuous Capillary Electrophoresis: An Approach to Predict Plasma Proteins and Polymeric Nanoparticles Interactions Mathilde Jégo	O5	Comprehensive O-Glycan Analysis by Porous Graphitized Carbon Nano-Liquid Chromatography-Mass Spectrometry Tao Zhang
10:10-10:30	O3	Chip Electrophoresis of Fluorescently Labelled Virus Particles Victor U. Weiss	O6	BODIPY-based Fluorescent Labeling Tag for Oligosaccharide and N-Linked Glycan Analysis by High-Performance Liquid Chromatography with Fluorescence Detection Denisa Smolková
10:30-11:00	Coffee Break			
	Session 3 - Advances in Microscale CE and LC Separations I - Room 2 Chair: Rawi Ramautar, Leiden University, Leiden, The Netherlands		Session 4 - New Trends in MS and IMS - Room 3 Chair: Tim Causon, BOKU, Vienna, Austria	
11:00-11:30	KN3	Multidimensional Assessment of Polymer Nanoparticles Govert W. Somsen	KN4	Imaging of Individual Nanoparticles by Mass Spectrometry Jan Preisler
11:30-11:50	O7	Highly Sensitive Two-dimensional Profiling of N-linked Glycans by Hydrophilic Interaction Liquid Chromatography and Dual Stacking Capillary Gel Electrophoresis Takayuki Kawai	O11	Taylor-Aris Dispersion Assisted Mass Spectrometry for the Direct Injection Analysis of Proteins with High Matrix Content Ruben Szabó

11:50-12:10	O8	Going Big: Non-Denaturing HRMS-Hyphenated Separations Unleash the Analysis of Complex Proteoform Mixtures Over 100 kDa Andrea Gargano	O12	Rapid Distinction and Assignment of Positional Isomers of New Psychoactive Drugs in Mixtures by Trapped Ion Mobility Mass Spectrometry Hany A. Majeed
12:10-12:30	O9	Endotoxin Quantification by the Chemical Instrumental HPLC-Kdo-DMB Assay Anika Hoffmann	O13	Metal Ionization in Gas Phase Mass Spectrometry (MIG MS): A New Tool for Analysis of Volatile Organic Compounds Antonín Bednařík
12:30-12:50	O10	A Novel Selective Comprehensive Two-Dimensional Online nanoLC-CZE-MS Platform for Proteoform Characterization Tobias Waldmann	O14	The Potential of Stainless Steel Needles to Integrate Microextraction and Mass Spectrometry Soledad Cardenas
12:50-14:30	Lunch - Hotel Restaurant			
14:30-15:30	Poster Session 1 - Rooms 4 and 5			
		Session 5 - Microfluidics II - Room 2 Chair: Jakub Novotný, Institute of Analytical Chemistry of the CAS, Brno, Czech Republic	Session 6 - Biomarkers - Room 3 Chair: Pavel Kubáň, Institute of Analytical Chemistry of the CAS, Brno, Czech Republic	
15:30-16:00	KN5	When Microfluidics Meets Magnetic Nanomaterials: Recent Approaches in Bioanalysis Zuzana Bílková	KN6	The Study of Sputome: A Need for Sputum as a Rich Source of Protein Biomarkers for the Non-Invasive Diagnosis of Infectious and Chronic Diseases Norberto A. Guzman
16:00-16:20	O15	Nanogels for Multifunctional Biomolecular Electrophoresis Assays Lisa Holland	O19	Monitoring the Effectiveness of Chemotherapy Treatments Utilizing Artificial Intelligence-based N-Glycome Analysis Rebeka Török
16:20-16:40	O16	Dry and Wet Assembly Approaches for Arranging Ordered Particle Monolayers and Arrays Ignaas S.M. Jimidar	O20	N-Glycosylation Analysis of Homogenized Oral Squamous Cell Carcinoma Soft Tissue Samples by CE-LIF Eniko Gebri

16:40-17:00	O17	Investigation of the Effect of Induced Macromolecular Crowding on Hyaluronidase Catalytic Activity and Interactions using Capillary Electrophoresis and Microscale Thermophoresis Zahia Bouchelaghem	O21	Ionic Liquids Assisted Micellar Electrokinetic Chromatography of Urine Catecholamine Metabolites for the Investigation of Neuroblastoma Ilona Olędzka
17:00-17:20	O18	Novel Approaches for the Analysis of Organoids and Organ-on-Chip Samples using Liquid Chromatography and Mass Spectrometry Steven Ray Haakon Wilson	O22	Novel Magnetic Solid-Phase Microextraction Approach with Ionic Liquids and a Surfactant as Coating Materials for Pretreatment of Biological Samples Alina Plenis
May 21, 2024 (Tuesday)				
SCIEX Session - Room 1 Chair: Vincent T. Remcho, Oregon State University, Corvallis, OR, USA				
09:00-09:10	SCIEX Medal & Award			
09:10-09:50	PL3	Capillary Electrophoresis and Taylor Dispersion Analysis: Recent Advances and Present Challenges in Health Applications Hervé Cottet		
9:50-10:20	Coffee Break			
Session 7 - Microscale Separations for Omics Sciences - Room 2 Chair: Andrea Gargano, University of Amsterdam, Amsterdam, The Netherlands			Session 8 - Bioanalysis/Cellular Analysis - Room 3 Chair: Lucie Korecká, University of Pardubice, Pardubice, Czech Republic	
10:20-10:50	KN7	Native N-Glycome of Single Mammalian Cells and ng-Level Blood Isolates Deciphered using Label-Free Capillary Electrophoresis-Mass Spectrometry Alexander R. Ivanov	KN8	Bioanalytical Approaches for Monitoring Cellular Communication Michael Roper
10:50-11:10	O23	Deciphering the Phosphorylation Barcode of G Protein-Coupled Receptors (GPCRs) using CZE-TDMS Kevin Jooß	O28	Single Islet Metabolomics using Capillary LC-MS James Edwards

11:10-11:30	O24	Intramolecular Disulfide and Charge Variant Separation and Characterization of Various Antibody Subunits with CE-MS/MS Jasmin Schairer	O29	Kinase/Small Inhibitor Interaction Evaluated Directly in Cell Lysates and Whole Cells: A Combined Capillary Electrophoresis and Microscale Thermophoresis Study Reine Nehmé
11:30-11:50	O25	Toward 1000-fold Sensitivity Improvement of Capillary Electrophoresis coupled with Laser-Induced Fluorescence Detection for Aminopyrene Trisulfonic Acid Fluorophore Chenchen Liu	O30	Digging into the Multifaceted Variability of Antibody Molecules: Fc-Proteoform Profiling Illuminates Autoimmune Responses in Rheumatoid Arthritis Constantin Blöchl
11:50-12:10	O26	Charge to Move Forward in Volume-Restricted Metabolomics Rawi Ramautar	O31	Isotachophoresis for Electrokinetic Preconcentration of Extracellular Vesicles by Capillary Electrophoresis Delaram Zohouri
12:10-12:30	O27	Online Electrokinetic Sample Cleanup and Evaluation Method for APTS Labeled N-Glycan Separation by Capillary Electrophoresis Gabor Jarvas	O32	Enrichment and Identification of Ceramide Synthase 2 in Subcellular Components: Novel Insights from Porcine Pancreatic Tissue Egzontina Shabani
12:30-14:00	Lunch – Hotel Restaurant			
14:00-15:00	Poster Session 2 - Rooms 4 and 5			
16:30-18:30	Mendel Museum			
19:00	Conference Dinner			

May 22, 2024 (Wednesday)

		Session 9 - Biosensors - Room 2 Chair: Steven Ray Haakon Wilson, University of Oslo, Oslo, Norway		Session 10 - Pharma and Biopharma Applications - Room 3 Chair: Kevin Jooß, Vrije Universiteit Amsterdam, Amsterdam, The Netherlands	
09:00-09:30	KN9	Glycosylation as a Tool for Biomarker Discovery in Cancer using Exosomes Jan Tkac	KN10	AQbD, ICH Q14 – Should I Bother and What Does This Mean for My CE Method Development? Cari E. Sanger – van de Griend	
09:30-09:50	O33	Artificial Intelligence-Aided Massively Parallel Spectroscopy for Bioaffinity Assays and Droplet Microfluidics Antonín Hlaváček	O36	Studying Fab Glycosylated Antibody Pharmacokinetics in Human Plasma Samples at the Subunit Level by Nano-RP-LC-MS Christoph Gstottner	
09:50-10:10	O34	3D Made Electrochemical Sensors Agata Michalska	O37	Ultra-Miniaturized Weak Affinity Chromatography Coupled with Mass Spectrometry (nano-WAC-MS) as a Powerful Screening Strategy of Native Membrane Proteins in Fragment Based Drug Discovery: Adenosine Receptor as a Case-Study Franois-Xavier Vidal	
10:10-10:30	O35	From Separation to Treatment: Development of a Microbead-Based Extracorporeal CTC Capture Platform Dora Szerenyi	O38	Unravelling Functional Changes in Antibody Proteoforms using Affinity CE-MS Elena Dominguez-Vega	
10:30-11:00	Coffee Break				
		Session 11 - Advances in Microscale CE and LC Separations II - Room 2 Chair: Victor U. Weiss, Vienna University of Technology, Vienna, Austria		Session 12 - Point-of-Care Devices - Room 3 Chair: Elena Dominguez Vega, Leiden University Medical Center, Leiden, The Netherlands	
11:00-11:30	KN11	Biopharmaceuticals by Capillary Electrophoresis: Mass Spectrometry, Affinity, Isoelectric Focusing, Process Analysis Hermann Watzig	KN12	Exhaled Breath, Saliva, Sweat: New, Emerging, Alternative Samples in Non-Invasive Medical Diagnostics Petr Kuban	
11:30-11:50	O39	Behavior of Weak Electrolytes in the Diffuse Layer of the Double Layer Bohuslav Gas	O42	Fully Autonomous Processing and Analysis of Dried Blood Spots Collected by Volumetric Absorptive Microsampling Pavel Kuban	

11:50-12:10	O40	Refractive Index Detector Based on a Young Interferometer for Electroseparation Methods Ruchi Gupta	O43	Electrochemical Immunoassay-based Sensors Towards Point-of-Care Diagnostics: Recent Progress and Challenges in Multiple Biomarkers Detection Lucie Korecká
12:10-12:30	O41	Characterization of Nanoparticles in Mixtures by Capillary Electrophoresis and Taylor Dispersion Analysis Hyphenated to ICP-MS Jan Petr	O44	Microfluidic Capillary Electrophoresis for In-line Dual-stage Enrichment and Unattended Sampling: From Instrumental Conception to Bioanalytical Applications Thanh Duc Mai
12:30-14:00	Lunch – Hotel Restaurant			
Plenary Lectures 2 - Room 1 Chair: Frantisek Foret, Institute of Analytical Chemistry of the CAS, Brno, Czech Republic				
14:00-14:10	Jaroslav Janák Medal & Award			
14:10-14:50	PL4	Comprehensive N-Glycan Profiling in Cancer Research: Past, Present and Future Milos V. Novotny		
14:50-15:30	PL5	Analysis of Proteins and Peptides by Native and SDS Capillary Agarose Gel Electrophoresis Online Coupled to Electrospray Ionization Mass Spectrometry Andras Guttman		
15:30-17:00	Young Scientists and Best Poster Awards			
	Announcement of MSB 2025			
	Closing Remarks, Farewell Drink			