

Programme

Sunday July 3, 2022

10:00 Registration (until 18:20)

10:30 Short Courses (subject to separate registration)

Session Short course 1

10:30 Micro-pillar Array Columns: Concept, Possibilities and Applications

Prof. Gert DESMET
(VRIJE UNIVERSITEIT BRUSSEL (VUB), Brussels, Belgium)

Session Short course 2

10:30 An Introduction to Biosensors

Dr Tatevik CHALYAN (VRIJE UNIVERSITEIT BRUSSEL, Brussels, Belgium)
Prof. Heidi OTTEVAERE (VRIJE UNIVERSITEIT BRUSSEL (VUB), Brussels, Belgium)

Session Short course 3

10:30 CE-MS for Metabolomics: Principles and Applications

Dr Rawi RAMAUTAR
(LEIDEN UNIVERSITY, Leiden, The Netherlands)

12:30 Lunch Bags (to be booked during registration)

Session Short course 4

13:30 Liquid-phase Microextraction

Prof. Stig PEDERSEN BJERGAARD
(UNIVERSITY OF OSLO, Oslo, Norway)

Session Short Course 5

13:30 New Quantitation and Validation Trends in Separation MS-Based Bioanalysis

Dr Víctor GONZÁLEZ-RUIZ (UNIVERSITY OF GENEVA (SWITZERLAND), Geneva, Switzerland)
Prof. Serge RUDAZ (UNIVERSITY OF GENEVA, Geneva, Switzerland)

Session Short course 6

13:30 Introducing Vortices in Microfluidic Devices for Analytical and Preparative Separations

Prof. Wim DE MALSCHE (VRIJE UNIVERSITEIT BRUSSEL (VUB), Brussels, Belgium)
Dr Pierre GELIN (VUB, Brussels, Belgium)

16:15 Symposium Opening Ceremony

Prof. Marianne FILLET (UNIVERSITY OF LIÈGE, Liege, Belgium)
Prof. Heidi OTTEVAERE (VRIJE UNIVERSITEIT BRUSSEL (VUB), Brussels, Belgium)

Session Chairs

Prof. Gert DESMET (VRIJE UNIVERSITEIT BRUSSEL (VUB), Brussels, Belgium)
Prof. Jörg P. KUTTER (UNIVERSITY OF COPENHAGEN, Copenhagen, Denmark)

16:30 PL01 - Separating Ultra-Heterogenous Protein Assemblies by Mass Photometry and Native Mass Spectrometry

Prof. Justin LP BENESCH
(UNIVERSITY OF OXFORD, Oxford, United Kingdom)

Programme

- 17:20** **PL02 - Drops and MS: Separation and Analysis of Compounds and Cells in Nanoliter Volumes**
Prof. Petra S. DITTRICH
(ETH ZURICH, Basel, Switzerland)
- 18:10** **Welcome Reception**

Programme

Monday July 4, 2022

08:00 Registration

Session Chair

Prof. Jan VANFLETEREN
(IMEC & GHENT UNIVERSITY, Gent-Zwijnaarde, Belgium)

08:30 PL03 - Emulating Organ-Organ Interaction Using Scalable Microfluidics and Multi-Cellular Spheroids

Dr Olivier FREY
(INSPHERO AG, Schlieren, Switzerland)

Session 1 - Joint Session: Microfluidic Platforms for Integrated Separation and Detection & Microscale Sample Preparation for Bioanalysis

Session Chairs

Prof. Stig PEDERSEN BJERGAARD (UNIVERSITY OF OSLO, Oslo, Norway)
Dr Barbara STADLOBER (JOANNEUM RESEARCH, Weiz, Austria)

09:20 KL01 - Open Microfluidic Point-of-care Diagnostic Platform with Freely Configurable Detection Unit

Dr Claudia GAERTNER
(MICROFLUIDIC-CHIPSHOP, Jena, Germany)

09:50 KL02 - New Trends Using Microchip Devices for Sample Treatment. A New Approach to Green Analytical Methods

Prof. Maria Dolores RAMOS PAYAN
(UNIVERSITY OF SEVILLE, Seville, Spain)

10:20 Coffee break & Exhibition

Session Chairs

Prof. Stig PEDERSEN BJERGAARD (UNIVERSITY OF OSLO, Oslo, Norway)
Dr Barbara STADLOBER (JOANNEUM RESEARCH, Weiz, Austria)

10:50 OC01 - Novel Miniaturized and Microfluidic-Based Analytical Approaches for Isolation and Characterization of Extracellular Vesicles (EVs)

Prof. Myriam TAVERNA
(UNIVERSITY PARIS SACLAY, CHATENAY MALABRY, France)

11:10 OC02 - Polymer Inclusion Membrane (PIM) Sampling Probe for Electric Field Driven Extraction of Drug Analytes from Biological Fluids (YS)

Dr Hui Yin TEY
(UNIVERSITY OF TECHNOLOGY MALAYSIA, Skudai, Malaysia)

11:30 OC03 - Purification and Size-Fractionation of Milli-Liter DNA Samples in Minutes Using Electrohydrodynamic Migration (YS)

Mr Paul BRUAND
(LAAS-CNRS, Toulouse, France)

11:50 OC04 - Controlling the Motion of Particles in Inertial Microfluidic Devices

Prof. Wim DE MALSCHE (VRIJE UNIVERSITEIT BRUSSEL (VUB), Brussels, Belgium)
(SANOFI-AVENTIS DEUTSCHLAND GMBH)

Programme

Session Chair

Prof. Anne VARENNE
(CHIMIE PARISTECH - PSL, Paris, France)

12:10 10 Poster Pitches

12:40 Lunch & Exhibition

13:10 Lunch Seminar - Refeyn

13:30 Poster Session

Session Session 2 - New Trends in MS and IMS for Bioanalysis

Session Chair

Dr Tim CAUSON
(UNIVERSITY OF NATURAL RESOURCES AND LIFE SCIENCES VIENNA, Vienna, Austria)

14:30 KL03 - Clinical Proteomics with Trapped Ion Mobility Spectrometry and PASEF

Dr Florian MEIER
(FRIEDRICH-SCHILLER-UNIVERSITY JENA, Jena, Germany)

15:00 OC05 - Improving the Resolving Power of a Compact High-Resolution Electrospray Ionization Ion Mobility Spectrometer (YS)

Mr Christian THOBEN
(LEIBNIZ UNIVERSITY HANNOVER, Hannover, Germany)

15:20 OC06 - Trapped Ion Mobility Mass Spectrometry of New Psychoactive Drugs: Fast Distinction and Assignment of Positional Isomers in Designer-Drug Mixtures (YS)

Mr Hany MAJEED
(VU AMSTERDAM, AMSTERDAM, The Netherlands)

15:40 OC07 - High Resolution Conformer Distribution Fingerprinting with IMS-MS for Exact N-Glycan Structure Determination

Dr Javier SASTRE TORANO
(UTRECHT UNIVERSITY, Utrecht, The Netherlands)

Session Session 3 - Microfluidic Platforms

Session Chair

Prof. Wim DE MALSCHE
(VRIJE UNIVERSITEIT BRUSSEL (VUB), Brussels, Belgium)

14:30 KL04 - Microchips Design for Health and Environment

Prof. Anne VARENNE
(CHIMIE PARISTECH - PSL, Paris, France)

15:00 OC08 - Freeform-Based Microfluidic Devices for Conventional and Surface-Enhanced Raman Spectroscopy

Dr Qing LIU
(VRIJE UNIVERSITEIT BRUSSEL, Brussels, Belgium)

15:20 OC09 - Microfluidic Capillary Electrophoresis Coupled to Surface-Enhanced Raman Spectrometry and the Synthesis of Nanoparticles for Selective Detection

Dr Anna TYCOVA
(INSTITUTE OF ANALYTICAL CHEMISTRY OF THE CAS, V.V.I., Brno, Czech Republic)

15:40 OC10 - Real-Time Particle Position Detection for Dynamic Optical Tweezers (YS)

Mr Julian Alexander HANSS
(RWTH AACHEN UNIVERSITY, Aachen, Germany)

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16:00 Coffee break & Exhibition

Session Session 4 - Nanoscale Separation Systems for Interaction Studies

Session Chair

Prof. Hervé COTTET
(UNIVERSITY OF MONTPELLIER, Montpellier, France)

16:30 KL05 - Size-Based Characterization of Multiple Bound Species Using Flow Induced Dispersion Analysis

Dr Henrik JENSEN
(FIDABIO, Copenhagen, Denmark)

17:00 OC11 - Affinity Capillary Electrophoresis in Fragment-Based Drug Discovery Projects, a Tool for Hit Discovery and Binding Site Characterization (YS)

Ms Clara DAVOINE
(UNIVERSITÉ DE NAMUR & UNIVERSITY OF LIÈGE, Namur, Belgium)

17:20 OC12 - Development of Miniturized Affinity Columns for Specific Capture, Release and ToF-MS Detection of High Affinity Gag Ligands

Dr Frédéric JEANROY
(INSTITUT DES SCIENCES ANALYTIQUES, Villeurbanne, France)

Session Session 5 - Sensor Fabrication Technologies

Session Chair

Dr Tatevik CHALYAN
(VRIJE UNIVERSITEIT BRUSSEL, Brussels, Belgium)

16:30 KL06 - Novel Origami Foil Based Microfluidic Chip for DNA Amplification and Multiplex Detection Fabricated by High-throughput R2R UV-NIL

Dr Barbara STADLOBER
(JOANNEUM RESEARCH, Weiz, Austria)

17:00 OC13 - Digital Light Processing Based 3D-Printed Microchip Electrophoresis Device with Integrated Electrochemical Detection (YS)

Mrs Brenda Maria DE CASTRO COSTA
(UNICAMP, Campinas, Brazil)

17:20 OC14 - Fabrication of Large-Scale 3D Scaffolds (YS)

Ing Alejandro MADRID SÁNCHEZ
(VRIJE UNIVERSITEIT BRUSSEL, Brussel, Belgium)

19:30 Young Scientists' Event

Tuesday July 5, 2022

Session 6 - Joint Session: Pharma and Biopharma Applications

Session Chair

Dr Anne-Catherine SERVAIS
(UNIVERSITY OF LIÈGE, Liege, Belgium)

- 09:00** **KL07 - Characterization of Lipid Nanoparticles for mRNA Vaccines by Taylor Dispersion Analysis and Capillary Electrophoresis**
Prof. Hervé COTTET
(UNIVERSITY OF MONTPELLIER, Montpellier, France)
- 09:30** **OC15 - Exploiting Diverse Glycosylation Strategies for Optimized Glycoconjugated Vaccines**
Dr Sara TENGATTINI
(UNIVERSITY OF PAVIA, Pavia, Italy)
- 09:50** **OC16- Chip-Sized Cell Gene Modification System for Integration into Modular Microfluidics**
Dr Hashim ALHMOUD
(BILKENT UNIVERSITY, Ankara, Turkey)
- 10:10** **OC17 - Absolute Quantification and Structural Characterization of Infliximab in Human Serum Using Capillary Electrophoresis Hyphenated to Tandem Mass Spectrometry (YS)**
Ms Tessa REINERT
(UNIVERSITY OF STRASBOURG, Strasbourg, France)
- 10:30** **Coffee break & Exhibition**
- 11:00** **OC18 - From Intact to Bottom-Up: Multidimensional Platform for Comprehensive Characterization of Monoclonal Antibodies in Crude Broths and Formulations from a Single Injection (YS)**
Mrs Arta SADIGHI
(VRIJE UNIVERSITEIT AMSTERDAM , Amsterdam, The Netherlands)
- 11:20** **OC19 -In-Vitro Drug-Induced Liver Injury Monitoring Using Raman Spectroscopy (YS)**
Ms Margot VANDERMOTTEN
(VRIJE UNIVERSITEIT BRUSSEL, Elsene, Belgium)
- 11:40** **OC20 - All-Integrated Droplet Microfluidics Station for High-Throughput Single Cell Screening and Sorting**
Dr Stéphanie VAN LOO
(LIVEDROP, Liege, Belgium)
- Session Chair**
Prof. Jeroen LAMMERTYN
(KULEUVEN, Leuven, Belgium)
- 12:00** **10 Poster Pitches**
- 12:30** **Lunch & Exhibition**
- 13:00** **Lunch Seminar - EU-funded ACTPHAST4 Researcher project**

Programme

Prof. Francis BERGHMANS
(VUB, Brussels, Belgium)

13:30 Poster Session

Session Session 7 - Intact and Native Protein Analysis

Session Chair

Prof. Govert SOMSEN
(VU UNIVERSITY AMSTERDAM, Amsterdam, The Netherlands)

14:30 KL08 - Native CZE-MS of Proteins and Protein Complexes

Dr Kevin JOOSS
(NORTHWESTERN UNIVERSITY, Evanston, United States)

15:00 OC21 - Imaged Capillary Isoelectric Focusing Combined with MS And Bioactivity Detection for Characterisation of Snake Venoms (YS)

Ing Mari-Anne ASSELER
(VRIJE UNIVERSITEIT AMSTERDAM, Amsterdam, The Netherlands)

15:20 OC22 - Optimizing Intact Protein Separation Efficiency Using Capillary Electrophoresis (YS)

Ms Laura DHELLEMMES
(UNIVERSITY OF MONTPELLIER, Montpellier, France)

Session Session 8 - Microfluidics: from Droplets Towards Single Cells

Session Chair

Prof. Tristan GILET
(UNIVERSITY OF LIÈGE, Liège, Belgium)

14:30 KL09 - Novel Microfluidic Platform for B-cell Screening and Retrieval: A Case Study on Anti-SARS-CoV-2 Monoclonal Antibody Discovery

Prof. Jeroen LAMMERTYN
(KULEUVEN, Leuven, Belgium)

15:00 OC23 - Highly Accurate and Flexible Serial Picoinjection in Droplet Microfluidics (YS)

Ing Jolien BREUKERS
(KU LEUVEN, Heverlee, Belgium)

15:20 OC24 - Microfluidic Droplet Instrumental and Methodological Development for Glycan Sample Processing Towards CDG Diagnostic Application (YS)

Mr Théo LIÉNARD-MAYOR
(INSTITUT GALIEN PARIS-SUD, Châtenay-Malabry, France)

Prize session - Sciex Innovation Award

Session Chair

Prof. Vincent REMCHO
(OREGON STATE UNIVERSITY, Corvallis, OR, 97331, United States)

15:45 BA01 - Maturation of Microfluidics in an Era Where Real-world Problems Demand a Solution

Prof. James LANDERS
(UNIVERSITY OF VIRGINIA, VA, United States)

17:00 Walking City Tour (1 hour)

19:30 Banquet

Wednesday July 6, 2022

Session Session 9 - Biomarkers for Precision Medicines

Session Chair

Prof. Serge RUDAZ
(UNIVERSITY OF GENEVA, Geneva, Switzerland)

09:00 KL10 - Translating Brain Biomarkers Discovery to Clinical Practice

Prof. Jean-Charles SANCHEZ
(UNIVERSITY OF GENEVA, Genève, Switzerland)

09:30 OC25 - Solid Phase Extraction - Mass Spectrometry Monitoring of Glucose-Regulating Hormones from Human Islets of Langerhans

Prof. Michael ROPER
(FLORIDA STATE UNIVERSITY, Tallahassee, United States)

09:50 OC26 - Isobaric Derivatization of Endothelial Cell Lysates for 6-Plex Thiol Metabolomics by LC-MS/MS (YS)

Mr Michael ARMBRUSTER
(SAINT LOUIS UNIVERSITY, Ballwin, United States)

10:10 OC27 - Towards Single Cell Glycomics

Dr Guinevere LAGEVEEN-KAMMEIJER
(LEIDEN UNIVERSITY MEDICAL CENTER, Leiden, The Netherlands)

Session Session 10 - Point-of-Care Devices / from Lab-on-Chip Systems Towards Applications

Session Chair

Prof. Heidi OTTEVAERE
(VRIJE UNIVERSITEIT BRUSSEL (VUB), Brussels, Belgium)

09:00 KL11 - A Journey on Point of Care Devices: from Concept, Regulation, Classification up to Real and Potential Applications

Dr Laura PASQUARDINI
(INDIVENIRE SRL, Trento, Italy)

09:30 OC28 - Self-Powered Lab-On-A-Chip Technology for Automated Sample Pre-Processing of Lateral Flow Immunoassays (YS)

Mr Dries VLOEMANS
(KU LEUVEN, Heverlee, Belgium)

09:50 OC29 - Lab-On-A-Disc Platform for Pathogen Detection in Stool: Effect of Inertial Forces and Walls on the Species Migration

Dr Vyacheslav MISKO
(VRIJE UNIVERSITEIT BRUSSEL (VUB), Brussels, Belgium)

10:10 OC30 - Integration of Hydrogels into Microfluidic Devices with Porous Membranes and Demonstration Gel Electrophoretic DNA Quantification (YS)

Ms Shadi SHAHRIARI
(MCMASTER UNIVERSITY, Hamilton, Canada)

10:30 Coffee break & Exhibition

Session Session 11 - Microscale Separations for –Omics Sciences

Session Chair

Dr Rawi RAMAUTAR
(LEIDEN UNIVERSITY, Leiden, The Netherlands)

11:00 KL12 - CE-MS and LC-MS for the Untargeted Metabolomics Investigation of Cardiac Cells Undergoing Oxidative Stress and Other Diseases Simulations

Prof. Ana Valéria COLNAGHI SIMIONATO
(UNIVERSITY OF CAMPINAS, Campinas SP, Brazil)

11:30 OC31 - Going Micro with your Regular LC: The Plumber Will Make the Difference

Programme

Dr Víctor GONZÁLEZ-RUIZ
(UNIVERSITY OF GENEVA (SWITZERLAND), Geneva, Switzerland)

11:50 OC32 - Single-Shot Proteomics Using Next Generation Pillar Array Column Prototypes with FAIMS and Orbitrap Based Mass Spectrometry

Dr Robert VAN LING
(THERMO FISHER SCIENTIFIC, Ghent , Belgium)

Session Session 12 - Advances in Microscale CE and LC Separations

Session Chair

Prof. Myriam TAVERNA
(UNIVERSITY PARIS SACLAY, CHATENAY MALABRY, France)

11:00 KL13 - The Organic Capillary Electrophoresis Analysis System (OCEANS) for Future Life Detection Missions

Dr María Fernanda MORA
(NASA JET PROPULSION LABORATORY, Pasadena, United States)

11:30 OC33 - Characterization of a Novel Nanoflow Sheath Liquid CE-MS Interface: Analytical Properties, Flow Rates and Applications

Prof. Christian NEUSÜß
(AALEN UNIVERSITY, Aalen, Germany)

11:50 OC34 - Sensitive and Valve-Free Targeted Bottom-Up Analysis of Protein Biomarkers by On-Line Aptamer Affinity Solid-Phase Extraction-Immobilized Enzyme Microreactor Capillary Electrophoresis-Mass Spectrometry

Dr Roger PERO-GASCON
(UNIVERSITAT DE BARCELONA, Barcelona, Spain)

12:10 Lunch & Exhibition

**12:40 Lunch Seminar - Agilent
CE as a Tool for the Quality Control of Vaccines and CE-MS for Proteomics Analysis in Multiple Myeloma Disease**

Session 13 - Joint session : Biomarkers and Functionalisation / Microfluidic Fabrication

Session Chair

Dr Laura PASQUARDINI (INDIVENIRE SRL, Trento, Italy)
Prof. Christian NEUSÜß (AALEN UNIVERSITY, Aalen, Germany)

13:20 KL14 - Surfix's Ultrasensitive Plug-and-Play Photonic Diagnostics Platform

Dr Luc SCHERES
(SURFIX, Wageningen, The Netherlands)

13:50 KL15 - Affinity-based Monolith: from TCM Screening to mAbs Analysis

Prof. Zhengjin JIANG
(JINAN UNIVERSITY, Guangzhou, China)

14:20 OC35 - Immobilization of GPR17 Receptor for Surface Plasmon Resonance Binding Experiments

Prof. Enrica CALLERI
(UNIVERSITY OF PAVIA, Pavia, Italy)

14:40 OC36 - Microfluidics Chips Fabrication: Cutting, Drilling, Engraving and Sealing of Various Designs Using Recent Laser Technologies

Ing Marc DÉCULTOT
(LASEA, Seraing, Belgium)

15:00 OC37 - Micro-Engineering Solutions to Accelerate the Development of Polymer Microfluidic Devices

Programme

Dr Denis VANDORMAEL
(SIRRIS, Seraing, Belgium)

15:20 Coffee break & Exhibition

Session Chair

Prof. Marianne FILLET
(UNIVERSITY OF LIÈGE, Liege, Belgium)

15:50 PL04 - Combining Multidimensional Measurements with Standards and Isotopologue Workflows to Detect, Identify and Validate Molecules in Omic Studies

Prof. Erin S. BAKER
(NC STATE UNIVERSITY, Raleigh, United States)

16:40 MSB 2023 announcement

Prof. Michael ROPER
(FLORIDA STATE UNIVERSITY, Tallahassee, United States)

16:45 Closing Ceremony

Prof. Heidi OTTEVAERE (VRIJE UNIVERSITEIT BRUSSEL (VUB), Brussels, Belgium)
Prof. Marianne FILLET (UNIVERSITY OF LIÈGE, Liege, Belgium)

17:00 Farewell Reception