

## CONFERENCE PROGRAM

### FFF 2020 - University of Vienna - Oral Presentations

Venue: 1090 Vienna, Althanstrasse 14, Building UZA II, Lecture Hall 7



### Sunday - 23<sup>rd</sup> February 2020

18:00 - 20:00	<b>Registration</b>	Entrance Hall
18:00 - 20:00	<b>FFF2020 Ice Breaker - Get2gether</b>	Poster Hall between Staircase D+E

### Monday - 24<sup>th</sup> February 2020

08:00 - 16:00	<b>Registration</b>	Entrance Hall
08:45 - 09:00	<b>Opening Ceremony</b>	Head of DEGS Thilo Hofmann & Conference Chair Frank v.d. Kammer

#### Nanoparticles & Nanotechnology I

Session Chair: Mohammed Baalousha

09:00 - 09:30 KEYNOTE	Gaëtane Lespes	FFF-Multidetector to Characterize Nanoparticles: Challenges, Performances and Limits
09:30 - 09:50	Enrica Alasonati	Study of the Agglomeration of Food Grade Titanium Dioxide in Simulated Gastrointestinal Fluids by Asymmetrical Flow Field Flow Fractionation Multi-Detection System
09:50 - 10:10	Catia Contado	Protein Decorated Nano-Polystyrene Beads: an Update about their Size and Density
10:10 - 10:30	Pilar Campíns-Falcó	Merging Results from AF4-UV-Vis-DLS and IT-SPME-Miniaturized LC-DAD for Au and Ag Nanoparticles Studies

#### 10:30 - 11:00 Coffee Break

11:00 - 11:20	Florian Meier	Hyphenation of Field-Flow Fractionation and ICP-MS to Overcome the Size Limitations of spICP-MS
11:20 - 11:40	William C. Smith	Thermal Field-Flow Fractionation for the Shape Selective Separation of Metallic Nanoparticles
11:40 - 12:00	Meiyu Zhang	Application of AsFIFFF for Monitoring SiO <sub>2</sub> Nanoparticles in Simulated Digestive Liquids and Blood
12:00 - 12:20	Poster Spotlights	4 Posters with 5-minutes Presentation Snežana Dordevic; Martin Berger; Iro Ventouri; Youngbeom Kim

#### 12:20 - 13:30 Lunch Break

#### Biological Particles as Cells, Viruses, and Others

Session Chair: Michael Maskos

13:30 - 14:00 KEYNOTE	Pierluigi Reschiglian	Gravitational Field Flow Fractionation of Living Stem Cells: Instrument and Applications
14:00 - 14:20	Katri Eskelin	Asymmetrical Flow Field-Flow Fractionation and Virus Applications
14:20 - 14:40	Mauricio Hoyos	Field-Flow Fractionation of Active Matter
14:40 - 15:00	Myong Hee Moon	Flow FFF and nUHPLC-ESI-MS/MS of Subcellular and Extracellular Species: Investigation of Lipidomic Perturbation upon Oxidative Stress
15:00 - 15:20	Poster Spotlights	4 Posters with 5-minutes Presentation Dongwoo Lee; Giuseppina Marzano; Zenchao You; Myoungjae Ko

#### 15:20 - 15:50 Coffee Break

15:50 - 16:10	Evgen Multia	Automated On-line Isolation and Fractionation of Biomacromolecules
16:10 - 16:30	Tarek Sayde	Innovative and Effective Approach for Cancer Stem Cell Sorting and Detection in Glioblastoma Cell Lines
16:30 - 16:50	Bruce K. Gale	Characterization and Continuous Processing of Exosomes and Oncosomes Using Flow-Electrical Split-Flow Lateral Transport Thin (FI-EI-SPLITT)
16:50 - 17:10	Akram Ashames	Separating Uniform Preparations of Tumor-Derived Exosomes Using a Two-Dimensional Field-Flow Fractionation

#### 17:10 - 19:00 Poster Time & Social

Poster Hall between Staircase D+E

## Tuesday - 25<sup>th</sup> February 2020

09:00 - 12:00      Registration      Entrance Hall

### Nanoparticles and Nanotechnology II

Session Chair: Gaëtane Lespes

09:00 - 09:30 KEYNOTE	Mohammed Baalousha	Analysis of Natural and Engineered Nanomaterials in Environmental Systems by AF4-ICP-MS
09:30 - 09:50	Yolanda Moliner-Martinez	Effect of Dilution on Aqueous Dispersion Stability of Gold Nanoparticles: Study by Using Asymmetrical Flow Field-Flow Fractionation Coupled with UV-Vis and DLS Detection
09:50 - 10:10	Haruhisa Kato	Determination of Number-Based Size Distribution of Particles Using Field-Flow Fractionation
10:10 - 10:30	Jangjae Lee	Optimization of Asymmetrical Flow Field-Flow Fractionation (AsF4FFF) for Study on Behavior of Silver Nanoparticle Incubated in Human Body Fluid

10:30 - 11:00      Coffee Break

11:00 - 11:20	Lorenzo Sanjuan Navarro	Analytical Performance of Asymmetrical Flow Field-Flow Fractionation Coupled to UV-Vis and DLS Detection to Evaluate the Effect of Dilution in Aqueous Silver Nanoparticles Dispersion Stability
11:20 - 11:40	Isabelle Worms	Towards a Better Understanding of the Role of Humic Substances (HS) for Metal Dispersion by Extending the Capacity of AfFFF-ICPMS to the Lowest Size Range of Fractionation
11:40 - 12:00	Christian Schwaferts	On-line Coupling of Raman Microscopy and Field-Flow Fractionation Enabled by Optical Tweezers for Nanoplastic Analysis
12:00 - 12:20	Poster Spotlights	4 Posters with 5-minutes Presentation DongSup Song; Sofia Zoupanou; Irina Alberg; Martin Geisler (P27)

12:20 - 13:30      Lunch Break

### Food and Agriculture

Session Chair: Bruce K. Gale

13:30 - 13:50	Audrey Ric	Separation and Characterization of AGPs from Arabic Gums by Asymmetrical Flow Field-Flow Fractionation Coupled to UV-MALS-RI Detectors
13:50 - 14:10	Marie Henriet	Field-Flow Fractionation Techniques for Milk Protein Characterization
14:10 - 14:30	Rolando Cesar Moreno Ravelo	Palate Fullness and Mouthfeel of Alcohol Free Beers – AF4 as an Analytical Tool
14:30 - 14:50	Kevin Pascotto	Fractionation of polyphenolic compounds and macromolecules in red wine by Asymmetrical Flow Field-Flow Fractionation

19:00 - 22:00      Conference Dinner      Vienna City Town Hall - Lichtenfelsgasse 2, 1010 Vienna

## Wednesday - 26<sup>th</sup> February 2020

09:00 - 12:00 Registration Entrance Hall

### Drug Delivery, Pharmaceuticals, and Proteins

Session Chair: **Albena Lederer**

09:00 - 09:20	Sandrine Huclier	How Flow Field-Flow Fractionation Techniques Could Serve a Powerful Tool for the Characterization of Microparticles Considered for Micro-curie Therapy
09:20 - 09:40	Jeremie Parot	A Standardized Method for the Physical Characterization of Liposomal Drug Formulations Using Multi-Detector Asymmetrical Flow Field-Flow Fractionation
09:40 - 10:00	Mette Sloth Bohsen	Submicron and Micron Particles Forming in Aqueous Medium Upon Dispersion of Amorphous Solid Dispersions of the Poorly Soluble Drug ABT-102
10:00 - 10:20	Cornelius van Nostrum	Polymeric Micelles as Drug Carriers: AF4 as an In-vitro Model to Predict Drug Release in the Circulation
10:20 - 10:40	Lars Nilsson	Proteins and Antibodies in Serum, Plasma and Whole Blood – Size Characterization Using Asymmetrical Flow Field-Flow Fractionation (AF4) with Fluorescence and Surface Plasmon Resonance (SPR) Detection

10:40 - 11:10 Coffee Break

11:10 - 11:30	Veronique Sole-Jammault	Exploring Immune Complex Size IgG-gliadin by AF4 According to the Epitope Structure of Wheat Allergen: Impact on its Biological Activity
11:30 - 11:50	Iro K. Venturi	Evaluation of Asymmetrical Flow Field-Flow Fractionation and Size-Exclusion Chromatography for Studying the Aggregation Behavior of an Industrial Enzyme
11:50 - 12:10	Per-Olof Wahlund	AF4 as Tool for Screening Protein-Protein Interaction

12:10 - 13:10 Lunch Break

### Polymers, Macromolecules, and Polymer Nanocomposites I

Session Chair: **Harald Pasch**

13:10 - 13:40 KEYNOTE	Susanne Boye	In-situ Studies of Stimuli-Responsive Polymeric Vesicles by AF4-MALLS
13:40 - 14:00	Mubasher Ahmed Bashir	Characterization of Industrial Polymers by SEC and/or Field-Flow Fractionation
14:00 - 14:20	Yonggang Liu	Separation and Characterization of Water-Soluble Macromolecules: from SEC to AF4
14:20 - 14:40	Albena Lederer	Unravel Folding of Single Chain Nanoparticles

14:40 - 15:10 Coffee Break

### Instrumentation Development, Hyphenation and Theory

Session Chair: **Kim Williams**

15:10 - 15:30	Valentin de Carsalade du Pont	Study of Mechanism Governing the Retention Behavior in Asymmetrical Flow Field-Flow Fractionation
15:30 - 15:50	Christoph Johann	New developments in Flow-Field-Flow Fractionation – Dilution Control and Determination of Electrophoretic Mobility
15:50 - 16:10	Norbert Löwa	Novel Benchtop Magnetic FFF Detector for High Performance Analysis of Magnetic Nanoparticles
16:10 - 16:30	Masako Sugihara-Seki	Transition of the Inertial Focusing Pattern for Spherical Particles Suspended in Square Tube Flows
16:30 - 16:50	Stephen Williams	Simulation of Fractograms for Asymmetrical Flow Field-Flow Fractionation

16:50 Best Young Scientist Poster Awards from RSC and Springer Journals

## Thursday - 27<sup>th</sup> February 2020

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### Polymers, Macromolecules, and Polymer Nanocomposites II

Session Chair: Susanne Boye

09:00 - 09:30

Harald Pasch

Playing Analytical LEGO Using Multidetector ThFFF for Polymer Structure Elucidation

KEYNOTE

09:30 - 09:50

Upenyu Muza

Stereocomplexation of Polymers in Micelle Nanoreactors As Studied by Multiple Detection Thermal Field-Flow Fractionation

09:50 - 10:10

Estelle N'tsiba

Analysis of ultra-high molar mass polyacrylamides used for oil extraction by Asymmetrical Flow Field-Flow fractionation.

10:10 - 10:30

Stepan Podzimek

Comparative Study of SEC and AF4 in the Characterization of Organic Soluble Synthetic Polymers

10:30 - 11:00

Coffee Break

11:00 - 11:20

Agnes Rolland-Sabate

How the FFF Contributes to the Polysaccharide-Based Bioplastics Design

11:20 - 11:40

Kim Williams

Polymer Branching Analysis Using Soret Coefficients: Where Are We Today?

11:40 - 12:00

Martin Geisler

Branching Characterization of Polymers by ThFFF in Various Solvents

12:00

Closing & Farewell

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