



**Österreichische Gesellschaft für Zytometrie**  
**Austrian Society for Cytometry**

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# **AlpenFlow 2024**

*23. – 25. May 2024*



**Kongress & Theaterhaus**  
**Bad Ischl, Austria**

**Location:** *Kongress & TheaterHaus Bad Ischl*  
Kurhausstraße 8  
4820 Bad Ischl, Austria

**Thursday, 23.05.2024**

07:30 – 08:30 **Registration**

08:30 – 12:00 **Workshops I & II**

08:30 – 10:00 *Workshop I* (3 in parallel, each WS 1.5 hours)

**1. BD Life Sciences Biosciences**

“Seeing is believing: How Image-enabled spectral flow cytometry radically changes traditional flow and single-cell multiomics”

*Jens Fleischer, Becton Dickinson, Germany & Gert van Isterdael, Ghent, Belgium*

**2. Liquor diagnostics**

“Immune phenotyping of CSF cells - special considerations and current trends in diagnostic & research”

*Catharina Gross, Münster, Germany & Andrea Harrer, Salzburg, Austria*

**3. Particle Metrix**

“Nanoparticle Tracking Analysis with ZetaView - more than size and concentration”

*Ingrid Bloß, Particle Metrix, Germany*

10:00 – 10:30 Break

10:30 – 12:00 *Workshop II* (3 in parallel, each WS 1.5 hours)

**1. Beckman Coulter**

“Cutting-edge flow cytometry for the standardisation and characterisation of extracellular vesicles”

- Unlocking the unknowns of EV with flow cytometry

*Anis Larbi, Beckman Coulter, Germany*

- Standardization of CytoFLEX Flow Cytometer for EV research

*Maximilian Härtinger, Vienna, Austria*

- CytoFLEX nano is here! Pushing the boundaries of EV characterization

*Anis Larbi, Beckman Coulter, Germany*

**2. Miltenyi Biotec**

“Spatial Biology in multiple dimensions - From 3D imaging to same section multiomics”

*Stefan Eulitz, Miltenyi Biotec GmbH, Germany*

**3. Biolegend**

“Single-Cell Multiomics with TotalSeq™: From Multicolor Flow Cytometry to Simultaneous RNA and Protein Analysis”

*Samuel Körner, Biolegend, Germany*

12:00 – 13:00 **Lunch & Registration**

### **Workshop III**

13:00 – 14:30 **Workshops III** (3 in parallel, each WS 1.5 hours)

#### **1. Standard Biotoools**

“Imaging Mass Cytometry: Maximize your results”

- In this workshop, we'll delve into the intricacies of data analysis for highly multiplexed imaging experiments performed with Imaging Mass Cytometry. We will talk about various cell segmentation pipelines, exploring established strategies and introducing a diverse range of analysis software. During the course of the workshop, we will also talk about and introduce new features, including the possibility of performing whole slide imaging experiments on the Hyperion XTi Imaging System.

*David Guet, Standard BioTools, France*

#### **2. Sample preparation from tissues and advanced cell culture models**

*Beate Rinner & Eleonore Fröhlich & Matteo Villa, Graz, Austria*

#### **3. ThermoFisher Scientific**

“Image-enhanced Flow Cytometry and Single Cell high-speed sorting with the Attune CytPix & Bigfoot”

*Thomas Veitinger & Werner Einig, ThermoFisher Scientific, Switzerland*

14:30 – 14:45 Break

14:45 – 14:55 **Opening of the AlpenFlow**

### **Multiparameter Imaging**

14:55 – 15:20 Highly multiplexed imaging mass cytometry identifies predictive spatial immunotypes in cancer

*Bertram Bengsch, Freiburg, Germany*

15:20 – 15:45 Comparative Fluorescence Microscopic Morphometry

*Arndt Rohwedder, Linz, Austria*

15:45 – 16:10 Understanding Lymphatic Capillary Drainage of Interstitial Fluid

*Frank Assen, Vienna, Austria*

16:10 – 16:35 Exploring the enigmatic role of  $\gamma\delta$  T cells in cancer

*Kilian Wistuba-Hamprecht, Tübingen, Germany*

16:35 – 17:05 Break

### **Multiparameter Flow I**

17:05 – 17:30 Radio flow cytometry reveals [ $^{18}\text{F}$ ]FDG uptake in a KRAS induced lung cancer model is driven by immune cells but not tumor cell metabolism

*Cécile Philippe, Vienna, Austria*

17:30 – 17:55 Immunomics of Non Small Cell Lung Cancer

*Martina Sykora, Salzburg, Austria*

- 17:55 – 18:20 Immunophenotyping in Hemophagocytic Lymphohistiocytosis  
*Manuel Trebo, Innsbruck, Austria*
- 18:20 – 18:45 Profiling matters - discrete immunological endophenotypes in early multiple sclerosis are associated with distinct disease trajectories  
*Catharina Gross, Münster, Germany*
- 19:00 – 21:30 **Get together** – Kongress & TheaterHaus Bad Ischl

**Friday, 24.5.2024**

### *Key note lecture*

- 8:45 – 9:30 High-dimensional cytometry in the spectral era: new metrics to achieve a 50-color panel  
*Florian Mair, Zürich, Switzerland*

### **Multiparameter Flow II**

- 9:30 – 9:55 New therapies need new diagnostics – flow cytometric detection of CAR T-cells  
*Ines Peschel-Schaar, Innsbruck, Austria*
- 9:55 – 10:20 Evaluation of active signaling pathways as a novel tool to stratify patients suffering from Rheumatoid Arthritis  
*Johannes Fessler, Graz, Austria*
- 10:20 – 10:50 Break

### **High Dimensional Data Analysis**

*Moderation: Alexander Tolios*

- 10:50 – 11:15 Open-source tools for the analysis and automated processing of flow cytometric data  
*Julian Gebauer, Bad Salzuflen, Germany*
- 11:15 – 11:40 Breaking dimensionality borders – approaches to finding differences between groups in the Euclidean space of flow cytometry data  
*Jakob Theorell, Stockholm, Sweden*
- 11:40 – 12:05 Worst case scenario - Lessons learned by the Imaging and Optics Facility after a severe cyberattack.  
*Bernhard Hochreiter, Klosterneuburg, Austria*
- 12:05 – 13:15 Lunch

### **Extracellular Vesicles**

- 13:15 – 13:40 *Flow Cytometry* - Standardize and calibrate your instrument  
*Andreas Spittler, Vienna, Austria*

- 13:40 – 14:05 *NTA - Scattering Misconceptions in EV Research*  
*Johannes Österreich, Vienna, Austria*
- 14:05 – 14:30 *AMNIS - Small extracellular vesicles derived from multipotent adipose stromal cells in peripheral nerve regeneration - jack of all trades, master of none?*  
*Maximilian Härtinger, Vienna, Austria*
- 14:30 – 14:55 *CyTOF - Tellurium-based labeling of the extracellular vesicle proteome (TeLEV) enables high-dimensional single-cell analyses of EV recipients*  
*Daniel Bachurski, Cologne, Germany*
- 14:55 – 15:20 *ONI Nanoimager - Analyzing EV Heterogeneity by Super-Resolution Microscopy*  
*Martin Wolf, Salzburg, Austria*
- 15:20 – 15:45 Break

## **Microbiology**

**Moderation: Alexander Kirschner**

- 15:45 – 15:55 Introductory lecture to the session  
*Alexander Kirschner, Vienna, Austria*
- 15:55 – 16:25 Ecological forces dictate microbial community assembly processes in bioreactor systems  
*Susann Müller, Leipzig, Germany*
- 16:25 – 16:45 Domestic hot-water boilers harbour active thermophilic bacterial communities distinctly different from those in the cold-water supply  
*Thomas Egli, Feldmeilen, Switzerland*
- 16:45 – 17:05 A Spotlight on Flow Virometry for Assessing Water Quality and Treatment Efficiency  
*Claudia Kolm, Krems, Austria*
- 17:05 – 17:25 Competition experiments reveal evolutionary advantage from transposon DNA in bacteria  
*Roderich Römheld, Vienna, Austria*
- 17:25 – 17:45 Evaluating the effect of candidate prebiotics in the human gut microbiota by activity-based cell sorting and targeted isolation  
*Hamid Rasoulimehrabani, Vienna, Austria*
- 17:45 – 18:15 Break
- 18:15 Lebenslanges Bergsteigen  
*Peter Habeler, Mayrhofen, Zillertal, Austria*
- 19:30 – 23:00 **Common Dinner in the Cafe-Restaurant Zauner**  
pre-registration required – fee applies 30€



Saturday, 25.5.2024

## Workshops IV & V

9:00 – 10:30 **Workshop IV** (3 in parallel, each WS 1.5 hours)

**1. Multicolor Flow Cytometry**

A systematic step-by-step guide to design spectral flow cytometry panels from 5 to 50 colors

***Florian Mair, Zürich, Switzerland***

**2. Sysmex**

New era of multi-disciplinary workflow improvements in clinical flow cytometry

***Judith Gras, Sysmex Europa, Germany***

**3. Sony**

Maximizing Sensitivity, Removing Subjectivity - New Developments in Sony's Spectral Technology

***Martin Baumgart, & Gaëtan Riou, Sony, United Kingdom***

10:30 – 10:45 Break

10:45 – 12:15 **Workshop V** (3 in parallel, each WS 1.5 hours)

**1. Flow cytometry in the biomedical swine model**

***Kerstin Mair & Tobias Käser, Vienna, Austria***

**2. Cytex**

Next-Generation Flow-Cytometry for Measurable Residual Disease in Acute Myeloid Leukemia and new developments from Cytex

***Adrian Schwarzer, Greifswald, Germany & Knut Petkau, Cytex Biosciences, Amsterdam, The Netherlands***

**3. Antibody validation for flow cytometry**

***Beate Posch, Innsbruck, Austria***

## Organisation:

*Lena Müller*

Medical University of Vienna, Core Facilities, Mass Cytometry, Vienna, Austria

*Beate Rinner*

Medical University Graz, Core Facility Alternative Biomodels & Preclinical Imaging, Graz, Austria

*Sieghart Sopper*

Medical University Innsbruck, Core Facility Flow Cytometry, Innsbruck, Austria

*Andreas Spittler*

Medical University of Vienna, Core Facility Flow Cytometry & Surgical Research Laboratories, Vienna, Austria

*Alexander Tolios*

Medical University of Vienna, Department of Blood Group Serology and Transfusion Medicine, Vienna, Austria

## Approbation:

The conference of the "Austrian Society for Cytometry" (23.-25.5.2024) is approved for the Diploma Training Program of the *ÖÄK* with **23 Medical DFP Points** and by *biomed austria - Austrian Professional Association of Biomedical Analysts* with **30 CPD points**.

## Speakers and Presenters:

*Assen, Frank*

Medical University Vienna, Department of Dermatology, Vienna, Austria

*Bachurski, Daniel*

University of Cologne, Mildred Scheel School of Oncology (MSSO) Cologne-Bonn, Cologne, Germany

*Baumgart, Martin*

Sony Biotechnology Europe

*Bengsch, Bertram*

University Freiburg, Faculty of Medicine, Department of Medicine II, Translational Hepatogastroenterology, Freiburg, Germany

*Bloß, Ingrid*

Particle Metrix

*Egli, Thomas*

Microbes in Water GmbH, Feldmeilen, Switzerland

*Einig, Werner*

ThermoFisher Scientific

*Eulitz, Stefan*

Miltenyi Biotec GmbH

*Fessler, Johannes*

Medical University Graz, Otto Loewi Research Center, Division of Immunology, Graz, Austria

*Fleischer, Jens*

Becton Dickinson

*Fröhlich, Eleonore*

Medical University Graz, Core Facility Imaging, Graz, Austria

*Gebauer, Julian*

MVZ Labor Krone GbR, Bad Salzuflen, Germany

**Gras, Judith**

Sysmex Europe

**Gross, Catharina**

Westfälische Wilhelms-Universität Münster, Institute of Translational Neurology, Münster, Germany

**Guert, David**

Standard Biotools

**Habeler, Peter**

Mayrhofen, Zillertal, Austria

**Harrer, Andrea**

University of Salzburg, Department of Neurology, Salzburg, Austria

**Härtinger, Maximilian**

Medical University Vienna, Department of Plastic, Reconstructive and Aesthetic Surgery Research Laboratories, Vienna, Austria

**Hochreiter, Bernhard**

Institute of Science and Technology Austria - ISTA, Imaging and Optics Facility, Klosterneuburg, Austria

**Käser, Tobias**

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**Kirschner, Alexander**

Medical University Vienna, Institute for Hygiene and Applied Immunology, Vienna, Austria

**Körner, Samuel**

BioLegend

**Kolm, Claudia**

Karl Landsteiner University of Health Sciences, Division Water Quality & Health, Krems, Austria

**Larbi, Anis**

Beckman Coulter

**Mair, Florian**

ETH Zurich, Institute of Molecular Health Sciences, Zurich, Switzerland

**Mair, Kerstin**

Vetmeduni, Institute of Immunology, Vienna, Austria

**Müller, Susann**

Helmholtz Centre for Environmental Research – UFZ, Department Applied Microbial Ecology, Leipzig, Germany

**Österreicher, Johannes**

LBI for Traumatology, Vienna, Austria

**Peschel-Schaar, Ines**

University of Innsbruck, Central laboratory, Innsbruck, Austria

**Petkau, Knut**

Cytek Biosciences

**Philippe, Cécile**

Department of Biomedical Imaging and Image-Guided Therapy

**Posch, Beate**

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**Rasoulimehrabani, Hamid**

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**Rinner, Beate**

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***Riou, Gaëtan***

Sony Biotechnology Europe

***Römhild, Roderich***

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***Rohwedder, Arndt***

Johannes Kepler University Linz, Zentrum für Medizinische Forschung, Core Facility Imaging, Linz, Austria

***Schwarzer, Adrian***

Universitätsmedizin Greifswald, Greifswald, Germany

***Spittler, Andreas***

Medical University Vienna, Core Facilities, Core Facility Flow Cytometry, Vienna, Austria

***Sykora, Martina Maria***

Paris-Lodron-University Salzburg, Research, Salzburg, Austria

***Theorell, Jacob***

Karolinska University Hospital Huddinge, Department of Medicine, Huddinge, Sweden

***Tolios, Alexander***

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***Trebo, Manuel***

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***Veitinger, Thomas***

ThermoFisher Scientific

***Van Isterdael, Gert***

VIB Flow Core, Ghent, Belgium

***Villa, Mateo***

Medical University Graz, Division of Rheumatology and Immunology, Graz, Austria

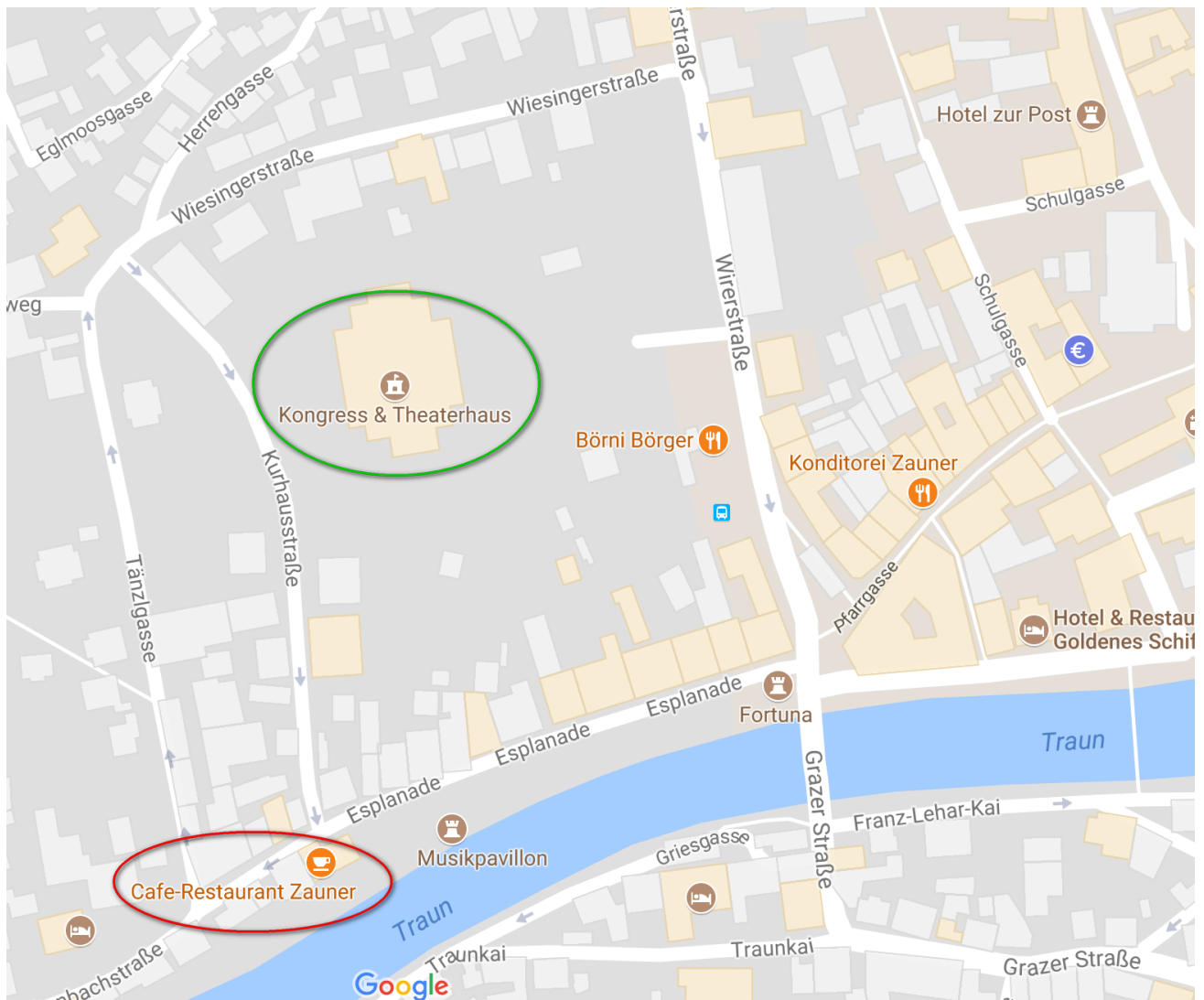
***Wistuba-Hamprecht, Kilian***

German Cancer Research Center (DKFZ), Skin Cancer Unit, Immunomonitoring & Cancer Immunology, Heidelberg, Germany

***Wolf, Martin***

Paracelsus Medical University, Institute of Experimental and Clinical Cell Therapy, Salzburg, Austria

The **joint dinner** for pre-registered participants takes place in the "**Cafe-Restaurant Zauner**", Hasnerallee 2 (Esplanada), 4820 Bad Ischl (red circle).





## Main Sponsors of the OEGfZ



## Sponsors



### Imprint:

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