



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

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# **AlpenFlow 2021**

*10. – 13. November 2021*



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

**Wednesday, 10.11.2021**

12:00 - 13:30 **Registration**

13:30 – 15:00 **Workshops I** (3 in parallel, each WS 1.5 hours)

**1. Cell preparation – an essential factor in flow cytometry**

*Beate Rinner, Graz & Andrea Hauser & Julia Stemberger, Vienna, Austria*

**2. Minimal Residual Diseases**

Standardized MRD diagnostic – Multiple Myeloma and more

*Martin Willheim, St. Pölten Austria & Wolfgang Hübl, Vienna, Austria*

**3. Single-Cell Multiomics**

- From Multicolor Flow Cytometry to Simultaneous RNA and Protein Analysis

*Samuel Körner, Technical Application Scientist, BioLegend*

15:00 – 15:15 **Break**

**Broad Aspects in Flow Cytometry**

15:15 – 15:45 Trials and tribulations of sorting single cells

*Karen Hogg, York, United Kingdom*

15:45 – 16:15 One tube to find them all – a broadly applicable panel to define all major leukocyte subsets in human blood

*Sieghart Sopper, Innsbruck, Austria*

16:15 – 16:45 Investigating the role of dendritic cells in BRAF inhibitor-mediated anti-tumor immunity

*Florian Hornsteiner, Innsbruck, Austria*

17:00 – 17:30 ***20 years Austrian Society for Cytometry***

***Keynote lectures***

17:30 – 18:15 The first FACS in Austria - „Necessity - Serendipity - Pasteur - Kairos“

*Georg Wick, Innsbruck, Austria*

18:15 – 19:00 The future of cytometry

*John Nolan, San Diego, California, United States*

19:00 – 21:30 **Get together** – Kongress & TheaterHaus Bad Ischl

Musikalische Gestaltung: **REMIX**



Thursday, 11.11.2021

## **Clinical Immunology & High Dimensional Flow I**

- 8:30 – 9:00 The clinical significance of flow cytometric immunophenotyping in 2021  
*Peter Bettelheim, Linz, Austria*
- 9:00 – 9:30 Evidence of cellular immune response to SARS-CoV-2 vaccination in immunocompromised patients.  
*Ulrich Sack, Leipzig, Germany*
- 9:30 – 10:00 Prolonged alterations of the immune system in hospitalized COVID-19 patients  
*Martina Sykora, Innsbruck, Austria*
- 10:00 – 10:30 Diagnostic chances & limits of cytometry for inborn errors of the immune system  
*Elisabeth Förster-Waldl, Vienna, Austria*
- 10:30 – 10:45 Break

## **Clinical Immunology & High Dimensional Flow II**

- 10:45 – 11:15 Mass Cytometry – Promises and Pitfalls  
*Henrik Mei, Berlin, Germany*
- 11:15 – 11:45 Mapping immune cell distribution in human airways using mass cytometry  
*Julia Eckl-Dorna & Marianne Rocha-Hasler, Vienna, Austria*
- 11:45 – 12:15 Establishing mass cytometry panels for phosphoproteomics and immune phenotyping in CLL  
*Markus Steiner, Salzburg, Austria*
- 12:15 – 12:45 Forty color flow analysis of different clinical samples with the 5L Cytex Aurora: a field report  
*Philipp Schatzlmaier, Vienna, Austria*
- 12:45 – 14:00 Lunch & Registration
- 14:00 – 19:00 **Workshops II - IV**
- 14:00 – 15:30 **Workshop II** (3 in parallel, each WS 1.5 hours)

- 1. How to easily design a 40+ marker CyTOF panel using the online Paneldesign tool**  
*Shaghayegh Derakhshani, Field Application Scientist, Mass Cytometry, Fluidigm*
- 2. New insights into cancer biology and target discovery with ultra-high content and 3D imaging.**  
*Daniel Schäfer, Miltenyi Biotec*
- 3. Analysis of high dimensional flow cytometric data with conventional gating and bioinformatic tools using FlowJo.**  
*Martina Sykora, Innsbruck, Austria*
- 4. Forget Me Not! Methods for Measuring AntiGen Specific Immune Answer**  
*Jana Schuldt, Freiburg & Michael Kapinsky, Andreas Wicovsky, Beckman Coulter, Krefeld, Germany*

15:30 – 15:45 Break

15:45 – 17:15 **Workshops III** (3 in parallel, each WS 1.5 hours)

- 1. Dataanalysis using Cytobank**  
tba
- 2. How camera-based flow cytometry enhances the detection of rare events and small particles like extracellular vesicles**  
*Peter Rhein, Carsten Ludwig & Riccardo Rubbiani, Luminex B.V.*
- 3. Combine Flow Cytometry and Multiomics into an inclusive bioinformatics Experience**  
*Jens Fleischer, European application consultant, Becton Dickinson*
- 4. Gaintration / voltration and standardisation for multi centre sites & longitudinal studies**  
*Karen Hogg, York, United Kingdom*

17:15 – 17:30 Break

17:30 – 19:00 **Workshops IV** (3 in parallel, each WS 1.5 hours)

- 1. Multicolor: The Basics**
  - Multicolour, FMO and data spreading  
*Julia Stemberger & Dieter Printz, Vienna, Austria*
- 2. Ride the Spectral Unicorn - Best of Cytex 2021**
  - Best practices and new tools for full spectrum profiling FSP™  
*Knut Petkau & Sebastian Lunemann, Cytex Biosciences, Germany*
- 3. TissueGnostics**
  - High Dimensional Data Mining in Tissue Cytometry:  
*Rupert Ecker, TissueGnostics*
- 4. Introduction to FCS Express 7 and example of High-Dimensional data analysis with Pipelines.**
  - FCS Express 7 gets you from raw data to presentation-ready results more easily and in less time than any other flow cytometry software.
  - In addition, thanks to Pipelines, FCS Express increases the computational flexibility and granularity of running data transformations (such as tSNE, UMAP, FlowSOM, and more) while giving users the unique ability to create their own transformations.  
*Andrea Valle, Glendale, California, United States*

**Friday, 12.11.2021**

### **Multiparameter Imaging**

- 8:30 – 8:55 From zero to thousands - from label free to high-plex imaging  
*Peter O'Toole, York, United Kingdom*
- 8:55 – 9:20 Automated workflows in microscopy - a facility perspective  
*Gabriel Krens, Klosterneuburg, Austria*
- 9:20 – 9:45 Qualitative and quantitative methods to assess the phagocytic competences of human Schwann cells  
*Tamara Weiss, Vienna, Austria*
- 9:45 – 10:10 The case for tissue clearing beyond neuroscience  
**Wouter Masselink, Vienna, Austria**
- 10:10 – 10:30 Multiplex image cytometry to map tumor cell dissemination in metastatic neuroblastoma  
**Daria Lazic, Vienna, Austria**
- 10:30 – 11:00 Break

### **Microbiology**

- 11:00 – 11:15 Viability and infectivity of viable but nonculturable *Legionella pneumophila* induced at high temperatures  
*Alexander Kirschner, Vienna, Austria*
- 11:15 – 11:30 The D-A-(C) index as a simple tool for microbial-ecological characterization and assessment of groundwater ecosystems  
*Christian Griebler, Vienna, Austria*
- 11:30 – 11:45 Every cell counts - case studies for the application of flow cytometry in austrian drinking water supply  
*Philipp Proksch, Vienna, Austria*
- 11:45 – 12:00 Innovative applications of cell sorting in microbial ecology  
*Marc Musmann, Vienna, Austria*
- 12:00 – 12:15 A Novel Flow Cytometric Approach for the Quantification and Quality Control of *Chlamydia trachomatis* Preparations  
*Romana Klasinc, Vienna, Austria*
- 12:15 – 12:30 Automated flow cytometry for near real-time monitoring of bacteria in drinking water resources: an example of an alpine karstic spring  
*Lena Campostrini, Vienna, Austria*
- 12:30 – 13:30 Lunch

## **Extracellular Vesicles and Flow Cytometry**

- 13:30 – 14:00 Single Vesicle Flow Cytometry: Instruments, Assays, and Insights.  
*John Nolan, San Diego, California, United States*
- 14:00 – 14:25 Using Flow Cytometry to Understand EV Biology and Heterogeneity  
*André Görgens, Stockholm, Sweden*
- 14:25 – 14:50 First experiences in small particle analysis with the NanoAnalyzer in a Core Facility setting.  
*Claudia Dumrese, Zurich, Swiss*
- 14:50 – 15:15 Tumour evasion by release of immune ligands. Analyses of extracellular vesicles by immune capture and flow cytometry.  
*Mar Váles-Gómez, National Centre for Biotechnology, CNB-CSIC, Madrid, Spain*
- 15:15 – 15:40 EV Characterization: Flow Cytometry & Beyond  
*Dirk Strunk, Paracelus Medical University, Salzburg, Austria*
- 15:40 – 16:00 **Break**

## **Bioinformatics**

*Moderation: Attila Tarnok, Leipzig, Germany*

- 16:00 – 16:45 Introduction to gating and analyzing flow cytometry data with R  
*Carmen Bruckmann, Leipzig, Germany*
- 16:45 – 17:15 Reproducible cytometry data analysis using R  
*Helena L. Crowell, Zurich, Switzerland*
- 17:15 – 17:45 Quantifying molecular interactions with flow cytometry  
*Bernhard Hochreiter, Vienna, Austria*
- 18:00 – 19:00 **Guest lecture: Reaching 8000 - shift your limits**  
*Gerlinde Kaltenbrunner, Professional Mountaineer, Upper Austria, Austria*
- 19:30 – 23:00 **Common Dinner in the Cafe-Restaurant Zauner**  
pre-registration required – fee applies 25€



Saturday, 13.11.2021

## Workshops V & VI

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

### 1. Flow Cytometry

- Update on Pitfalls and Troubleshooting

*Heimo Strohmaier, Graz, Austria & Andreas Spittler, Vienna, Austria*

### 2. Liquor diagnostic

- Cerebrospinal fluid cells on flow: from basics to latest developments

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

### 3. Spectral Flow Cytometry

- Fundamentals of Advanced Spectral Cell Analysis Using the New ID7000™ System

*Angelika Rose, Julia Witschkowski, Sony Biotechnology*

10:30 – 10:45 Break

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

### 1. Cell Processing and Purification

- practical approaches for cell isolation and depletion, overview and high-speed cell sorting, tips and tricks

*Matthias Schiemann, Munich, Germany*

### 2. Antibody Validation

*Sieghart Sopper, Innsbruck, Austria*

### 3. New Attune CytPix image-enhanced Analyzer and Bigfoot Spectral Cell Sorter Breaking bottlenecks in flow cytometry and multi-color panel design

*Christian Keplinger, Werner Einig, ThermoFisher Scientific*

## **Organisation:**

*The Board of the Austrian Society for Cytometry - [www.cytometry.at](http://www.cytometry.at)*

## **Approbation:**

The conference of the "Austrian Society for Cytometry" (10.-13.11.2021) is approved for the Diploma Training Program of the ÖÄK with **30 Medical DFP Points** and by *biomed austria - Austrian Professional Association of Biomedical Analysts* with **30 CPD Points**.

## **Speakers and Presenters:**

### ***Bettelheim, Peter***

Laborgemeinschaft für Spezialdiagnostik, Linz, Austria

### ***Bruckmann, Carmen***

University Leipzig & Helmholtz-Centre for Environmental Research – UfZ, Leipzig, Germany

### ***Campostrini, Lena***

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

### ***Crowell, Helena Lucia***

University of Zurich, Zurich, Switzerland

### ***Derakhshani, Shaghayegh***

Fluidigm

### ***Dumrese, Claudia***

Cytometry Facility, University Zurich, Zurich, Switzerland

### ***Eckl-Dorna, Julia***

Department of Otorhinolaryngology, General Hospital Vienna, Medical University Vienna, Vienna, Austria

### ***Ecker, Rupert***

TissueGnostics

### ***Einig, Werner***

Thermo Fisher Scientific

### ***Fleischer, Jens***

Becton Dickinson

### ***Förster-Wald, Elisabeth***

Division of Neonatology, Pediatric Intensive Care and Neuropediatrics, Department of Pediatrics and Adolescent Medicine, Medical University Vienna, Vienna, Austria

### ***Görgens, André***

Clinical Research Center, Department for Laboratory Medicine, Karolinska Institutet, Stockholm, Sweden

### ***Griebler, Christian***

University of Vienna, Department of Functional and Evolutionary Ecology, Vienna, Austria

### ***Gröger, Marion***

Medical University of Vienna, Core Facility Imaging, Vienna, Austria

### ***Gross, Catharina***

Department of Neurology with Institute of Translational Neurology, University Hospital Münster, Münster, Germany

### ***Harrer, Andrea***

University of Salzburg, Department of Neurology, Salzburg, Austria

### ***Hauser, Andrea***

Department of Laboratory Medicine, Donauspital, Vienna, Austria.

### ***Hochreiter, Bernhard***

Institute of Vascular Biology and Thrombosis Research, Medical University Vienna, Vienna, Austria.

### ***Hogg, Karen***

Technology Facility, Department of Biology, University of York, York, United Kingdom



***Hornsteiner, Florian***

Medical University of Innsbruck, Department of Dermatology, Venereology & Allergology, Innsbruck, Austria

***Hübl, Wolfgang***

Central Laboratory, Wilhelminespital, Vienna, Austria

***Kaltenbrunner, Gerlinde***

Upper Austria, Austria

***Lazic, Daria***

St. Anna Children's Cancer Research Institute, Vienna, Austria

***Ludwig, Carsten***

Luminex

***Kapinsky, Michael***

Beckman Coulter

***Kepplinger, Christian***

Thermo Fisher Scientific

***Kirschner, Alexander***

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

***Klasinc, Romana***

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

***Körner, Samuel***

Biolegend

***Krens, Gabriel***

Bioimaging Facility, Institute of Science and Technology, Klosterneuburg, Austria

***Lunemann, Sebastian***

Cytek Biosciences

***Masselink, Wouter***

Research Institute of Molecular Pathology (IMP), Vienna, Austria

***Mei, Henrik***

Mass Cytometry at German Rheumatism Research Center Berlin, Berlin, Germany

***Mussmann, Marc***

Division of Microbial Ecology, University of Vienna, Vienna, Austria

***Nolan, John***

The Scintillon Institute, San Diego, CA, United States

***O'Toole, Peter***

Imaging and Cytometry, Department of Biology, University of York, York, United Kingdom

***Petkau, Knut***

Cytek Biosciences

***Printz, Dieter***

Children's Cancer Research Institute, Vienna, Austria

***Proksch, Philipp***

Institute of Sanitary Engineering and Water Pollution Control (SIG), University of Natural Resources and Life sciences, Vienna, Austria

***Rhein, Peter***

Luminex B.V.

***Rinner, Beate***

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

***Rocha-Hasler, Marianne***

Department of Otorhinolaryngology, General Hospital Vienna, Medical University Vienna, Vienna, Austria

***Rubbiani, Riccardo***

Luminex B.V.

***Sack, Ulrich***

Institute of Clinical Immunology, University of Leipzig, Leipzig, Germany

***Schäfer, Daniel***

Miltenyi Biotec

***Schatzmaier, Philipp***

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

***Schiemann, Matthias***

Technical University Munich, Institute of Medical Microbiology, Immunology & Hygiene, Munich, Germany

***Schuldt, Jana***

Beckman Coulter

***Sopper, Sieghart***

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

***Spittler, Andreas***

Medical University of Vienna, Core Facility Flow Cytometry & Surgical Res. Lab., Vienna, Austria

***Steiner, Markus***

Department of Internal Medicine III with Haematology, Medical Oncology, Haemostaseology Infectiology and Rheumatology, Oncologic Center, Salzburg Cancer Research Institute-Laboratory for Immunological and Molecular Cancer Research (LIMCR), Cancer Cluster Salzburg, Paracelsus Medical University, 5020 Salzburg, Austria.

***Stemberger, Julia***

Children's Cancer Research Institute, Vienna, Austria

***Strunk, Dirk***

Paracelsus Medical University, Salzburg, Österreich

***Strohmaier, Heimo***

Medical University Graz, Core Facility Imaging, Graz, Austria

***Sykora, Martina***

Medical University Innsbruck, Hematology Oncology, Innsbruck, Austria

***Tarnok, Attila***

University of Leipzig, Leipzig, Germany

***Váles-Gómez, Mar***

National Centre for Biotechnology, CNB-CSIS, Madrid, Spain

***Valle, Andrea***

De Novo Software

***Weiss, Tamara***

Research Laboratory of the Division of Plastic and Reconstructive Surgery, Department of Surgery, Medical University of Vienna, Vienna, Austria

***Wick, Georg***

Laboratory of Autoimmunity, Division for Experimental Pathology and Immunology, Biocenter, Innsbruck Medical University, Innsbruck, Austria

***Wicovsky, Andreas***

Beckman Coulter

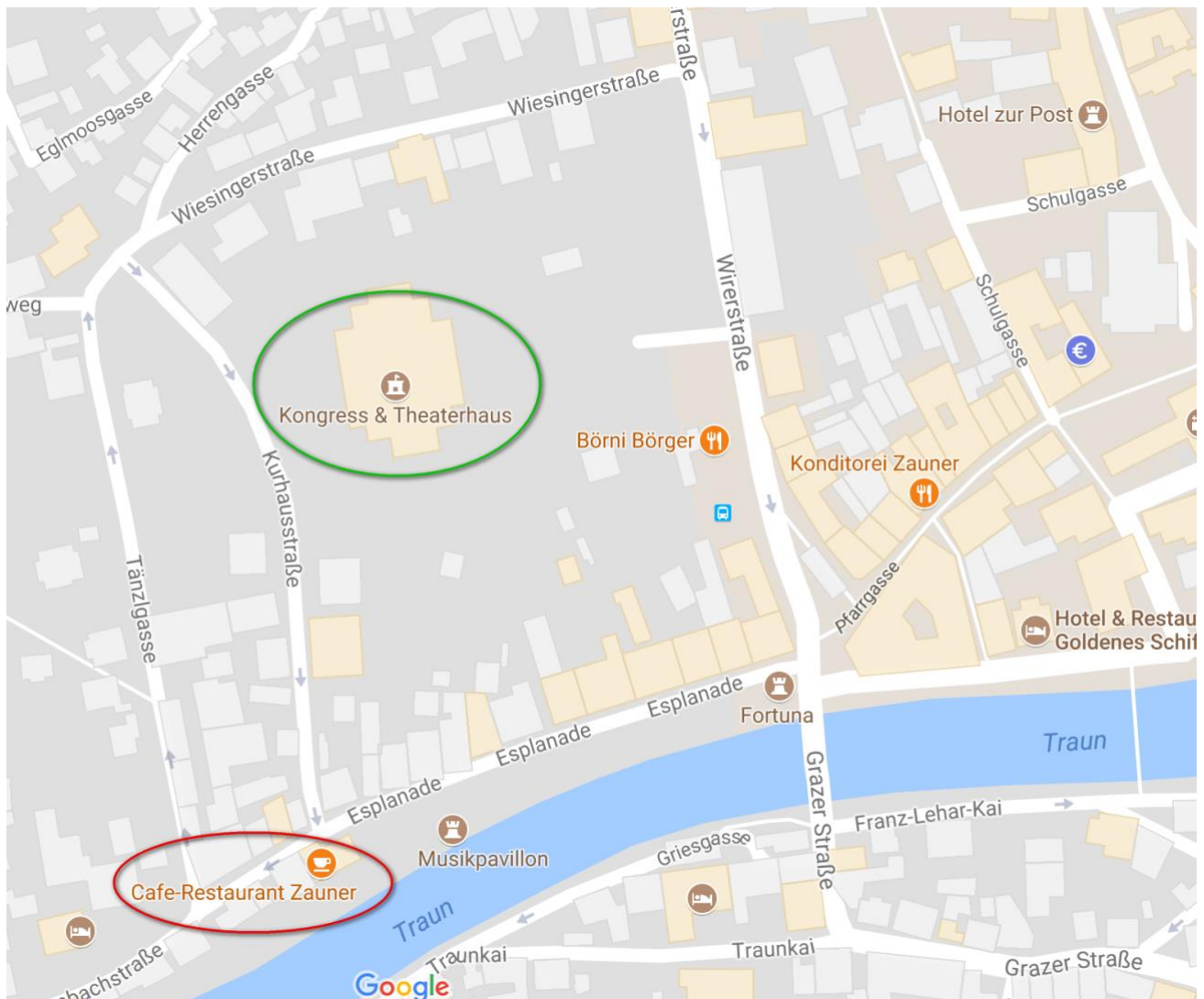
***Willheim, Martin***

Universitätsklinikum St. Pölten, Klinisches Institut für Laboratoriumsmedizin, St. Pölten, Austria

## Main Sponsors of the OEGfZ



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



**Imprint:**

Austrian Society for Cytometry  
c/o Vienna Medical Academy for Medical Education and Research  
Alserstraße 4, 1st courtyard, 1090 Vienna  
Phone: +43 (1) 405 13 83 - 21, Fax: +43 (1) 407 82 74  
E-mail: ds@wma.co.at

Version of 12.10.2021, subject to any changes