



Österreichische Gesellschaft für Zytometrie
Austrian Society for Cytometry

AlpenFlow 2022

18. – 21. May 2022



Kongress & TheaterHaus
Bad Ischl, Austria

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

Wednesday, 18.5.2022

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

13:30 – 15:00 **Workshops I** (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. Cell preparation – an essential factor in flow cytometry

Beate Rinner, Graz & Andrea Hauser & Christine Hoffmann-Freimüller, 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 Large particle analysis and sorting technologies

Kitti Csalyi, Vienna, Austria

17:00 – 17:30 **20 (+1) 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, 19.5.2022

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** (4 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** (4 in parallel, each WS 1.5 hours)

1. **Dataanalysis using Cytobank**
Sophia Derdak & Marianne Rocha-Hasler, Vienna, Austria
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** (4 in parallel, each WS 1.5 hours)

1. **Multicolor: The Basics**
 - Multicolour, FMO and data spreading*Christine Hoffmann-Freimüller & 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 & Alain Pitiot, 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, 20.5.2022

Multiparameter Imaging

- 8:30 – 8:55 Automated workflows in microscopy - a facility perspective
Gabriel Krens, Klosterneuburg, Austria
- 8:55 – 9:20 The case for tissue clearing beyond neuroscience
Wouter Masselink, Vienna, Austria
- 9:20 – 9:45 How did you get in here? A closer look at the interaction between adipose stem cell derived extracellular vesicles and Schwann cells
Maximilian Haertinger, Vienna, Austria
- 9:45 – 10:10 Multiplex image cytometry to map tumor cell dissemination in metastatic neuroblastoma
Sabine Taschner-Mandl, Vienna, Austria
- 10:10 – 10:35 High-speed image-enabled cell sorting: There is more to see@
Diana Ordonez, EMBL Heidelberg, Germany
- 10:35 – 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 Mussmann, 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

Moderation: John Nolan, The Scintillon Institute, San Diego, CA, United States

- 13:30 – 14:15 Single Vesicle Flow Cytometry: Instruments, Assays, and Insights.
John Nolan, San Diego, California, United States
- 14:15 – 14:40 Using Flow Cytometry to Understand EV Biology and Heterogeneity
André Görgens, Stockholm, Sweden
- 14:40 – 15:05 First experiences in small particle analysis with the NanoAnalyzer in a Core Facility setting.
Philipp Schätzle, Zurich, Swiss
- 15:05 – 15:30 EV Characterization: Flow Cytometry & Beyond
Dirk Strunk, Paracelus Medical University, Salzburg, Austria
- 15:30 – 15:40 **General discussion**
- 15:40 – 16:00 **Break**

Bioinformatics

Moderation: Alexander Tolios, Vienna, Austria

- 16:00 – 16:45 Introduction to gating and analyzing flow cytometry data with R
Carmen Bruckmann, Leipzig, Germany
- 16:45 – 17:15 Automated FLOW-MRD Assessment with Transformers
Florian Kowarsch, Computer Vision Lab, TU Wien & Michael Reiter, Immunological Diagnostics, Children's Cancer Research Institute und Computer Vision Lab, TU Wien
- 17:15 – 17:45 Quantifying molecular interactions with flow cytometry
Bernhard Hochreiter, Vienna, Austria

Guest lecture

- 18:00 – 19:00 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, 21.5.2022

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. Minimal Residual Diseases

- Standardized MRD diagnostic – Multiple Myeloma and more

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

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 Kepplinger, Werner Einig, ThermoFisher Scientific

Organisation:

The Board of the Austrian Society for Cytometry - www.cytometry.at

Approbation:

The conference of the "Austrian Society for Cytometry" (18.-21.5.2022) 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

Csalyi, Kitti

Max Perutz Labs Support GmbH, Vienna, Austria

Derakhshani, Shaghayegh

Fluidigm

Derdak, Sophia

Core Facilities, Medical University of Vienna, Vienna, Austria

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

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Gross, Catharina

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Haertinger, Maximilian

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Hauser, Andrea

Department of Laboratory Medicine, Donauspital, Vienna, Austria.

Hochreiter, Bernhard

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Hoffmann-Freimüller, Christine

Children's Cancer Research Institute, Vienna, Austria

Hogg, Karen

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

Hübl, Wolfgang

Central Laboratory, Wilhelminespital, Vienna, Austria

Kaltenbrunner, Gerlinde

Upper Austria, Austria

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

Biologend

Kowarsch, Florian

Computer Vision Lab, TU Vienna

Krens, Gabriel

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

Ludwig, Carsten

Luminex B.V.

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

Ordonez, Diana

EMBL, Heidelberg, Germany

Petkau, Knut

Cytek Biosciences

Pitiot, Alain

TissueGnostics

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

Reiter, Michael

Immunological Diagnostics, Children's Cancer Research Institute and Computer Vision Lab, TU Vienna

Rhein, Peter

Luminex B.V.

Rinner, Beate

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

Rocha-Hasler, Marianne

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Rose, Angelika

Sony Biotechnology

Rubbiani, Riccardo

Luminex B.V.

Sack, Ulrich

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Schäfer, Daniel

Miltenyi Biotec

Schatzmaier, Philipp

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Schuldt, Jana

Beckman Coulter

Sopper, Sieghart

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Spittler, Andreas

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

Steiner, Markus

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Strohmaier, Heimo

Medical University Graz, Core Facility Imaging, Graz, Austria

Strunk, Dirk

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Sykora, Martina

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Valle, Andrea

De Novo Software

Wick, Georg

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Wicovsky, Andreas

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Willheim, Martin

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Witschowski, Julia

Sony Biotechnology

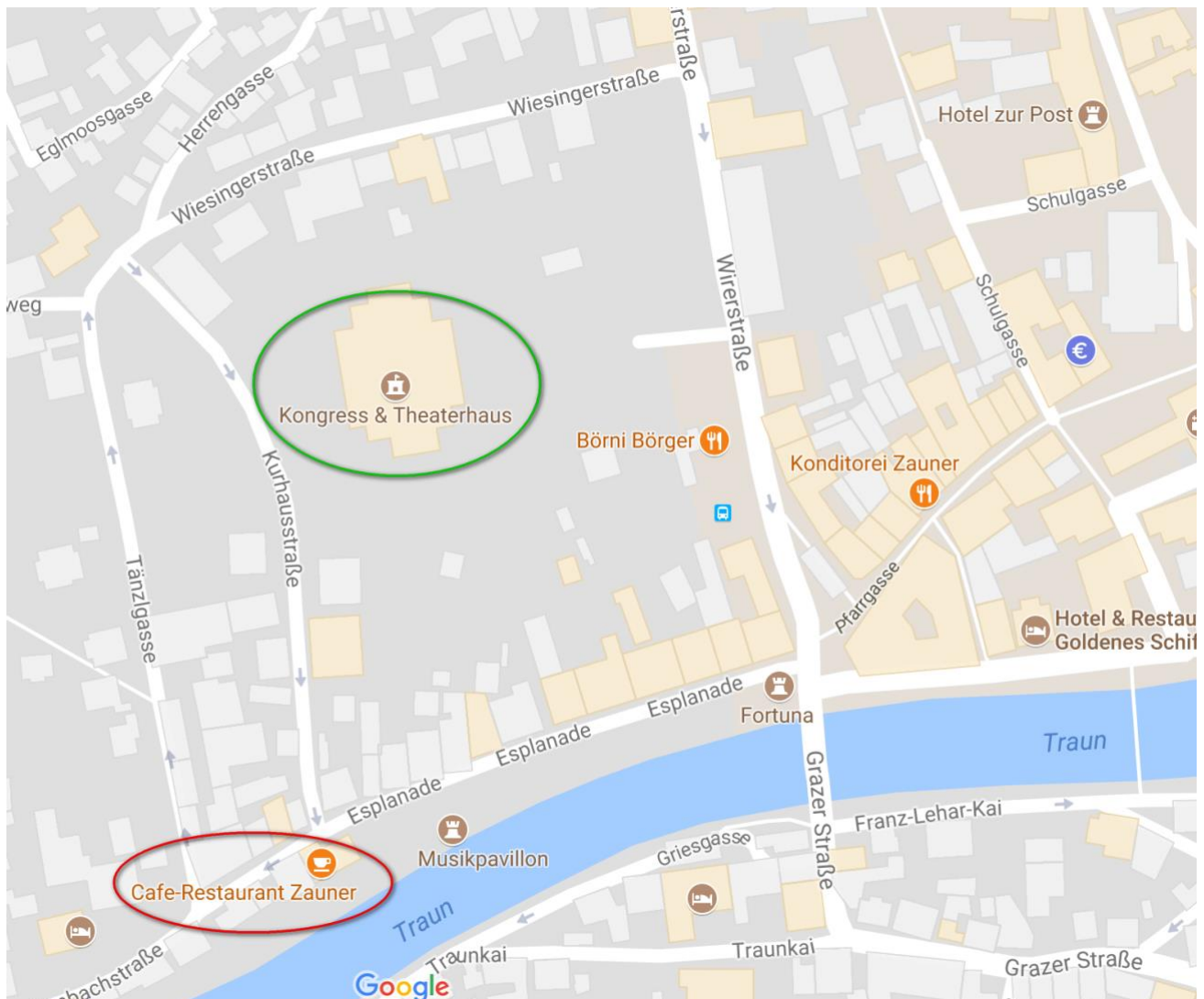
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The **joint dinner** for pre-registered participants takes place in the "**Cafe-Restaurant Zauner**", Hasnerallee 2 (Esplanada), 4820 Bad Ischl (red circle).



Imprint:

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