

13th International Conference Analytical Cytometry

4.-7. 10. 2025
Hotel GALANT, Mikulov
Czech Republic



SATURDAY, October 4

AURELIUS HALL	
	Chair: Karel Souček
18:30	Úvodní přednáška konference Data k vašim službám: 10 let budování Národního zdravotnického informačního systému Ladislav Dušek (CZ)
19:00	Welcome drink

program

SUNDAY, October 5

AURELIUS HALL		CABERNET HALL		posters
Chairs: Karel Souček, Veronika Niederlová				
9:00	Opening			
9:10	Christina Zielinski: Decoding the regulation of human T cells in health and disease - cytotoxicity revisited			
9:45	Ján Remšík: Dissecting anti-tumor immunity in the leptomeninges one cell at a time			
10:20	Coffee break ☕			
Chairs: Vítězslav Bryja, Vendula Pospichalová				
10:55	Hana Polášek-Sedláčková: Uncovering DNA replication dynamics through high-content imaging			
11:30	Maximilian Haertinger: Pushing the limits: small particle flow cytometry 101			
12:05	Hind Medyouf: Harnessing the tumor microenvironment to enable cancer control			
12:40	Lunch 🍴			
12:40 - 13:40	Lunch workshop: Beckman Coulter CytoFLEX mosaic – spectral evolution of CytoFLEX family platform 🍴			
Chairs: Tomáš Kalina, Ondřej Pelák				
14:00	Julian Staniek: Regulation of cell death programs in human B cells			
14:35	Robert Balderas: Proteomic and transcriptomic assessment of innate and adaptive responses: from mouse to human			
15:10	Award for the best original scientific publications in cytometry (2024)			
15:20	Coffee break ☕			
Chairs: Karel Souček, Lukáš Kubala				
16:00	Annual members' meeting – Czech Society for Analytical Cytometry	17:00 - 18:00	CYI session on career development Chair: Veronika Niederlová	
17:00			Panel discussion Tomáš Kalina, Hind Medyouf, Hana Polášek-Sedláčková, Christinu Zielinski	
18:00				18:00 Poster session I Authors of odd-numbered posters are present (Posters 1, 3, 5, ...)
20:00	Social event			

Poster viewing

hands-on workshops				
	Veltlín hall Beckman Coulter	Tramín hall BD	Frankovka hall I.T.A.-Intertact GeneTICA	Thurgau hall accela
12:40 - 13:40		Lunch workshop: BD BD Solutions for clinical diagnostics 🍴	Deep cell lunch seminar: I.T.A.-Intertact Beyond the marker: AI-powered label-free morphology profiling for single-cell characterization and sorting 🍴	Lunch workshop: accela Introducing Cytel Aurora Evo, the new standard of full spectrum cytometry 🍴
14:00 - 14:35			Workshop 1: GeneTICA Introduction to single-cell transcriptomics data analysis	
14:35 - 14:55	Workshop 1: Beckman Coulter CytoFLEX mosaic	Workshop 1: BD Hands-on demonstration of BD FACSymphony™ A1, BD FACSLytic™ BD FACSMelody™ and BD Rhapsody™ instruments	Workshop 1: I.T.A.-Intertact Xdrop®: Advancing single-cell functional analysis through droplet flow cytometry	Workshop 1: accela From IDEAS to intelligence: AI-enhanced ImageStreamx data analysis
15:30 - 15:50			Workshop 2: GeneTICA Exploring biology with spatial transcriptomics	

lectures						posters			
AURELIUS HALL		CABERNET HALL		SAUVIGNON HALL		Atrium			
CLINICAL CYTOMETRY						9:00 - 18:00	Poster viewing		
Chairs: Tomáš Jelínek, Ondřej Hrušák									
9:00	Sarah Bonte: Computational (clinical) cytometry: the why and how of data preprocessing								
9:35	Jens V. Stein: Integrating cell biology and immunology to dissect CD8+ T cell-mediated immunity							IMAGING CYTOMETRY	
Chairs: Vítězslav Bryja, Karel Souček									
10:10	Iva Benešová: Proton radiotherapy and lymphocyte dynamics in head and neck cancer	10:10	Štěpán Čada: Quantitative analysis of B-cell migration: From phenotype to molecular mechanisms						
10:30	David Starostka: Interpretative validation of flow cytometry in integrative diagnostic haemato-oncology	10:30	Eliška Miková: Sphingosine 1-phosphate receptor-1 controls T cell mechanosensitivity						
10:50	Ondřej Venglář: Monitoring of CAR T cells and non-CAR T immune subsets with standardized 8-color flow cytometry panel utilizing dry reagents	10:50	Paolo Fagherazzi: Quantitative AI-based DNA fiber (qAID) workflow using scanR high-content imaging system						
11:10 Coffee break ☕									
CLINICAL CYTOMETRY		EDU SESSION EN CYTOMETRY BASICS		EXTRACELLULAR VESICLES					
Chairs: Marcela Hortová Kohoutková, Jolana Vošáhlová		Chairs: Ondřej Pelák, Jozef Janda, Jan Svoboda		Chairs: Vendula Hlaváčková Pospíchalová, Gabriela Ambrozová					
11:40	Jan Frič: Long-term impact of pediatric sepsis on immune function: Immunophenotypic and metabolic shifts in myeloid cells	11:40	Jan Svoboda: Basic principles of flow cytometry	11:40	Vendula Hlaváčková Pospíchalová: Getting to know extracellular vesicles: Between promise and pitfalls				
12:00	Michaela Reiterová: Novel EuroFlow quality assessment on B-cell precursor acute lymphoblastic leukemia minimal residual disease. Program development and four rounds of implementation	12:00		Antonín Hlaváček: Absolute quantification of nanoparticles by optical microscopy and deep learning: A simple yet powerful tool for nanoparticle analysis					
12:20	David Zihala: Selective depletion of B-cell lineage subsets during treatment with anti-BCMA vs anti-GPRC5D bispecific antibodies (bsAbs) underlies different risk of infections in patients with multiple myeloma (MM)	12:20	Jan Musil: Fluorochromes and their spectral properties	12:20	Agnieszka Razim: Development of a universal chemically-defined medium for the analysis of „stressed“ bacterial EVs in the context of undernutrition				
12:40	Zuzana Tomášiková: Peripheral blood immune profiling reflects esophageal inflammation in pediatric patients suffering from eosinophilic esophagitis	12:40	Ondřej Pelák: Compensation & unmixing	12:40	Gabriela Ambrozova: Macrophage EVs: Transporters of pro-inflammatory cargo				
13:00 Lunch (+ CYI: Mikulov City Hunt) 🍴									
13:00 - 14:00	Lunch workshop: Beckman Coulter CytoFLEX nano - Innovative flow cytometry for counting and characterization of extracellular vesicles 🍴			13:00 - 14:00	Lunch workshop: GeneTiCA Six Years of Single-Cell Transcriptomics: Lessons Learned and Future Directions 🍴				
EDU SESSION EN CLINICAL CYTOMETRY		EDU SESSION EN CYTOMETRY BASICS		SINGLE CELL BIOLOGY AND OMICS					
Chairs: Veronika Kanderová, Marcela Vlková		Chairs: Ondřej Pelák, Jozef Janda, Jan Svoboda		Chair: Vítězslav Bryja					
14:30	Daniel Thurner: How to prepare material other than blood and bone marrow for reliable flow cytometry analysis?	14:30	Antonín Ptáček: Controls for building a successful flow cytometry experiment	14:30	Pavel Abaffy: Bridging two worlds: Merging flow cytometry with single-cell RNA-sequencing				
14:50	Zuzana Kahounová: Preparation of single-cell suspensions from solid tissues for reliable flow cytometry analysis	14:50	Ioanna Papatheodorou: Flow cytometry data analysis: unveiling the journey from gates to graphs	14:50	Anjana Anilkumar Sithara: Composition and fitness of T and NK cells in extramedullary myeloma tumor microenvironment				
15:20	Aleš Efenberk, Veronika Kanderová: Advanced immunophenotyping of peripheral blood leukocytes	15:20	Jozef Janda: Sample preparation for flow cytometry	15:10	Radek Sindelka: Regeneration-Initiating cells identified in xenopus tail regrowth: Insights into tumor plasticity and microenvironmental remodeling				
		15:35	Matyáš Šíma: Basic principles of cell sorting	15:30	Veronika Niederlová: Manipulating effector and memory fates in CD8+ T Cells: A novel Tpm transitional state and the role of TGF-β				
15:50 Coffee break ☕									
EDU SESSION CZ KLINICKÁ CYTOMETRIE, DISKUZE				SINGLE CELL BIOLOGY AND OMICS					
Chairs: Veronika Kanderová, Lucie Řihová				Chair: Vítězslav Bryja					
16:30	Karolína Jankovičová: Populace a subpopulace lymfocytů v klinické imunologické laboratoři - jejich využití v praxi a návaznost na digitalizaci ve zdravotnictví			16:30	Jan Stuchlý: Lineage switching in pediatric acute lymphoblastic leukemia resolved by single-cell multi-omics				
16:45	Vladimíra Řezáčová: NČLP and its use in flow cytometry of haematocological examinations			16:45	Antónia Mikulová: ROR-1+ B cells from peripheral blood comprise atypical B cell population that potentially represents precursors of the malignant clone in chronic lymphocytic leukaemia				
17:00	Veronika Kanderová: Referenční meze pro klinickou cytometrii			SINGLE CELL OMICS ROUND TABLE					
17:20				Chair: Vítězslav Bryja					
				17:00	Lukáš Valihrach, Boris Tichý: Introduction of facility/ highlights				
				18:00					
19:30	CYI: Pub kvíz								

Poster viewing

hands-on workshops					
	Veltlín hall Beckman Coulter	Tramín hall BD	Frankovka hall I.T.A.-Intertact GeneTiCA	Muller hall SVEN BIOLABS	Thurgau hall accela
9:00 - 9:20	Workshop 2: Beckman Coulter DxFLEX - flexible IVDR compliant flow cytometer	Workshop 2: BD Introduction to FlowJo™ 11 and BD® Research Cloud	Workshop 2: I.T.A.-Intertact Mindray Bricyte MX 3-laser 14-color IVDR-compliant cytometer for immunology and hemato-oncology	Workshop 1: SVEN BioLabs The basics of imaging cytometry, or what it brings you compared to conventional flow cytometers	Workshop 2: accela Precise and efficient Extracellular Vesicles purity detection with Explorer Nano Flow Cytometer
9:35 - 9:55			Workshop 3: GeneTiCA Targeting the interest		
10:10 - 10:30	Workshop 3: Beckman Coulter Kaluza/Kaluza C and Cytobank analysing software- live demo, questions and answers session	Workshop 3: BD Overview of BD Single-Cell Multiomics solutions	Workshop 3: I.T.A.-Intertact Rethinking spectral cytometry: The SONY ID7000 advantage		Workshop 3: accela Shedding light on Extracellular Vesicles with imaging flow cytometry
10:50 - 11:10			Workshop 4: GeneTiCA Interactive troubleshooting for Single cell Chromium platform		
11:40 - 12:00	Workshop 4: Beckman Coulter CytoFLEX mosaic	Workshop 4: BD Hands-on demonstration of BD FACSymphony™ A1, BD FACSLytic™ BD FACSMelody and BD Rhapsody™ instruments	Workshop 4: I.T.A.-Intertact Xdrop®: Advancing single-cell functional analysis through Droplet Flow Cytometry		Workshop 4: accela Introducing Cytel Aurora Evo, hands-on experience on a smarter & faster Full Spectrum Flow Cytometer
12:20 - 12:40			Workshop 5: GeneTiCA Spatial OMICS with 10X Genomics: closing the gap for Multiparametric Analysis in Solid Tissues		
13:00 - 14:00		Lunch workshop: BD 	Sony Biotechnology lunch seminar: I.T.A.-Intertact 		Lunch workshop: accela 
		Launch of the BD FACSDiscover™ A8 cell analyzer	From complexity to clarity: Advancing flow cytometry with the ID7000		Elevate your spectral sorting experience for small and large particles with Cytel Aurora CS
14:30 - 14:50	Workshop 5: Beckman Coulter CytoFLEX nano - overview of the system, data analysis	Workshop 5: BD Hands-on demonstration of BD FACSymphony™ A1, BD FACSLytic™ BD FACSMelody and BD Rhapsody™ instruments	Workshop 5: I.T.A.-Intertact Beyond the Marker: AI-powered label-free morphology profiling for single-cell characterization and sorting		Workshop 5: accela Introducing VERLO: Image-guided & gentle cell sorter
16:30 - 16:50	Workshop 6: Beckman Coulter CytoFLEX SRT- cell sorting made easy and automated	Workshop 6: BD Hands-on demonstration of data acquired on BD FACSDiscover™ A8 Cell Analyzer	Workshop 6: I.T.A.-Intertact FP7000: High-parameter spectral sorting redefined	Workshop 2: SVEN BioLabs Application of image cytometry and use of AI for advanced image analysis	Workshop 6: accela Nano flow cytometry session: The critical role of refractive index settings in light scattering-based particle sizing

TUESDAY, October 7

lectures						hands-on workshops				
AURELIUS HALL		CABERNET HALL		SAUVIGNON HALL			Veltlín hall Beckman Coulter	Tramín hall BD	Frankovka hall I.T.A.-Intertact GeneTiCA	Thurgau hall accela
EXPERIMENTAL CYTOMETRY		BOTANY AND ZOOLOGY		NEW METHODS AND DATA ANALYSIS						
Chairs: Ondřej Štěpánek, Veronika Niederlová		Chairs: Petr Bureš, Tomáš Urfus		Chair: Ondřej Pelák						
9:00	Jana Balounova: FAM83H/SACK1H shapes thymic stromal architecture and postnatal lymphopoiesis via CK1 interaction	9:00	Petr Bureš: Divergent tra- jectories of genome evoluti- on: The impact of centrome- re drive on shaping genome architecture, species rich- ness and competitiveness of ferns and angiosperms	9:00	Tomáš Kalina: Tviblinďi al- gorithm identifies branching developmental trajectories of human B cell development and describes abnormalities in RAG-1 and WAS patients	9:00 - 9:20	Workshop 7: Beckman Coulter DuraCLONE panels, Supernova Dyes and new Infrared dyes - dry cocktails and bright dyes for flow cytometry	Workshop 7: BD Tips & Tricks in flow cytometry	Workshop 7: I.T.A.-Intertact Mindray Bricyte MX 3-laser 14-color IVD- -R-compliant cyto- meter for immunology and hemato-oncology	Workshop 7: accela Hands-on cell sor- ting session: Easily sort large and fragi- le cells with WOLF Gentle Cell Sorter
9:20	Daniela Kužílková: CD mo- lecules nomenclature 2025: Antibody validation and ex- pression profiling of immune system G protein-coupled receptors (GPCRs)	9:20	Michal Hroneš: Genome size of bulbous monocots in the northern cradle of their diversity: patterns, gaps and challenges	9:20	Jan Víteček: The Journey from vasculature to (Micro) fluidic-based in vitro models	9:35 - 9:55			Workshop 2: GeneTiCA Workshop 6: GeneTiCA Spatial OMICS with 10X Genomics: Clo- sing the gap for mul- tiparametric analysis in solid tissues	
9:40	Aneta Skotnicová: Immuno- genicity of RSV vaccine in lung transplants	9:40	Lucie Kobrlová: Using flow cytometry to explore the Boraginaceae family? Challenge accepted.	9:40	Lenka Andrejšová: Innova- tion and practical potential of ̳H2AX detection by flow cytometry					
10:00	Adela Vavrova: T-MAPS: Novel surface markers for measurable residual disease monitoring in pediatric T-cell acute lymphoblastic leukemia	10:00	Vladislav Kolarčík: Endo- polyploidy is negatively correlated with genome size in karyologically uniform tomatoes	10:00	Ondřej Štěpánek: How we use TCR/BCR sequencing data to track the fate of individual lymphocytes					
10:20	Michal Santocki: Changes in bone marrow niche during sepsis investigated using iPSC-derived bone marrow organoids	10:20	Petr Koutecký: Methodolo- gical aspects of using flow cytometry to sample ploidy levels over the whole flora of multiple sites	10:20		10:20 - 10:40	Workshop 7: Bec- kman Coulter CytoFlex			
10:40	Coffee break ☕									
EXPERIMENTAL CYTOMETRY		BOTANY AND ZOOLOGY		NEW METHODS AND DATA ANALYSIS		10:50 - 11:10	Workshop 7: GeneTiCA Introduction to sin- gle-cell transcripto- mics data analysis			
Chairs: Alena Hyršlová Vaculová, Lukáš Kubala		Chairs: Petr Bureš, Tomáš Urfus		Chair: Ondřej Pelák						
11:10	Daniela Rubanová: Systemic administration of hyaluronic acid: pharmacokinetics and therapeutic potential in rheumatoid arthritis	11:10	Jaroslav Rohel: Endopoly- ploidy in natural populations of diploid plants and their polyploid relatives	11:10	Ioanna Papatheodorou: Dysregulated neutrophil mobility and granulopoiesis as a long-term signature of post-acute sequelae of COVID					
11:30	Türkan Portakal: LPS tri- ggers ER stress-mediated hybrid EMT in human expan- dable lung epithelial cells	11:30	Mahmoud Said: Flow cytometric karyotyping of wheat-aegilops addition lines facilitates dissection of Ae. biuncialis and Ae. geniculata genomes into individual chromosomes	11:30	Ondřej Venglář: Immu- noMMap: Insights into immune and genomic alterations underlying the resistance to bispecific antibodies in multiple mye- loma by high dimensional full spectrum cytometry and exome sequencing					
11:50	Karel Souček: Understan- ding the role of desmoglein 2 in preserving the epithelial phenotype of breast cancer cells	11:50	Petr Šmarda: Advantages of endopolyploidy over polyploidy	11:50	Michaela Simova: Clustering vs. gating in high-dimensi- onal cytometry: Practical evaluation using a 22-color mouse panel					
12:10	Discussion	12:10	Discussion	12:10	Discussion					
Chairs: Karel Souček, Veronika Kanderová, Tomáš Jelinek										
12:20	Closing ceremony Poster awards									
12:50	Lunch 🍴									

PARTNERS

PLATINUM PARTNERS



GOLD PARTNER SILVER PARTNERS



PARTNERS

