

11th International Conference Analytical Cytometry, SCIENTIFIC PROGRAM

2 – 5. 10, Clarion Congress Hotel Ostrava

SATURDAY, October 2, 2021

SAPPHIRE HALL	
Chairpersons: Karel Souček, Marcela Víková	
OPENING LECTURE	
18:30	Martin Jemelka Ostrava-Vlkovice 1800-2000: from the "Steel City" (Jules Verne) to Know-it-nothing's City on the Moon (Nikolai Nosov)
19:00	Welcome drink

SUNDAY, October 3, 2021

SCIENTIFIC PROGRAM		HANDS-ON WORKSHOPS				
SAPPHIRE HALL	GOLD HALL	ANTRACIT HALL	DIAMANT HALL	SILVER HALL BD + Beckman Coulter	DIAMANT HALL - Corner 1 ACCELA	DIAMANT HALL - Corner 2 L.T.A. Interact
Chairpersons: Karel Souček, Marcela Víková						
9:00 Opening Karel Souček, Tomáš Jelinek, Tomáš Kalina						
PLENARY SESSION						
9:10 Vítězslav Bryja Casein kinase 1 as a therapeutic target in leukemias: from mechanism to inhibitors and back						
9:45 Rafael J. Argüello Illuminating metabolism of rare cell populations under physiological conditions using SCENITH						
10:20 Coffee break						
Chairpersons: Tomáš Kalina, Jolana Vášdřhová						
10:55 Tomasz Szczepanski Multiparameter flow cytometry for precise diagnosis and monitoring of acute lymphoblastic leukemia						
11:30 Claudia Rössig CAR T cells for cancer therapy						
12:05 Alberto Orfao Follow-up of multiple myeloma after therapy: advantages and limitations of BM versus blood monitoring						
12:40 Lunch		HANDS-ON LUNCH WORKSHOP Beckman Coulter CytoFLEX SRT - simple way to get cells you want				
Chairpersons: Radek Fedr, Tomáš Jelinek						
14:00 Vladimír Beneš Flow cytometry and single-cell transcriptomics: much more than a marriage of convenience						
14:35 Tomáš Kalina CD45 ⁺ - mapping all CD markers on leukocytes' subsets						
15:10 Andrey Tchobanov Flow cytometry analysis in vaccines and therapeutics development						
15:45 Coffee break						
Chairpersons: Ondřej Pelák, Lucie Řihová						
16:15 Dominik Filipp Thymic cellular machinery for antigen presentation involved in T cell selection						
16:50 Maria James Keys for the development of high resolution 40-color flow cytometry assays						
17:25		Poster viewing				
18:25		Poster session I Authors of odd-numbered posters are present (Posters 1, 3, 5...)				

MONDAY, October 4, 2021

SCIENTIFIC PROGRAM		HANDS-ON WORKSHOPS				
SAPPHIRE HALL	GOLD HALL	ANTRACIT HALL	DIAMANT HALL	SILVER HALL BD + Beckman Coulter	DIAMANT HALL - Corner 1 ACCELA	DIAMANT HALL - Corner 2 L.T.A. Interact
CELL BIOLOGY: SINGLE CELL AND SEQUENCING		IMMUNOLOGY		EDU SESSION (CZ) ZÁKLADY CYTOMETRIE 1		
Chairperson: Vítězslav Bryja		Chairpersons: Jan Friš, Lukáš Kubala		Chairpersons: Josef Janda, Jan Svoboda		
8:30 Agnieszka Ciesielska Multiomic cytometry - cytometry at true resolution: resolving complex biology with single cell multiomics	8:30 Marco De Zuani Human myeloid-derived suppressor cell expansion during sepsis is revealed by unsupervised clustering of flow cytometric data	8:30 Jan Svoboda Fluorescence a fluorochromy	8:30	Beckman Coulter CytoFLEX family - sensitivity and high resolution in your hands		
8:50 Pavlína Janovská B cell developmental trajectory modeling - using complex immunophenotype to identify pre-malignant CLL B cell subsets in peripheral blood of healthy donors	8:50 Petra Lázníčková Accelerated aging of immune cells in childhood and adolescent cancer survivors - clinical phenomenon and search for molecular mechanism	8:50 Jan Svoboda Základní principy: Fluidika, optika a elektronika	8:50			
9:10 Radim Jarošek Single-cell RNA sequencing analysis of T cell differentiation and transdifferentiation mechanisms	9:10 Marcela Hortová Kohoutková Immunometabolic status of activated human monocytes is altered by immunosuppressives	9:10 Jiří Šinkora Cytoometrická data	9:10			
9:30 Juraj Michálik Analysis of tissue infiltrating T cells by single cell transcriptomics	9:30 Jakub Tomala Cytokine-antibody single-chain fusions for cancer immunotherapy	9:30 Jan Svoboda Pokročilé principy: Laser delay, window extension a škvalování	9:30			
9:50 Petr Tauš Data mining of publicly available scRNA-seq datasets: application of machine learning to interrogate normal cellular counterparts of chronic lymphocytic leukemia	9:50 Markéta Racková A diagnostic conundrum: identification of a causal mutation in a patient with severe neonatal-onset bowel disease	9:50 Jiří Šinkora Cytoometrická data	9:50			
10:10 Jan Stuchý Research oriented tool for computer assisted dissection of developmental pathways in large single-cell datasets	10:10 Anna Lierova Lung fibrosis, ionizing radiation and biodegradable hyaluronan nanoparticles	10:10 Jan Musil Kompenzace: spillover a spreading	10:10			
10:30 Coffee break						
CELL BIOLOGY: SIGNALING		CLINICAL CYTOMETRY		EDU SESSION (CZ) ZÁKLADY CYTOMETRIE 2		
Chairperson: Karel Souček		Chairpersons Tomáš Kalina, Michaela Nováková		Chairpersons: Josef Janda, Jan Svoboda		
11:00 Daniela Kužlíková Mass cytometry-based phospho-kinase signature in pediatric t-cell acute lymphoblastic leukemia (T-ALL) dissects a dominance of either JAK-STAT or PI3K-AKT-mTOR pathways	11:00 Ondřej Hrušák Cytometric findings uncover immunological changes in children with rare complications after SARS-CoV-2 infection	11:00 Jan Musil Sestavení panelu protilátek	11:00	Beckman Coulter CytoFLEX SRT - automated bench top cell sorter		
11:20 Marek Kravec Flow cytometry assay for the analysis of interaction between recombinant proteins and synthetic membranes: Dishevelled binding to synthetic phospholipid vesicles	11:20	11:20	11:20			
11:40 Martin Čulen Acute myeloid leukemia regression induced by palbociclib and ponatinib in patient-derived xenograft model	11:40 Jakub Soukup Elevated platelet and endothelial extracellular vesicles in cord blood of pre-term newborns with inflammation	11:40 Josef Janda Pokročilé technologie: Spektrální, hmotnostní a zobrazovací cytometrie	11:40			
12:00 Ondřej Vacek Relation between Trop2 and tetraspanins CD9 and CD63 in breast cancer	12:00 Arantxa Huariz Impact of IVD regulation 2017/746 on the European Health Institutions	12:00 Jiří Šinkora Troubleshoooting - všeobecná diskuze	12:00			
12:30 Lunch	12:30 LUNCH WORKSHOP, BD How to successfully combine flow cytometry with the multi-omics approach	Lunch	12:30	LUNCH WORKSHOP, Beckman Coulter DxFLEX and Supernova dyes - new shining cytometry stars		
CELL BIOLOGY: CANCER		EDU SESSION (CZ/EN) KLINICKÁ CYTOMETRIE, CAR-T CELLS		EDU SESSION (EN) FACS SORTING 1		
Chairperson: Vítězslav Bryja		Chairperson: Ondřej Pelák		Chairperson: Ondřej Pelák		
14:00 Karel Souček Pre-existing cell subpopulations in primary prostate cancers display surface fingerprint of docetaxel-resistant cells	14:00 Alberto Orfao MRD monitoring in lymphoid neoplasms: BCP-ALL and MM as a model	14:00 Jan Svoboda Basic knowledge for sorting (key parameters)	14:00	Beckman Coulter DxFLEX - flexible clinical flow cytometer		
14:30 Ena Pešut Flow cytometry assessment of cervical precancerous lesions	14:30 Zdeněk Kořístecký MRD evaluation in AML: clinical point of view	14:30 Jiří Šinkora Sorting in contrast to analyzers	14:30	Cell sorting session: sterile, gentle plating of cells for cloning		
14:50 Sílvia Tyliaková Flow cytometric analyses of TNF α influence on biology of melanoma and colorectal carcinoma cells	14:45 Marek Borský Flow cytometry evaluation of MRD in AML	14:45 Ondřej Honec How to deal with and avoid contaminations	14:45	Beckman Coulter CytoFLEX family - sensitivity and high resolution in your hands		
15:10 Markéta Picková Intratumor heterogeneity reflected in circulating tumor cells associates with metastatic phenotype of single circulating tumor cell-derived clones	15:00 Martin Špaček MRD in CLL: clinical significance and flow cytometry evaluation	15:00 Matyáš Šima Dox and don'ts when bringing the sample for sorting to a core facility	15:00	Spectral flow cytometry session: Creating efficiency in the clinical lab with full spectrum cytometry - Northern Lights CLC (CE IVD)		
	15:25 Jakub Radocha MRD evaluation in MM: clinical point of view			FCS Express - bridging the gap between cytometry data and results		
	15:40 Tomáš Jelinek Next generation flow cytometry in MM MRD					
15:30 Coffee break						
CELL BIOLOGY: IMAGING		EDU SESSION (CZ/EN) KLINICKÁ CYTOMETRIE, CAR-T CELLS		EDU SESSION (EN) FACS SORTING 2		
Chairperson: Karel Souček		Chairpersons: Tomáš Jelinek, Lucie Řihová		Chairperson: Ondřej Pelák		
16:00 Olga Adamczyk Formation of novel cytoskeletal structures in mef 3T3 cells during interaction with microspheres	16:00 František Folber Introduction to CAR-T cells in hematological malignancies	16:00 Maria Brewinska-Olechowik Combining Full Spectrum Profiling (FSP) and cell sorting	16:00	Beckman Coulter Reagents- Duraclone Dry ready to use cocktails and SuperNova polymer dyes		
16:20 Jan Novotný Furc cell cycle reporter as a tool for visualization of cell cycle progression and malfunctions	16:15 Alberto Orfao Monitoring of CART cell treatment in diffuse large B cell lymphoma	16:20 Věruška Šinkorová Single cell sorting	16:20	Hands-on demonstration of BD FACSymphony™ A1, A3, BD FACSLytic™ and BD Rhapsody™ instruments		
16:40 Štěpán Čada CLL and Cell Polarity: In Vitro Analysis of Morphology and Migration of Leukemic Lymphocytes	16:30 Pavel Otáhal Monitoring of CAR-T cells in B-NHL and ALL	16:40 Alena Keprová Mitochondria sorting	16:40	Spectral flow cytometry session: Creating efficiency in the clinical lab with full spectrum cytometry - Northern Lights CLC (CE IVD)		
17:00	17:00	17:00	17:00	LUMINEX: Advantages of imaging flow cytometry - from basic analysis to artificial intelligence		
		SINGLE CELL & OMICS FACILITIES & USERS WORKSHOP		Poster session II Authors of even-numbered posters are present (Posters 2, 4, 6...)		
		Chairperson(s) Bryja/ Souček				
		17:30 Michal Kolář, IAC CAS		17:30		
		17:40 Boris Tichý, CEITEC MU		17:40		
		17:50 Pavel Abaffy, Biocov		17:50		
		18:00 Vladimír Beneš, EMBL		18:00		
		18:10 Marcela Buchtová, IAC CAS				
		18:20 Jan Klivánek, Masaryk University				
		18:30				

TUESDAY, October 5, 2021

SCIENTIFIC PROGRAM		HANDS-ON WORKSHOPS				
SAPPHIRE HALL	GOLD HALL	ANTRACIT HALL	DIAMANT HALL	SILVER HALL BD + Beckman Coulter	DIAMANT HALL - Corner 1 ACCELA	DIAMANT HALL - Corner 2 L.T.A. Interact
PLENARY SESSION						
Chairpersons: Marcela Víková, Karel Souček						
8:30 Awards (publications, posters) CSAC society meeting						
HEMATOLOGY		MICROFLUIDICS		DATA ANALYSIS		
Chairpersons: Ondřej Hrušák, Jan Musil		Chairperson: Zbyněk Prokop		Chairpersons: Karel Fíler, Radek Fedr		
9:00 Lucie Řihová Concept of highly sensitive 12-color flow cytometry for detection of clonal plasma cells in multiple myeloma	9:00 Josef Jaroš Microfluidic chip as a tool for uniform generation of spheroids	9:00 Petr Čápal Flow-sorted mitotic chromosomes as a tool to uncover their 3D architecture	9:00	Beckman Coulter CytoFLEX SRT - automated bench top cell sorter		
9:20 Tomáš Jelinek Prognostic significance of circulating plasma cells in newly diagnosed multiple myeloma: Czech validation cohort	9:25 Jan Viteček In Vitro fluidic models to study cardiovascular diseases	9:25 Mahmud Said Bivariate flow cytometry of wheat-aeglopsaddition lines facilitate dissecting the genomes of Ae. geniculata and Ae. Buncialis into individual chromosomes	9:25			
9:40 Srdjan Gruzanovic Chronic inflammation decreases HSC fitness via hyperactivation of the druggable IL-6/STAT3 signaling pathway	9:50 Michal Vašina Discovery of new biocatalysts accelerated by microfluidics	9:50 Marco De Zuani Multidimensional scaling using flowSOM: workflow and case study	9:50	Beckman Coulter DxFLEX - flexible clinical flow cytometer		
10:00 Martina Fejtlová Dysregulation in TLR8 and TLR7 signaling leads to autoimmune hemolytic anemia and autoinflammation in identical male twins	10:15 Antonín Hlaváček Convolutional neural networks for automated counting of single photon-upconversion nanoparticles in microfluidic chips	10:15 Tereza Podolská Unsupervised automated population detection and immunophenotypisation of acute lymphoblastic leukaemia cytometric data	10:15	Kinetic cytometry session: Analyze your adherent or non-adherent heterogeneous cells with InCytLive live-cell analysis		
10:30 Coffee break						
11:00 Jana Jemelkova Influence of N-acetylglucosaminyltransferase 14 on surface galactose deficient IgA1 expression	11:00 Zdeněk Pílař Analysis of bacteriophage-host interaction by Raman Tweezers	11:00 Josef Janda Using cross-stain index to assess spreading error in spectral flow cytometry	11:00	Beckman Coulter CytoFLEX family - sensitivity and high resolution in your hands		
11:20 Šárka Vaníková Comprehensive immunomonitoring of patients after hematopoietic stem cell transplantation	11:20 Martin Krizovský Raman microspectroscopic analysis of selenium bioaccumulation by Green Alga Chlorella Vulgaris	11:20 Josef Janda Using artificial intelligence and imaging flow cytometry to analyze micronucleus assay	11:20	Imaging flow cytometry session: The benefits of Artificial Intelligence for the image analysis of new Immuno oncology applications		
11:40 Michaela Nováková Blinatumomab has broad effect on cell composition during B-cell precursor leukemia therapy	11:40 Silvie Bernatová Plasmon-enhanced optical force aggregation of gold nanorods and SERS in microfluidic chip			Infinicy: How to optimize clinical results through multidimensional analysis		
12:00 Tomáš Jelinek Limited efficacy of daratumumab in multiple myeloma with extramedullary disease						
PLENARY SESSION						
Chairpersons: Karel Souček, Tomáš Jelinek, Tomáš Kalina						
12:20 Closing						
12:30 Lunch						