

HANDS-ON WORKSHOPS, LUNCH SESSIONS

SUNDAY, OCTOBER 15, 2017

	VLASTA	NEKLAN	BIVOJ	ŠÁRKA	TETA
Lunch Workshops 12:40 – 14:00	CytoFLEX Research Flow Cytometer Platform: The Magic Inside <i>Beckman Coulter</i> (LS1)	BD's ways into Genomics: Adding a new dimension to FACS technology <i>BD Biosciences</i> (LS2)	Imaging Flow Cytometry. See what you've been missing... <i>MERCK</i> (LS3)		
14:35 – 14:55	CytoFlex LX and Duraclone Antibodies <i>Beckman Coulter</i> (S1)	Cell Sorting Simplified with the New BD FACSMelody™ <i>BD Biosciences</i> (S2)	Flow Cytometry Meets Microscopy - Unique Flow Cytometric Applications: Translocation and Spot Counting <i>MERCK</i> (S3)	Sony Technologies in Cytometry <i>I.T.A. Intertact</i> (S4)	Quantitative Image Cytometric Analysis of 3D Spheroids <i>Accela</i> (S5)

MONDAY, OCTOBER 16, 2017

	VLASTA	NEKLAN	BIVOJ	ŠÁRKA	TETA
9:00 – 9:20	Kaluza Analysis Software <i>Beckman Coulter</i> (M1)	28 Colours and More: Trends in Large Data Set Analysis for Flow Cytometry <i>BD Biosciences</i> (M2)			Quantitative Image Cytometric Analysis of Intracellular Granules <i>Accela</i> (M3)
9:20 – 9:40			The Importance of Ultrapure Water Quality for Biomedical Applications <i>MERCK</i> (M4)	Mindray BriCyte E6 – Small, skillful, but above all technologically perfect clinical flow cytometer <i>I.T.A. Intertact</i> (M5)	
10:10 – 10:30	CytoFlex LX and Duraclone Antibodies <i>Beckman Coulter</i> (M6)	Cell Sorting Simplified with the New BD FACSMelody™ <i>BD Biosciences</i> (M7)			Real-time, Long Term Monitoring of Cancer Cells Invasion/Migration <i>Accela</i> (M8)
11:00 – 11:20			Simplified Cell Analysis Using Microcapillary Technology <i>MERCK</i> (M9)	Apogee A60 MICRO – The only way to analyze endosomes, bacteria, virae and many others small particles, invisible for standard flow systems <i>I.T.A. Intertact</i> (M10)	

11:20 – 11:40	Kaluza Analysis Software <i>Beckman Coulter</i>	Panels in Multicolour Flow Cytometry – Expanding BD’s Portfolio of Bright Polymer-Based Dyes <i>BD Biosciences</i>			
Lunch Workshops 12:30 – 14:00	CytoFLEX Research Flow Cytometer Platform: The Magic Inside <i>Beckman Coulter</i>	New Generation of Clinical Flow Cytometers <i>BD Biosciences</i>	Flow Cytometric <i>in situ</i> Proximity Ligation Assay <i>MERCK</i>		
14:30 – 14:50	CytoFlex LX and Duraclone Antibodies <i>Beckman Coulter</i>	BD FACSLytic™ – A new Generation of Sensitive and Fully Standardized Clinical Analysers <i>BD Biosciences</i>	Imaging Flow Cytometry. See what you’ve been missing... <i>MERCK</i>	New Generation of Chip-Based Cell Sorters by SONY Biotechnology <i>I.T.A. Intertact</i>	Tissue Cytometry Part 1: Basics & Technology <i>Accela</i>
16:00 – 16:20	Kaluza Analysis Software <i>Beckman Coulter</i>	Panels in Multicolour Flow Cytometry – Expanding BD’s Portfolio of Bright Polymer-Based Dyes <i>BD Biosciences</i>	Flow Cytometry Meets Microscopy - Unique Flow Cytometric Applications: Translocation and Spot Counting <i>MERCK</i>	SONY Spectral Flow Cytometry – Unchained way to see whole spectrum <i>I.T.A. Intertact</i>	

TUESDAY, OCTOBER 17, 2017

	VLASTA	NEKLAN	BIVOJ	ŠÁRKA	TETA
9:00 – 9:20	CytoFlex LX and Duraclone Antibodies <i>Beckman Coulter</i>	28 Colours and More: Trends in Large Data Set Analysis for Flow Cytometry <i>BD Biosciences</i>	Simplified Cell Analysis Using Microcapillary Technology <i>MERCK</i>	Mindray BriCyte E6 – small, skillful, but above all technologically perfect clinical flow cytometer <i>I.T.A. Intertact</i>	Tissue Cytometry Part 2: Applications in Immunology and Cancer Research <i>Accela</i>
9:40 – 10:00	Kaluza Analysis Software <i>Beckman Coulter</i>	BD FACSLytic™ – A new Generation of Sensitive and Fully Standardized Clinical Analysers <i>BD Biosciences</i>	Flow Cytometric <i>in situ</i> Proximity Ligation Assay <i>MERCK</i>	High Content Screening Imaging as new dimension for flow cytometry lab. <i>I.T.A. Intertact</i>	

HANDS-ON WORKSHOPS | DETAILED PROGRAM

VLASTA HALL



Life Sciences

BECKMAN COULTER

Sunday, October 15, 14:35 | Monday, October 16, 10:10, 14:30 | Tuesday, October 17, 9:00

CytoFlex LX and Duraclone Antibodies

New 6 lasers, 21 color flow cytometer - introduction, performance and data acquisition on multicolor research flow cytometer using dry antibody technology Duraclone.

Monday, October 16, 9:00, 11:20, 16:00 | Tuesday, October 17, 9:40

Kaluza Analysis Software

Opened software platform demonstration for analyzing multicolor flow cytometry data.

Lunch Workshops

Sunday, October 15, 12:40 | Monday, October 16, 12:30

CytoFLEX Research Flow Cytometer Platform: The Magic Inside

Dr. Andreas Wicovsky, Beckman Coulter

Magic inside the revolutionary research flow cytometer available in configurations from 1 up to 6 lasers. Introduction, performance, applications.

NEKLAN HALL



BD BIOSCIENCES

Sunday, October 15, 14:35 | Monday, October 16, 10:10

Cell Sorting Simplified with the New BD FACSMelody™

RNDr. Jiří Šinkora, Ph.D. | Application Specialist | BD Life Sciences

Cell sorting is a powerful tool for biomedical research. However, instruments are complex

and experience is required to set them up properly and to get good results. In an approach to democratize access to cell sorting BD presents the new BD FACSMelody™ cell sorter, an instrument with up to 3 lasers and 9 colours, fixed alignment, fully automated quality control and sort setup, embedded standardization and plate sorting capability. Similar to the newest BD program releases, BD FACSCorus™ acquisition software possesses a capacity to recalculate compensation upon detector gain adjustments. We will present simplified handling and some results from sorting, showing the power for your research.

Monday, October 16, 9:00, Tuesday, October 17, 9:00

28 Colours and More: Trends in Large Data Set Analysis for Flow Cytometry

Dr. Jens Fleischer | Application Consultant | BD Life Sciences

Traditionally, flow cytometric data are analysed with dot plots (2D) and histograms (1D). With the release of more and more dyes and instruments capable of analysing 28 colours and more, this analysis scheme reaches its limitation. In theory, a 28 colour panel can contain up to 268 Million different populations, although a part of those markers will be lineage markers, it is easy to miss an important population or a change in something unexpected. New analysis strategies involve dimensionality reduction approaches to overcome subgating in 2D plots. In this workshop we will look deeper into multicolour files and see populations and changes that we probably have just overlooked in the past. We will see different approaches (FlowJo, CytoBank) and discuss how we can handle such datasets in the future.

Monday, October 16, 11:20, 16:00

Panels in Multicolour Flow Cytometry – Expanding BD's Portfolio of Bright Polymer-based Dyes

RNDr. Jiří Šinkora, Ph.D. | Application Specialist | BD Life Sciences

In the recent years the number of dyes used in flow cytometry has rapidly increased, which allows for designing real multicolour panels. We present here the results of 28 colour immunophenotyping on the BD FACSymphony™ high-end flow cytometer capable of measuring up to 50 parameters on every single cell in the sample. Such experiments require non-co-linear multi-laser excitation and large cohort of dyes with different absorption and emission properties. Polymer based BD Horizon Brilliant™ dyes represent significant progress in multicolour panel design for several reasons. First of all, UV and violet dyes excitable by 355 and 405 nm laser, respectively, currently allow for 15 colour staining over the whole visible spectrum, which means reasonable emission spillover values. Second, polymer dyes are mostly bright or very bright fluorochromes, which results in detection of markers with low expression. Last but not least, BD Horizon Brilliant™ dyes mostly possess low inter-laser quantum yield. Basic principles of multicolour panel design will be discussed and advantages of the new generation of polymer dyes will be shown.

Monday, October 16, 14:30, Tuesday, October 17, 9:40

BD FACSLytic™ – A New Generation of Sensitive and Fully Standardized Clinical Analysers

RNDr. Jiří Šinkora, Ph.D. | Application Specialist | BD Life Sciences

Clinical flow cytometry assays including multicolour immunophenotyping in haematology

require fast, sensitive and standardized analysers, namely in case of rare or aberrant population detection as well as high throughput testing. BD FACSLyric™ represents the latest development to deliver high-end CE-IVD clinical flow cytometer capable of measuring up to 12 parameters with acquisition rates of up to 35 000 eps, sample rates of up to 120 ul/min and highest sensitivity (FITC < 85 MESF, PE < 20 MESF). Thermally stabilized lasers, vacuum based fluidics and auto-alignment device ensures low instrument noise, high performance and excellent stability. FACSuite acquisition/analysis SW provides fully automated calibration, long term standardization and inter-instrument synchronization by sending settings electronically. The system possesses automatic compensation and its recalculation upon modifying detector gains. We will demonstrate instrument's performance and many innovative features.

Lunch Workshops

Sunday, October 15, 12:40

BD's Ways Into Genomics: Adding a New Dimension to FACS Technology

Wieland Keilholz | Field Applications Scientist | BD Life Sciences Genomics

BD offers a suite of products to accelerate broad biological research through a fully integrated workflow: Tissue Dissociation combined with FACS sorting technology and RNA-Seq allows researchers to better understand the heterogeneity of single cells. The new BD Rhapsody™ System is designed to advance this approach to the next level by enabling single-cell RNA-Seq in High Throughput mode. Biological data will be presented to demonstrate the power of this fast and easy-to-use solution.

Monday, October 16, 12:30

New Generation of Clinical Flow Cytometers

Ing. Miloslav Korbek | Account Manager CEE | BD Biosciences

The new generation of clinical cytometers is built on data reproducibility, assay transfer, connectivity and process automation. Clinical flow cytometer BF FACS Lyric™ is a high performance integrated solution for accurate, reliable and repeatable results across users, instruments, and sites. The BD FACSLyric™ system combines automation, simplicity and reliability to help your laboratory be more productive. This powerful flow cytometer includes user-friendly BD FACSuite™ Clinical software to make daily tasks easy and fast. In conjunction with a broad range of reagents and BD's history of service and quality, the BD FACSLyric system offers a truly integrated solution and provides clinicians with accurate, reliable and repeatable results – test to test, instrument to instrument and site to site, regardless of the assay complexity or operator experience level. This instrument provides an optimal tool for diagnosis of hematology malignancies such as Leukemia and Lymphoma. BD One Flow™ solution brings the standardization of leukemia and lymphoma immunophenotyping one step forward. It maximizes efficiency by providing a standardized, simplified and objective methodology, resulting in increased accuracy of lab results for improved clinical decisions and patient outcomes building on the research and validation effort of the Euroflow™ Consortium.



MERCK MILLIPORE

Sunday, October 15: 14:35, Monday, October 16: 16:00

Flow Cytometry Meets Microscopy - Unique Flow Cytometric Applications: Translocation and Spot Counting

Michal Konieczny, Application specialist

By combining capabilities of conventional flow cytometry with high resolution microscopy, Amnis instruments offer detail analysis of intensity, location and co-location of probes within large cell populations. Our IDEAS Software (Image Data Exploration and Analysis Software) provides powerful tool for high content, statistically robust analysis of images, as well as standard flow cytometry graphing tools and statistics for hundreds of morphological features in addition to intensity. During this workshops you will discover how easily you can manage enormous data sets to answer your specific research question.

Monday, October 16: 9:20

The Importance of Ultrapure Water Quality for Biomedical Applications

Jan Havlíček, Application specialist

Water is a major component of buffers and reagents for biomedical applications such as cell culture, PCR, immunoassays, flow cytometry, LC-MS etc. Using the appropriate water quality for each step eliminates the risk of interfering water contaminants and also helps to prevent instrument contamination. Ultrafiltration is proved as a convenient and safe technique for the preparation of nuclease- and protease-free water. Thus, ultrapure water from Milli-Q® system (e.g. the NEW Milli-Q® IQ 7000 which you will see during the mini-workshop) fitted with a Biopak® final ultrafiltration polisher can be recommended for biomedical applications.

Monday, October 16: 11:00, Tuesday, October 17: 9:00

Simplified Cell Analysis Using Microcapillary Technology

Stanislav Kukla, Field Marketing manager

Why don't you free up your large and expensive flow cytometer for more advanced and demanding experiments? The Muse® Cell Analyzer which you will see during the mini-workshop packs a 3-parameter flow cytometric quantitative multidimensional analysis into a compact, easy-to-use benchtop device. This unique microcapillary instrument makes flow cytometry and measurement of basic cell health parameters such as direct and highly accurate cell counts, viability or multiple apoptosis indicators assessment accessible to anyone, anytime, anywhere.

Monday, October 16: 14:30

Imaging Flow Cytometry. See what you've been missing...

Michal Konieczny, Application specialist

Amnis imaging flow cytometers combine the speed and sample size of flow cytometry with the resolution and sensitivity of microscopy in a single instrument platform unlike any other available for cell analysis. With up to 12 channels for each cell in a population, microscopic images provide qualitative and quantitative image data of every event acquired in flow. During this workshops we will introduce you to this unique technology and revile benefits of expanding data analysis up to hundreds and thousands features per each cell.

Tuesday, October 17: 9:40

Flow Cytometric *in situ* Proximity Ligation Assay

Stanislav Kukla, Field marketing manager

You will learn how innovative and unique in situ proximity ligation assay – Duolink® PLA – which uses dual antibody recognition with amplified fluorescence read out can help you take your immunodetection experiments to the next level. Using this technology you will be able to see and quantify even proteins with low levels of expression and study protein-protein interactions in your fixed cells. A generic protocol for use in flow cytometry will be provided together with some background information on the assay principle and its major benefits. Typical results from IHC, IF and FC experiments using Duolink® PLA technology with fluorescence detection will be shown.

Lunch Workshops

Sunday, October 15, 12:40

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I.T.A. INTERTACT

Sunday, October 15, 12:40

Sony Technologies in Cytometry

Mark Dessing

Most advanced technologies of spectral flow cytometry and chip-based cell sorting. What is ready, what is coming and what can come in the future.

Monday, October 16, 9:20, Tuesday, October 17, 9:00

Mindray BriCyte E6 – Small, skillful, but above all technologically perfect clinical flow cytometer

Ondřej Pelák, Ph.D.

Were you looking for an affordable, reliable, and user friendly clinical cytometer? Mindray BriCyte E6 is the solution. It combines all the features in one complex instrument that will easily help you with transition to the modern digital flow cytometry. Together with Mindray BriCyte E6 you will no longer be afraid of 6-color panels and the daily flow cytometry measurements will become one of your favorite parts of the day.

Monday, October 16, 11:00

Apogee A60 MICRO– The only way to analyze endosomes, bacteria, virae and many others small particles, invisible for standard flow systems

Ondřej Hovorka, Ph.D.

Apogee A60 MICRO is the only system available currently on the market, which enables you to see, measure, and analyze biological particles of size less than 100nm. The system enable to measure up to three different scatter parameters as well as up to nine fluorescent channels. This system is a unique tool to enter microparticle dimensions by standart flow cytometry approach.

Monday, October 16, 14:30

New generation of Chip-Based Cell Sorters by SONY Biotechnology

Jan Svoboda, Ph.D.

SONY introduces a fully automated, self-aligning, benchtop cell sorter with the latest fluidic monitoring technology, echangable sorting chips and a fully replacable sample line (from contaminated samples to aseptic sorting in several minutes, without the need to

shutdown the fluidic circuit). Offering up to four colinear laser excitation lines and up to six fluorescent detectors with easily accessible and exchangeable dichroic filters, this system provides a user-friendly and reliable benchtop sorting for a wide area of applications.

Monday, October 16, 16:00

SONY Spectral Flow Cytometry – Unchained Way to See Whole Spectrum

Ondřej Hovorka, Ph.D.

SONY brings new technology of spectral analysis to flow cytometry, which enable to analyze whatever fluorochrome you need, to analyze fluorochromes with close emission peaks together, but mostly to analyze natural changes in emission curves caused by changed physiological conditions, to measure continuously autofluorescence spectrum to analyze population fingerprint or to eliminate autofluorescence background. This is brand new way how to analyze your experiments, which brings plenty new applications and insights to the problematics.

Tuesday, October 17, 9:40

High Content Screening Imaging as New Dimension for Flow Cytometry Lab.

Ondřej Hovorka, Ph.D.

High Content Screening systém IXM by Molecular Devices is excellent extension for any flow cytometry lab. As flow cytometry brings detailed information about quantitative fluorescent data, Imaging cytometry shows details about intracellular localization, co-localization and morphology of fluorescence. Only complementation of those approaches will bring complete image of your cells and enable you to correctly interpret data.

TETA HALL



ACCELA

Sunday, October 15, 14:35

Quantitative Image Cytometric Analysis of 3D Spheroids

Not only flow cytometer but also conventional microscope can't measure the thick structure. Moreover, exhaustive experiments with a lot of parameter require high throughput instrument. The CQ1 quantitative image cytometer conducted the 3D imaging and 3D analysis for the nuclei of canceration stem cells dyed with Draq5. The measurement data from the number of cells and size can lead to the analysis of differentiation status.

Monday, October 16, 9:00

Quantitative Image Cytometric Analysis of Intracellular Granules

GPCR (G-Protein Coupled Receptor), plays the role to transmit the signal from outer cell to inter cell through the G-Protein. Internalization mechanisms and count of intracellular vesicles (granules), plays a key role for drug screening and cellular function assays. Quantitative measurement of intracellular granules can be easily performed by using the CQ1 quantitative image cytometer, equipped with high-speed confocal image acquisition in combination with the Granule Analysis software module.

Monday, October 16, 10:10

Real-time, Long Term Monitoring of Cancer Cells Invasion/Migration

Cell invasion/migration is one of the hallmarks of cancer. It is related to cell migration and plays a key role in metastasis. Understanding the mechanisms concerned in tumor cell invasion may lead to limiting tumor progression and, as a result, to a reduction in mortality for many cancer patients. InCuCyte S3 live-cell imaging system provides an integrated solution for real-time visualization and assessment of cell morphology in scratch wound assays (both label free and fluorescently labeled) up to six 96-well plates at once – all inside your tissue culture incubator.

Monday, October 16, 14:30

Tissue Cytometry Part 1: Basics & Technology

In contrast to morphometry, which provides values referring to the metric dimensions of cells (area, perimeter, distance, length of structures), the term “tissue cytometry” refers to functional analysis of single cells in tissue sections and quantification of molecular parameters within those cells. While flow cytometer is restricted to cells in suspension, tissue cytometry refers to the cytometric analysis of histological sections. The method can be applied to adherent cell culture monolayers as well. TissueGnostics has been the first manufacturer of tissue cytometers offering a flow cytometry-like workflow, applied to tissue sections.

Tuesday, October 17, 9:00

Tissue Cytometry Part 2: Applications in Immunology and Cancer Resear

By using antibody staining (immunohistochemistry, immunofluorescence) the presence and/or amount of certain types of molecules in defined cell populations can be measured, coexpressions of markers can be determined, and this provides conclusive information about cell type (lymphocyte NK cells, tumor cells etc.), cellular state and functions. Such information is particularly important for determining the immune status in-situ and understanding biomolecular interactions (eg. phosphorylation) between components in defined signal transduction cascades. TissueGnostics’ technologies in combination with award-winning image cytometry software, proved to be a necessary solution for advancing cancer research.