# WORKSHOP OVERVIEW I MONDAY JULY 2 - 13:15 - 14:00

Please register here for the workshops: https://vib.formstack.com/forms/ctls2018_satellites_and_workshops

Company workshops part 1

## WORKSHOP 1 - MERCK

*Hall: Oude Infirmerie*

CD Based Flow Cytometry Enhances the Detection of Small particles and Rare Events Enabling Emerging Applications in Immunology and Oncology

**Peter Rhein**, *Imaging Cytometry Application Specialist, Merck Group, DE*

Detection of small particles and rare events by flow cytometry is often hampered by the limited amount of information that can be gathered from light scatter signals and fluorescence. Small particles like extracellular vesicles (EVs) have gained increased interest as they are physiologically and diagnostically relevant. The small but variable size and abundance made analysis of single EV difficult on traditional flow cytometers.

For rare events detection discrimination of relevant events and artifacts is absolutely mandatory and requires complex and challenging experimental design for traditional flow cytometers (e.g. circulating tumor cells (CTCs)).

The ImageStream® and new CellStreamTM are multispectral CCD based cytometers that help to overcome these obstacles. Both instruments are highly sensitive and can perform direct detection of particles smaller than 100nm. Moreover, the ImageStream combines the statistical power of flow cytometry with imaging content, which allows the detection of CTCs by preventing the misclassification of EpCAM+CD45+ events as leukocytes and the undercounting of CTC aggregates as single cells. And we demonstrate the feasibility of Fluorescence In Situ Hybridization in flow for the detection of chromosomal aberrations in samples of patients with Acute Leukemia. These examples show that CCD based cytometry contributes to improve the detection and functional analysis of small and rare events.

## WORKSHOP 2 - AGILENT TECHNOLOGIES

*Hall: Blancquaert*

Equipment Usage Tracking and Access Control using iLab Kiosk and Interlock

**Jesper Hojlund**, *IT solutions architect, Agilent Technologies, DK*

Managing usage of a core facility's equipment can be difficult. Utilizing iLab's unique Kiosk/Interlock system allows core facilities to track real-time usage of equipment while also controlling access, ensuring that only qualified and trained researchers are able to use the equipment. The system is flexible and can be set up for usage in a wide range of facility environments with different hardware, software, and network requirements. The Kiosk/Interlock system offers cores:

- An effective way of controlling access to sensitive equipment (either by hardware or software)
- An automated way to track the usage of equipment
- Streamlines billing for usage of equipment
- Real-time insight into equipment usage
- Secure remote access to monitor and control equipment
- Allow compliant walk-up usage (ensure walk-ups are trained, not overlapping an existing reservation)

## WORKSHOP 3 - ZEISS

*Hall: Vermeylen*

Comparison of Airyscan platform with GPU based deconvolution approach for fluorescence imaging: when and how to use it?

**Uroš Kržič**, *Senior Application Consultant, Carl Zeiss Microscopy, DE*
**Cicerone Tudor**, *Product&Application Specialist, Zeiss, BE*

With the launch of Airyscan, ZEISS introduced a revolutionary new detector concept. We will show during this workshop that the SNR & Resolution increases afforded by the Airyscan are a result of both a physical process (imaging with collection of small pinholes with Sheppard sum) and deconvolution. The detector geometry of the Airyscan provides access to higher frequencies in an LSM image. The net result is that the higher frequencies in combination to the known detector geometry allow for better support of DCV. We will compare this technology with the GPU based approach and reveal the applications where this second approach can be successfully applied as well and when it can be subjected to pitfalls.

## WORKSHOP 4 - 10X GENOMICS

*Hall: Vermeylen*

Biology at High Definition with 10x Genomics

**Guido van de Worp**, *Sales Executive Benelux*

10x Genomics meets the critical need for long range, structural and cellular information, with an innovative system that transforms short-read sequencing technologies. Our Chromium System supports comprehensive genomics and high-throughput single cell transcriptomics. It enables researchers to discover previously inaccessible genomic information at unprecedented scale, including phased structural variants, phased single nucleotide variants, and dynamic gene expression of individual cells—while leveraging their existing sequencing systems and workflows.

## WORKSHOP 5 - TAKARA BIO EUROPE

*Hall: Oude Infirmerie*

SMARTer solutions for single-cell transcriptomics and whole genome amplification with SMART-Seq and PicoPLEX technologies

**Matthieu Pesant**, *NGS product manager - scientific support specialist, Takara Bio Europe, FR*

Since the emergence of next-generation sequencing (NGS), the importance and demand for single-cell analysis have risen rapidly. As a result, single-cell RNA- and DNA-seq has been gaining prominence not only in basic research fields, but also in clinical fields.

By leveraging on its patented SMART technology, Takara Bio has always been at the forefront of single-cell NGS research by providing the capability to obtain full-length mRNA sequence information.

SMART-Seq® v4 offers the most advanced single-cell RNA-seq method currently available on the market. Additionally, our SMARTer PicoPLEX technology streamlines single-cell whole genomic amplification for aneuploidy and Copy Number Variation applications.

Attend our seminar to learn more about how our latest SMART-Seq v4 versions dedicated to High throughput and SMARTer PicoPLEX break the barriers of single-cell NGS and can benefit your single-cell research.

Company workshops part 2

## WORKSHOP 6 - OLYMPUS

*Hall: Prior*

Latest Developments in Confocal Microscopy for Live Samples

**Bülent Peker**, *Product Manager of Laser Scanning Microscopy, Olympus Europa SE & Co. KG*
**Herve Gautier**, *Specialist Microscopy and Imaging,Olympus, FR*

Pushing live cell imaging towards highest possible resolutions attracts a great deal of attention in today's microscopic applications. As a plenty of approaches require either extensive sample preparation or specific fluorophore combinations, their applicability for many samples has proven to be difficult.

Designed for live cell imaging down to 120 nm resolution, the new Olympus IXplore SpinSR spinning disk imaging system balances speed, resolution and efficiency in a single, flexible platform. Researchers can observe the fine details and dynamics of cellular structures and processes with the ability to easily switch between widefield, confocal and super resolution imaging.

The Olympus FLUOVIEW FV3000 confocal and laser scanning microscope systems provide multimodal imaging platforms with a clear focus on wide usability and living samples. Featuring TruSpectral technology on every detector, the system combines high sensitivity with high accuracy for excellent spectral imaging capabilities. Based on patented Volume Phase Hologram (VPH) transmission and an adjustable slit to control light, the spectral detection is at highest efficieny.

Dedicated silicone immersion objectives provide superior confocal image quality. These lenses combine highest optical sectioning, best 3D reconstruction due to refractive index match as well as enhanced brightness deep within the sample.

## WORKSHOP 7 - IDEA ELAN

*Hall: Blancquaert*

Book Instruments in 2 clicks and Request Services in a few clicks with Infinity. Hands ON Workshop with Infinity Mobile and Web App.

**Elango M,** *Idea Elan LLC, USA*

Infinity Core Management Software by Idea Elan provides a comprehensive, intuitive, and scalable core management solution for all operational aspects of various types of core facilities.

- Idea Elan is trusted by hundreds of core facilities and thousands of users worldwide.
- Idea Elan LLC has been in business for more than 8 years.
- Customers Go live within a few weeks.
- 95% of the requirements are just "out of the box."
- Infinity has a stunning UIX with innovation @ its Core.
- We are GDPR compliant and provide options for both SaaS and On-premise model.

Key Benefits of Infinity are listed below.

- Schedule Instruments in 2 clicks
- Track Actual & Scheduled Usage
- Streamline Sample Submissions
- Automate Invoices and Reports
- Integrate with ERP & LIMS systems
- Manage Supplies & Inventory
- Integrate through API
- Take decisions through BI
- Track Publications
- Schedule on the Go with Infinity Mobile App
- Add Branding and Color to Infinity

You are welcome to attend our Workshop @ CTLS on Tuesday 3rd July from 13h15 to 14h, also please do stop by our booth to learn more. Visit www.IdeaElan.com to learn more.