Galileo TMA
USER GROUP 2024
Date:
February 28th, 2024
Integrated Systems Engineering srl
C/O OpenZone,
Via Meucci 3,
20091 Bresso (MI) - Italy

Galileo TMA\textit{tic}
Fully Automated

Galileo CKxxx
Computer assisted

\textit{In conjunction with workshop on:}
“The Future of Pathology Research is Digital:
New Challenges and Old Friends”

Register on:
SAVE the DATE
Feb. 29th - March 1st, 2024
OpenZone, Open Lamp, Conference room
Via Lillo De Luca 10 - 20091 Bresso (Milan) –Italy

WORKSHOP ON:
The Future of Pathology research is Digital:
New Challenges and Old Friends

Prof. Guido Sauter
Director of Institute of Pathology, Molecular Pathology and Cytopathology
University of Hamburg – Germany
• Large-scale tissue-based validation of antibodies for IHC
• All you ever wanted to know about TMAs - and did not dare to ask.

Prof. Giorgio Cattoretti
Former Director of Pathology department
Hospital San Gerardo and Full Professor of Pathology University Milano Bicocca
• Ways and costs (time, money) to put hundred of markers on a single section.

Prof. Ida Biunno
Associate Professor to University of Pavia.
Senior researcher of Institute for Genetic and Biomedical Research (IRGB-CNR)
• The application of Tissue Microarray Technology to study 3D grown Spheroids & Organoids

Prof. Salvatore Piscuoglio
Associate Professor of Genetics at Humanitas University, Milano and Group Leader at University of Basel, Switzerland; Precision Medicine-Molecular-Cell Biology.
• Patient-derived models to enhance precision oncology

Prof. Fabio Pagni
Associate Professor at University Milano Bicocca and Pathologist at Hospital San Gerardo Monza Italy
• NGS workflow in Pathology: limits and perspectives?

Ing. Pasquale De Blasio
Founder & Managing Director of Integrated Systems Engineering Founding President of the European, Middle East and African Society for Biobanking and Biopreservation (ESBB)
• TMA technology applications in emerging technologies

Scientific Board:
Prof. Guido Sauter, University of Hamburg
Prof. Luigi Maria Terracciano, Humanitas University. Italy
Ing. Andrea De Blasio, ISENET-USA

Registration on-line:
SAVE the DATE
Feb. 29th -March 1st, 2024
The Future of Pathology Research is Digital: New Challenges and Old Friends

Antibodies are the most frequent tool in basic and clinical research, however, there are scares guidelines or standardized methods to determine their validity, specificity and sensitivity. The validity of an antibody relies not only on its specificity and selectivity but most of all “reproducibility”. Moreover, it is not always clear, for commercially available antibodies, that what is written on the label does, indeed, correspond to reality.

- **Confirmed Speaker:**
- **Guido Sauter** (University of Hamburg Switzerland) - “Large-scale tissue-based validation of antibodies for IHC”

**Digital Pathology and Artificial Intelligence**

In modern clinical practice, digital pathology plays a crucial role, its requirement is in great demand in scientific laboratory environments. The advent of whole-slide imaging, high speed network and cheaper storage solutions availability, has facilitated the managing and sharing of the digital slides, by pathologists, among colleagues for clinical consultation. In parallel, unprecedented advances in machine learning has enabled the synergy of artificial intelligence and digital pathology offering image-based diagnosis possibilities which once limited to radiology and cardiology only. Integration of digital slides into the pathology workflow, advanced algorithms and computer-aided diagnostic techniques extending the frontiers of the pathologist’s view beyond a microscopic slide. This application enables true utilisation and integration of knowledge beyond human limits and boundaries, we believe there is a great potential for artificial intelligence breakthroughs in the pathology setting.

- **Expert speakers in the field will discuss – “The use of Digital Pathology and AI”**

**Tissue Microarray Technology**

Tissue microarray (TMA) technology is contributing to the rapid expansion of current studies of molecular *in situ* analysis and integration with clinical and pathology data. In conventional methods, the tissue samples are extracted from archived “donor” paraffin blocks and re-inserted into a “recipient” paraffin block. Sections from TMA blocks are then used in several types of assays, such as immunohistochemistry, *in situ* hybridization, histoenzymology, histochemistry, etc. It has been shown in numerous experiments that these arrays can be representative of tissues of the donor blocks, although the samples used are sometimes only 0.6 mm in diameter. This method will be the basis of multiple experiments in different fields of research and can speed up the transition of in-depth research results towards clinical applications.

**Confirmed Speaker:**
- **Guido Sauter** (University of Hamburg Germany) “All you ever wanted to know about TMAs - and did not dare to ask”
- **Pasquale De Blasio** (ISENET, Bresso MI – Italy) – “TMA technology applications in emerging technologies”.

**Next-Generation Sequencing on Frozen and FFPE Tissue samples**

The introduction and availability of anticancer therapies based on precision and personalized medicine has made molecular assessments of malignant tumours increasingly important. These studies typically give information regarding possible therapeutic targets as well as important prognostic information. Recent advances in high-throughput next-generation sequencing (NGS) technologies have substantially reduced the cost and increased the workflow speed, helping to detect important genetic alterations.

- **Fabio Pagni** (UNIMIB, Monza Italy) – «NGS workflow in Pathology: limits and perspectives?»

**Spatial omics and multiplexed imaging to explore cancer biology**

New technologies leveraging multiplexed fluorescence, DNA, RNA and isotope labelling enable the detection of tens to thousands of molecular biomarkers within their native spatial context. The rapid growth in these techniques, along with multomics data integration, promises a support to a more comprehensive understanding of cell-to-cell variations within and between cells with their environment.

**Confirmed Speaker:**
- **Giorgio Cattoretti**, (UNIMIB, Monza Italy) “Ways and costs (time, money) to put hundred of markers on a single section».

**Cancer Spheroids and Organoids for Research and Therapy**

Spheroids and organoids are important novel players in medical and life science research. They are gradually replacing two-dimensional (2D) cell cultures. Indeed, three-dimensional (3D) cultures are closer to the in vivo reality and open promising perspectives for academic research and personalized drug screening. A large variety of cells types and tissues, stem cells or cancer cell lines can be the starting material for the generation of 3D cultures.

**Confirmed Speakers:**
- **Salvatore Piscuoglio** (Precision Medicine Lab, Milan Italy) - **Patient-derived models to enhance precision oncology**
- **Ida Biunno** (UniPavia – Pavia Italy) – **The application of Tissue Microarray Technology to study 3D grown Organoids**

For more information please contact: pasquale.deblasio@isenet.it
Suggested accommodations:

- NEO HOTEL
  - Address: Via 25 Aprile 49/51 - 20091 Bresso (MI) - Italy
  - Phone: +39 02 610 14 22
  - Web site: https://neohotel.it/en/
  - Distance from Congress Venue: < 1 Km (walking distance)

- Cosmo Hotel Palace
  - Address: Via F. de Sanctis, 5, 20092 Cinisello Balsamo MI
  - Phone: +39 02 617771
  - Web site: https://www.cosmohotelpalace.it/en
  - Distance to Congress Venue: 3 km

- Grand Hotel Villa Torretta Milan Sesto
  - Address: Via Milanese, 3, 20099 Sesto San Giovanni MI
  - Phone: +39 02 241121
  - Distance to Congress Venue: 3 km

How to Reach the OpenZone campus: https://www.openzone.it/en/live/come-raggiungerci

For more info, please contact: pasquale.deblasio@isenet.it