Bristol Myers Squibb™ BRUKER Leica MICROSYSTEMS MILabs Making Molecular Imaging Clear PerkinElmer PRECISION X-RAY IRRADIATION ZEISS

AGORA workshop series

MULTIMODAL IMAGING in life sciences and cancer research

Thursday, February 2, 2023

AGORA Cancer Research Center
Auditorium Paternot, Rue du Bugnon 25A, 1011 Lausanne, Switzerland

Keynote speaker:

Ralph Weissleder Harvard/MGH, USA

Confirmed speakers:

Jan Böttcher
Technical University of Munich, Germany

Adrien Depeursinge
HES-SO Valais / CHUV, Switzerland

Matteo Iannacone
San Raffaele Research Institute, Italy

Johanna Joyce
University of Lausanne, Switzerland

Laura Mezzanotte
Erasmus MC, Netherlands

González Santiago
Institute for Research in Biomedicine, Switzerland

Colinda Scheele
VIB-KU Leuven Center for Cancer Biology, Belgium

Kuangyu Shi
University of Bern, Switzerland

Margret Schottelius
CHUV, Switzerland

Breakthroughs in imaging technologies have been a driving force for new discoveries in biology. Indeed, the ability to visualize events occurring in the living organism is essential for understanding biomedical processes. Today, in vivo imaging provides crucial observations of cell dynamics, and allows for assessment and manipulation of cells at the molecular level. It is also possible to combine different imaging modalities to analyze life at different resolutions and scales.

To advance knowledge and networking in this area, this one-day workshop will explore intravital microscopy, light-triggered functional interventions, macroscopic imaging techniques (e.g. PET-CT, MRI), and new tools for visualization, targeting, labeling and manipulation of cells in vivo. We will also discuss the combination of imaging modalities, and image analysis and the use of AI in this area. We will mostly focus on the application of these techniques to cancer research.

- Meeting organizers: Alexandre Benechet, Susan Gasser, Mikael Pittet

Registration:

https://bit.ly/3rP4HQA
Fee: CHF 80.00

AGORA PÔLE DE RECHERCHE SUR LE CANCER ISREC Unil CHUV EPFL UNIVERSITÉ DE GENÈVE

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- 08:30AM Coffee and croissants *with the speakers*

Welcome

- 09:00AM Susan Gasser, ISREC Foundation Director
- 09:10AM Alexandre Bénéchet, Lausanne University Hospital, Switzerland

Keynote (moderator: Mikaël Pittet)

- 09:20AM **Ralph Weissleder**, Harvard/MGH, USA.
  Imaging live: more, faster and possibly in patients

Session 1 - MICROSCOPIC IMAGING (moderator: Susan Gasser)

- 10:20AM **Jan Böttcher**, Technical University of Munich, Germany.
  Spatial and functional coordination of anti-cancer immunity by conventional type 1 DCs
- 10:50AM Coffee and croissants *with the speakers*
- 11:20AM **Matteo Iannacone**, San Raffaele Research Institute, Italy.
  In vivo imaging of antiviral immune responses in the liver
- 11:50AM **Colinda Scheele**, VIB-KU Leuven Center for Cancer Biology, Belgium.
  Multi-dimensional imaging of breast development and disease

Lunch

- 12:20AM Lunch + Poster Exhibition

Session 2 - MACROSCOPIC IMAGING & MULTIMODAL INTEGRATION (moderator: Ruud Van Heeswijk)

- 01:20PM **Johanna Joyce**, University of Lausanne, Switzerland.
  Multimodal imaging of the brain tumor microenvironment
- 01:50PM **Laura Mezzanotte**, Erasmus MC, Netherlands.
  Multiscale and multimodal imaging of cancer using novel bioluminescent tools
- 02:20PM **Margret Schottelius**, CHUV, Switzerland.
  The power of nuclear imaging in immuno-oncology
- 02:50PM Coffee break *with the speakers*

Session 3 - INNOVATIVE TOOLS, IMAGE ANALYSIS, AI (moderator: Alexande Bénéchet)

- 03:20PM **Adrien Depeursinge**, HES-SO Valais / CHUV, Switzerland.
  Multimodal image analysis using AI for precision oncology: an overview
- 03:50AM **Kuangyu Shi**, University of Bern, Switzerland.
  Quantitative analysis of molecular imaging for the interpretation of underlying physiology
- 04:20PM **González Santiago**, Institute for Research in Biomedicine, Switzerland.
  IMMUNEMAP, an intravital microscopy platform for spatio-temporal studies in immunology

Concluding remarks

- 04:50PM Mikael Pittet, University of Geneva, Switzerland
- 05:00PM Networking Apéro + Poster Exhibition

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