



Module A - Cancer biology 2024

Functional Genomics

Date Wednesday, October 30, 2024

Course venue Irchel Campus, Morning : Y17 K11
Afternoon : Y59, F Functional Genomics Center Zurich (FGCZ)

Y17 K-11

- 09.30 - 10.00 **General outline**
Holistic Approaches to Biology and Biomedicine
- 10.00 – 10.30 **Introduction to Genome and Transcriptome Analysis**
Application of Latest Methods in Next Generation Sequencing
in Cancer Research and Diagnostic
- 10.30 – 10.45 Break
- 10.45 – 11.15 **Introduction to Proteome Analysis**
Proteome Analysis in the Context of Cancer Research
- 11.15 – 11.45 **Introduction to Metabolome Analysis**
Metabolome Analysis in the Context of Cancer Research

11.45 – 13.15 *Lunch Break*

Y59 G

- 13.15 – 15.00 **Lab Visit Transcriptomics and Proteomics**
In 3 groups in parallel:
 - Short and long read sequencing platforms (30 min)
 - Quantitative Mass Spectrometry (30 min)
 - Post-Translational Modification Analysis (30 min)

Learning outcomes

The Functional Genomics day should enable the students to:

- describe the latest analytical technologies in Next Generation Sequencing and Mass Spectrometry and to explain their working principles.
- evaluate the potential and the limitations of Omics technologies for the investigation of fundamental and clinical research questions.