

Methods in Cancer Biomarker Research

PhD course CCBIO905, September 25-27 2024

Research School for Cancer Studies (RSCS), Centre for Cancer Biomarkers CCBIO,
a Norwegian Centre of Excellence at University of Bergen (Norway)

Day 1: Wednesday, September 25, 2024

Session 1: Chair: Agnete Engelsen

09:00- 09:30 Introduction to cancer biomarker research (Lars A. Akslen)

09:30- 10:15 Basic techniques – Nucleotides (Elisabet Ognedal)

10:15- 11:00 Basic techniques – Proteins (Manuel Carrasco)

11:00- 11:15 **BREAK**

Session 2: Chair: Agnete Engelsen

11:15- 12:00 Epigenetics and miRNA (Erling Høivik)

12:00- 12:15 *Information about assignments* (Agnete Engelsen)

12:15- 13:00 **LUNCH**

We suggest working lunch/ group assignment

13:00-13:45 Immunohistochemistry (Vandana Ardawatia)

13:45- 14:15 Proximity Ligation Assay (PLA) (Carina Strell)

14:15- 14:30 **BREAK**

Session 3: Chair: Agnete Engelsen

14:30- 15:00 Animal and cell models (Heidrun Vethe)

15:00- 15:45 Tissue microdissection and proteomics (Kenneth Finne)

15:45- *Group assignment continued as agreed in the individual groups*

Available online in mittUiB for self-study:

Lecture on *In situ* hybridization/RNAScope (by Agnete Engelsen)

Day 2: Thursday, September 26, 2024

Session 4: Chair: Agnete Engelsen

09:00- 09:45 Nanostring analysis (Kristin Dahl-Michelsen)

09:45- 10:15 Next Generation Sequencing (Olav Vintermyr)

10:15- 10:30 **BREAK**

Session 5: Chair: Agnete Engelsen

10:30- 11:15 Strategies for analysis of cancer biomarkers (Elisabeth Wik/ Erling Høivik)

11:15- 12:00 Artificial Intelligence (Marit Valla)

12:00- 12:30 **LUNCH**

We suggest working lunch for completion of group assignment

Session 6: Chair: Agnete Engelsen

12:30- 13:15 Bioinformatics: data management and standardization (Ingeborg Winge)

13:15- 14:00 Biobanking (Ann Cathrine Krogsveen)

14:00- 14:30 **BREAK**

Session 7: Chair: Agnete Engelsen

14:30- 15:30 CCBIO Seminar (Auditorium 4, BBB): *Scientific talk (TBD)* (Marit Valla)

15:30- 16:15 Liquid biopsy (Oddmund Nordgård)

Day 3: Friday, September 27, 2024

Session 8: Chair: Agnete Engelsen

09:00- 09:45 Tissue organoids (Heidrun Vethe)

09:45- 10:15 Spatial omics analysis (Carina Strell)

10:15- 10:30 **BREAK**

Session 9: Chair: Agnete Engelsen

10:30- 11:00 Flow cytometry and Mass cytometry (Jørn Skavland)

11:00- 11:45 Imaging Mass Cytometry I (Vladan Milosevic)

11:45- 12:15 **LUNCH**

12:15- 12:45 Imaging Mass Cytometry II (Vandana Ardawatia & Kenneth Finne)

12:45- 13:15 Imaging Mass Cytometry III (Dimitrios Kleftogiannis)

13:15- 13:30 **Questions/ BREAK**

Session 10: Chair: Agnete Engelsen

13:30- 14:15 Clinical applications of Cancer Biomarkers (Oddbjørn Straume)

14:15- 14:30 **BREAK**

14:30- 16:00 ***Group assignments: presentations and discussion*** with peers and an expert panel (Katrin Kleinmanns, Heidrun Vethe, Cornelia Schuster)

This 5 ECTS credit course is open to PhD candidates affiliated with the Centre for Cancer Biomarkers CCBIO, UiB other PhD candidates, and students at the Medical Student Research Program. PhD students affiliated with the NorDoc network may be permitted guest student access to attend the course.

Academic responsibility:

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