

TISSUE ANALYSIS COURSE, HBS-DP, 2025

<https://www oulu.fi/en/tissue-analysis-course>

Time: 14.3. – 20.3.2025

Organizers: Health and Biosciences Doctoral Programme, Biocenter Oulu, Biobank Borealis of Northern Finland, Faculty of Medicine Laboratory Unit together with Research Units of Translational Medicine and Clinical Medicine

Target group: Doctoral students in the fields of Health and Biosciences, **lectures open for all**

Credits: 1 ECTS (participation to all lectures, providing feedback)

Course enrolment: Registration via Peppi 28.1.-21.2. 2025, course code: *DP00AL85-3004*

Evaluation criteria: Passed/failed according to participation in lectures and providing feedback

Contact information: anne.heikkinen(at)oulu.fi, Biocenter Oulu Transgenic and Tissue Phenotyping Core Facility (BCO TTP Core), tel: +358-(0)294 486 133

Venue: All lectures take place in the **computer class 286A/286B**, Kieppi building, 2nd floor

LECTURE PROGRAMME

Friday 14th March, 2025, Theme - Mouse sample collection

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| 8:30-9:00 | Introduction to the course
Anne Heikkinen, BCO TTP Core |
| 9:00-10:00 | Mouse as a model for human diseases
Anniina Hiltunen, BCO TTP Core |
| 10:00-10:15 | <i>Coffee break</i> |
| 10:15-11:15 | From tissue to biomedical sample
Anne Heikkinen, BCO TTP Core |
| 11:15-11:45 | Introduction to mouse necropsy
Miia Salo, BCO TTP Core |

Monday 17th March, 2025, Theme - Biological sample preparation

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| 10:00-11:30 | Ultrastructural phenotyping by electron microscopy
Ilkka Miinalainen, BCO EM Core |
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Tuesday 18th March, 2025, Theme - Sample Visualization

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| 9:15-10:15 | Common histological staining methods and artefacts
Markus Mäkinen, RU of Translational Medicine |
| 10:15-10:30 | <i>Coffee break</i> |
| 10:30-11:30 | Histological structures and pathological findings
Markus Mäkinen, RU of Translational Medicine |
| 11:30-12:30 | <i>Lunch break</i> |
| 12:30-13:30 | Principles of IHC and <i>In situ</i> hybridization methods
Katja Porvari, Faculty of Medicine Laboratory Unit |
| 13:30-14:00 | Possibilities in utilizing Biobank samples in research
Raisa Serpi, Biobank Borealis of Northern Finland |

Wednesday 19th March, 2025, Theme - Preparing for image analysis

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| 12:15-13:15 | Basics in image analysis
Veli-Pekka Ronkainen, BCO LM Core |
| 13:15-14:15 | Prospects of the open-access QuPath image analysis tool
Juha Väyrynen, RU of Translational Medicine |

Thursday 20th March, 2025, Theme - Image analysis

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| 12:00-13:00 | The Visiopharm image analysis software features
Anne Heikkinen, BCO TTP Core |
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