4th BioImage Informatics Finland Network Symposium

BIIF 2025, 22 - 23 May 2025, Seili, Turku Archipelago, Finland

Thursday, 22 May 2025

10:30 – 12:15 Transportation from Turku (Läntinen Rantakatu 37) to Seili
12:15 – 14:00 Arrival and lunch

SESSION 1   Chair: Dado Tokic
14:00   **Pasi Kankaanpää**, Turku BioImaging
            Opening words
14:10   **Nataša Sladoje**, Uppsala University
            Multimodal image analysis: many opportunities and a couple of bumps in the road
14:40   **Leena Latonen**, University of Eastern Finland
            How can virtual staining using generative AI transform histopathology
14:55   **Guillaume Jacquemet**, Åbo Akademi University
            Studying cancer cell metastasis in the era of deep learning for microscopy
15:10   **Gantugs Atarsaikhan**, Institute for Molecular Medicine Finland, University of Helsinki
            Self-supervised learning enables unbiased patient characterization from multiplexed
            microscopy images
15:20   **Julia Schweizer**, Imaris, Oxford Instruments
            Enhancing bioimage analysis with Imaris and built-in AI tools

15:30 – 16:00 Coffee break

SESSION 2   Chair: Irina Belaia
16:00 – 16:20 Early career researcher pitch talks:
- **Iván Hidalgo-Cenalmor**, Åbo Akademi University
  Bridging deep learning and microscopy: from super-resolution and reproducibility to explainable AI and smart Imaging
- **Anting Li**, University of Turku
  Comparison of automatic segmentation methods for total body PET/CT Imaging
- **Tomi Hietanen**, University of Eastern Finland
  Implementation of automatic image analysis scripts in ImageJ to analyze pathological hallmarks of C9orf72 hexanucleotide repeat expansion-associated frontotemporal dementia
- **Franziska Jessica Schöb**, University of Oslo
  Deep-learning based germ layer prediction from holotomographic images
16:20   **Jan Giesebrecht**, Thermo Fisher Scientific
            Advanced image processing with Amira using the latest deep learning driven tools

16:30 **Lassi Paavolainen**, Institute for Molecular Medicine Finland, University of Helsinki
Profiling cancer cells in various scales using AI

16:45 **Kari Vienola**, University of Turku
Optoretinography of the human eye

17:00 **Ilya Belevich**, University of Helsinki
From microscopy datasets to model segmentation and feature quantification

17:15 **Joakim Lindblad**, Uppsala University
CytoBrowser: a browser-based platform for collaborative AI-supported analysis of whole slide images

17:30 – 18:30 Accommodation
18:30 – 20:00 Group dinner
20:00 – 23:00 Sauna

Friday, 23 May 2025

07:30 – 09:00 Breakfast

SESSION 3   Chair: Pasi Kankaanpää

9:00 **Joel Lüthi**, BioVisionCenter, University of Zurich
Fractal: an open-source framework for reproducible bioimage analysis at scale using OME-Zarrs

9:30 **Junel Solis**, Turku BioImaging Image Data Analysis
Handling whole-slide image data at scale

9:40 **Pekka Ruusuvuori**, University of Turku
AI-based computational pathology

9:55 – 10:10 Early career researcher pitch talk session:

- **Marcela Rivera**, Åbo Akademi University
A comprehensive pipeline for accurate single-cell tracking in microscopy

- **Hesam Hakimnejad**, University of Turku
Virtual H&E staining of histology images using conditional diffusion models

- **Jeena Ainikkal Velayudhan**, University of Oulu
A method for removing noise in the mean square displacement of the Brownian motion in optically trapped microbeads, enabling accurate calibration and microrheology at limited sampling rate

10:10 – 10:40 Coffee break

SESSION 4   Chair: Linda Srbova

10:40   **Sartaj Salman**, University of Turku
        Predicting mutational status in lung cancer histopathology using self-supervised learning

10:50   **Isabel Mogollon**, Institute for Molecular Medicine Finland, University of Helsinki
        Achieving high-resolution single-cell segmentation in convoluted cancer spheroids via Bayesian optimization and deep-learning

11:00   **Jonas Windhager**, SciLifeLab BioImage Informatics Facility, Uppsala University
        Providing bioimage analysis support in Sweden

11:10   **Elnaz Fazeli**, University of Helsinki
        Global Bioimage Analysts' Society: from CZI-funding to association

11:20   Concluding remarks

11:30 – 13:00 Lunch and departure
13:00 – 14:45 Transportation from Seili to Turku (Läntinen Rantakatu 37)

Vote for the best pitch talk (link is active from May 23): https://link.webropol.com/s/biif2025

Organizers

Turku BioImaging is an interdisciplinary science and infrastructure organization developing and managing imaging in Turku and Finland. Turku BioImaging's main tasks are imaging coordination and funding acquisition, imaging education, academia-industry collaboration and image data analysis services.

Organizing committee

Irina Belaia, Pasi Kankaanpää, Lassi Paavolainen, Guillaume Jacquemet, Pekka Ruusuvuori

Sponsors

Bridging Nordic Microscopy Infrastructure
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