

## 4<sup>th</sup> 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**, Electron Microscopy Unit of Helsinki BioImaging, 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

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