



Autumn School

Spatial Transcriptomics (ST) Data Analysis

Munich, November 12th - 14th, 2025

Key Information

Location: Munich Data Science Institute at the TUM Campus Garching.

Format: The autumn school will be a hands-on format, with talks and lectures in the morning and hands-on mini-project work in the afternoon.

Content: We will cover the entire analysis pipeline, from data acquisition, raw data analysis to advanced multi-OMICS data integration techniques. We will invite internationally renowned keynote speakers as well as tool developers to guide you through the process with the latest tools and approaches.

Contact: For more information, please contact Markus List: markus.list@tum.de

Tentative Program - subject to changes

Day 1 (Nov 12 th)		
Morning session		
08:00 – 08:45	Registration	
08:45 – 09:00	Welcome by the organizers	Richard Röttger (SDU) and Markus List (TUM)
09:00 – 09:45	Opening Keynote	Fabian Theis (Helmholtz Munich)
09:45 – 10:15	Coffee break	
10:15 – 11:15	A deep dive into spatial tissue heterogeneity and spatial transcriptomics technologies	Jakub Sedzinski and Athanasios Pasiadis (Copenhagen University)
11:15 – 12:00	Data representation and segmentation	Elyas Heidari (DKFZ Heidelberg)
12:00 – 12:30	Introduction round of participants	
12:30 – 14:00	Lunch	
Afternoon session		
14:00 – 15:00	Spatial technologies: pros and cons	Instructors: Jakub Sedzinski and Athanasios Pasiadis (Copenhagen University)
15:00 – 15:30	Coffee break	
15:30 – 17:00	First hands-on on spatial data	Instructors: Elyas Heidari, Tomás Garcia-Carpintero, and Lucas Dysse! (SDU)
17:00 – 20:00	Wrap-up of day one and joint dinner in Munich	
Day 2 (Nov 13 th)		
Morning session		
09:00 – 10:00	Spatial Transcriptomics Data Analysis – Best Practices	Malte Lücken (Helmholtz Munich)



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10:00 – 10:20	Optimizing probe selection for targeted spatial transcriptomics	Louis Kümmerle (Helmholtz Munich, TBC)
10:20 – 10:40	What’s in a spot: the role of spatial deconvolution	Francesca Finotello (University Innsbruck)
10:40 – 11:00	<i>Coffee Break</i>	
11:00 – 12:00	Studying spatial niches	Dominik Grün (University Würzburg)
12:00 – 13:30	<i>Lunch</i>	
<i>Afternoon session</i>		
13:30 – 14:30	Spapros hands-on	<i>Instructors:</i> Louis Kümmerle (Helmholtz Munich) and Lena Straßer (TUM)
14:30 – 15:30	Spacedeconv hands-on	<i>Instructors:</i> Constantin Zackl (University of Innsbruck)
15:30 – 16:00	<i>Coffee break</i>	
16:00 – 17:00	NiCo hands-on	<i>Instructors:</i> Helene Hemmer and Christian Eger (University Würzburg)
17:00 – 20:00	<i>Invited Speakers Dinner</i>	
Day 3 (Nov 14th)		
<i>Morning session</i>		
09:00 – 10:00	Keynote	TBA
10:00 – 10:30	Spatial transcriptomics in the pathology, a clinical perspective	Johannes Wirth (TUM University Hospital)
10:30 – 11:00	<i>Coffee break</i>	
11:00 – 11:30	TBA	Johanna Klughammer (LMU)
11:30 – 12:00	TBA	Oliver Stegle (DKFZ Heidelberg)
12:00 – 13:30	<i>Lunch</i>	
<i>Afternoon session</i>		
13:30 – 15:00	Tangram hands-on	<i>Instructors:</i> Merle Stahl (University of Hamburg), Lena Straßer (TUM)
15:00 – 16:30	LIANA+, MistY hands-on	<i>Instructors:</i> Chang Lu (University Hospital Heidelberg), Daniel Dimitrov (EMBL Heidelberg)
16:30 – 17:00	Closing, wrap-up and feedback	Markus List (TUM) and Richard Röttger (SDU)