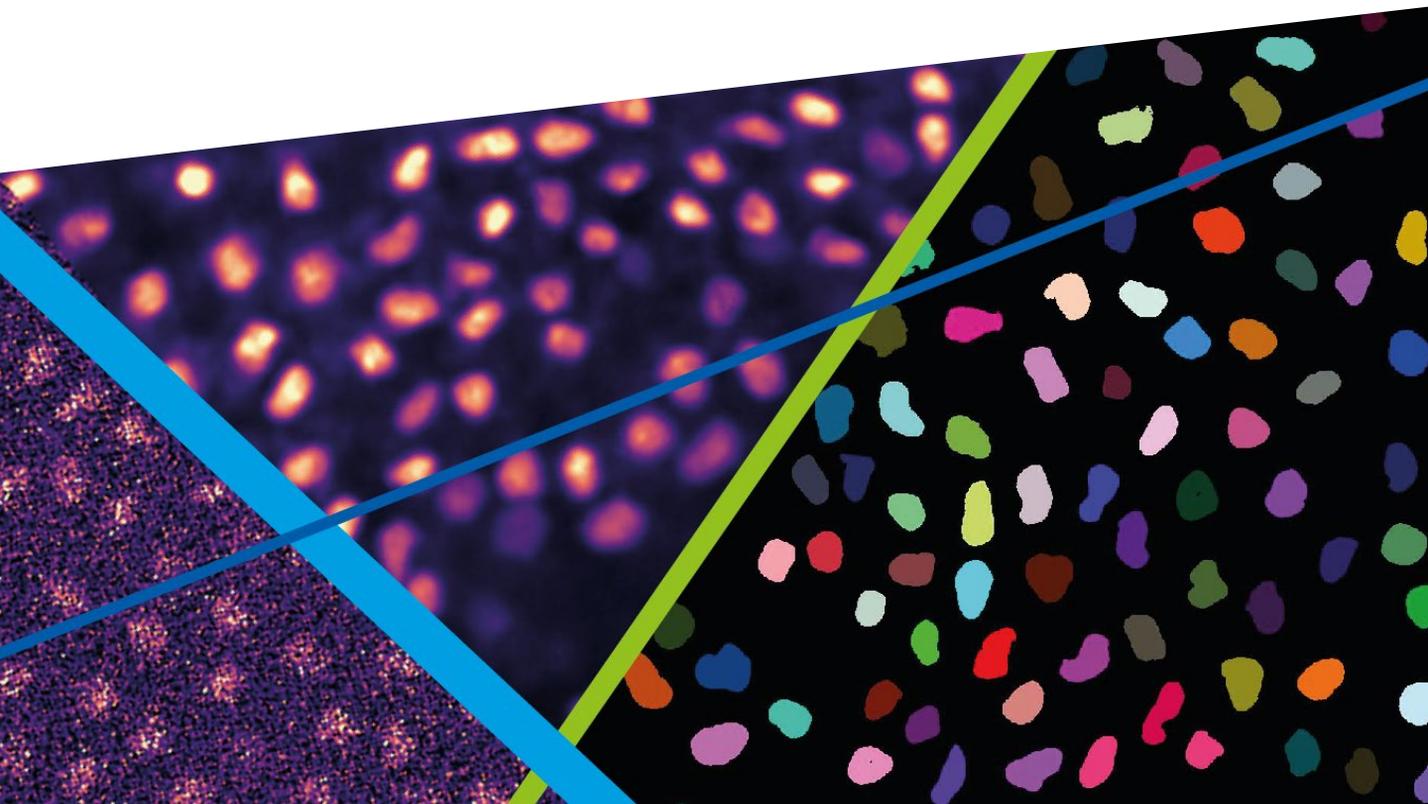# DEEP LEARNING FOR MICROSCOPY IMAGE ANALYSIS

18-22 July 2022
Virtual

SPEAKERS/TRAINERS

LECTURERS

- Anna Kreshuk, EMBL, DE

- Alexander Krull, University of Birmingham, UK

- Manan Lalit, MPI-CBG, DE

- Virginie Uhlmann, EMBL-EBI, UK

- Laura Waller, UC Berkeley, US

HT TRAINERS

- Florian Jug, Research Group Leader & Head of Image Analysis Facility

- Christopher Schmied, Bioimage Computing and AI Researcher

- Joran Deschamps, Bioimage Computing and AI Researcher

- Damian Edward Dalle Nogare, Bioimage Analyst and Research Software Engineer

SCIENTIFIC ORGANISER

Florian Jug, Research Group Leader & Head of Image Analysis Facility

PROGRAMME

15 July — 2:30 - 4:00 PM **Computer set-up**

Legend: Lectures | Exercises | Other | Project Time

Time	18 July	19 July	20 July	21 July	22 July
9:00 AM	Welcome	Lecture 3 — *Alexander Krull (Birmingham Uni, UK) and Florian Jug (HT)* **Image Restoration**	Lecture 4 — *Anna Kreshuk (EMBL, DE)* **Semantic Segmentation**	Lecture 6 — *Florian Jug (HT)* **Ground Truth Generation**	**Project Check-in**
9:30 AM	**Team Assignments**				
10:00 AM	Exercise 0 — *Joran Deschamps (HT)* **Computer set-up**	**Image Restoration Q&A**		**Project Time Kickoff**	
10:30 AM					
11:00 AM	Lecture 1 — *Virginie Uhlmann (EMBL-EBI, UK)* **Deep Learning for Microscopy**	Exercise 2 **Image Restoration**	Lecture 5 — *Manan Lalit (MPI-CBG, DE)* **Instance Segmentation**	**Project Time**	**Project Time**
11:30 AM			**Segmentation Q&A**		
12:00 PM	Lecture 2 — *Florian Jug (HT)* **Machine Learning & Deep Learning in a nutshell**		Exercise 3 **Pixel Classification and Instance Segmentation**		
12:30 PM					
1:00 PM	Lunch	Lunch	Lunch	Lunch	Lunch
1:30 PM					
2:00 PM	Exercise 1 **Intro to Machine Learning & Deep Learning**	**Theory Q&A**	Continue Exercise 3 **Pixel Classification and Instance Segmentation**	**Project Time**	**Prepare Presentations**
2:30 PM					
3:00 PM		Continue Exercise 2 **Image Restoration**			
3:30 PM					
4:00 PM					
4:30 PM					**Student Presentations**
5:00 PM				Science Lecture — *Laura Waller (UC Berkeley, US)* **Computational Microscopy**	
5:30 PM	**Q&A**	Optional Lecture 1 **AI4LIFE (and Zero)**	Optional Lecture 2 **Video and Image Generation**		
6:00 PM		**Q&A**	**Q&A**	**Q&A**	
6:30 PM					
7:00 PM	Dinner	Dinner	Dinner	Dinner	
7:30 PM					
8:00 PM	**Project Time (optional)**	**Project Time (optional)**	**Project Time (optional)**	**Project Time (optional)**	
8:30 PM					
9:00 PM					
9:30 PM					
10:00 PM					