

Python for Analysis and Processing of Images

Introductory Session: February 12–13

Day 1 (Feb 12)

<i>Time</i>	<i>Topic</i>
8:45-9:00	<i>Registration + morning coffee & tea</i>
9:00-10:00	Welcome + Intro to Python & Jupyter Notebook
10:00-11:30	Python basics - syntax 1
11:30-12:20	<i>Lunch break</i>
12:20-14:00	Python basics - syntax 2
14:00-14:20	<i>Coffee break</i>
14:20-16:00	Working with packages: numpy, matplotlib, image i/o
16:00-16:20	<i>Coffee break</i>
16:20-17:30	Recap exercises

Day 2 (Feb 13)

<i>Time</i>	<i>Topic</i>
9:00-10:30	Image processing – transformations, filters, segmentation
10:30-10:45	<i>Coffee break</i>
10:45-12:00	Image analysis – measurements, plotting, statistics
12:00-12:45	<i>Lunch break</i>
12:45-14:45	Automating image analysis – batch processing
14:45-15:00	<i>Coffee break</i>
15:00-16:00	Napari session - GUI
16:00-16:15	<i>Coffee break</i>
16:15-17:30	Recap exercises

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Advanced Session: February 16–17

Day 1 (Feb 16)

<i>Time</i>	<i>Topic</i>
8:45-9:00	Registration + morning coffee & tea
9:00-10:15	Welcome + Warm-up: From pixels to numbers (Python basics + Images in Python recap)
10:15-10:30	Coffee Break
10:30-11:30	Napari session - from Jupyter Notebook
11:30-12:20	Lunch break
12:20-14:10	Image & object classification with machine learning
14:10-14:30	Coffee break
14:30-16:00	Image & object classification with machine learning
16:00-16:20	Coffee break
16:20-17:20	Tracking

Day 2 (Feb 17)

<i>Time</i>	<i>Topic</i>
9:00-10:30	Intro to deep learning (DL)
10:30-10:45	Coffee break
10:45-12:15	DL – Segmentation tools
12:15-13:00	Lunch break
13:00-14:30	Spatial analysis
14:30-14:50	Coffee break
14:50-16:00	Spatial analysis
16:00-16:20	Coffee break
16:20-17:20	Working with large images – ome-zarr, dask