

STAT-IR 8

ANALYSIS OF IR MICROSPECTROSCOPY DATA BY MULTIVARIATE STATISTICAL ANALYSIS AND MACHINE LEARNING

# ***June 18-20, 2025***

**Preliminary Progamm**

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|  |  | **Wednesday, June 18** | **Thursday, June 19****Supervised learning** | **Friday, June 20****Unsupervised learning** |
| Session 1 | 9:00 | Getting started with Quasar (installation, basic Orange and Quasar functionality)*Speaker: C Sandt, M Toplak* | Introduction to supervised and unsupervised learning*Speaker: C Sandt* | Quantification *Speaker: C Sandt* |
| ***Break*** | ***10:30*** |  |
| Session 2 | 10:45 | Spectral PreprocessingVisualization – mapping and imaging, univariate analysis*Speaker: C. Sandt* | Supervised analysis.Classification of spectra and hyperspectral datasets using various methods*Speaker: F Borondics* | Unsupervised analysis. Clustering of spectra and hyperspectral datasets using various methods*Speaker: M Toplak* |
| *Lunch break* | *12:00 13:30* |  |  |  |
| Session 3 | 13:30 | Statistical data explorationPCA, PCA visualizationPCA imaging*Speaker: C Sandt* | Model inspection and cross-validationPredictionCommon errors*Speaker: M Toplak* | Image Analysis*Speaker: ??* |
| ***Break*** | ***15:30*** |  |
| Session 4 | 16:00 | Hands-on work with participants' data | Hands-on work with participants' data |  |
|  | 17:30 |  |  |  |