open to
clinician scientists,
PhDs & early career
researchers
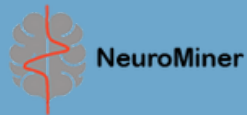–
suitable for different
levels of machine
learning experience

## Course structure

| Seminars & Expert Lectures 7-11 Oct 2024 online | Hands-on NeuroMiner Tutorials 7-11 Oct 2024 online | Advanced Methods & Data-Specific Advice 4-5 Nov 2024 online |

NeuroMiner

supported by the machine learning platform NeuroMiner

# REGISTRATION

## Website & registration

https://neurominer-git.github.io/NeuroMiner_1.2/0.1_2024_MLSchool.html

## Fees

Lectures only: free
NeuroMiner practicals: 260 €
Advanced Days: +240 €

Limited free spots for researchers affiliated with LMU, LMU Klinikum, MPI of Psychiatry or KCL

## Contact

Section for Precision Psychiatry, LMU Klinikum

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Clara Vetter
PhD Candidate & Co-Development of NeuroMiner

Esther Rituerto-Gonzáles
PostDoc Researcher

Paris Lalousis
Lecturer at Kings College London

# ONLINE MACHINE LEARNING SCHOOL

## 07-11 Oct 2024
Virtual event

Machine Learning for Clinical Neuroscientists

**ORGANIZED BY**
NIKOLAOS KOUTSOULERIS & HIS TEAMS AT LMU MUNICH & KING'S COLLEGE LONDON

Figures copyright: Mark Dong

# EXPERT SPEAKERS

**Nikolaos Koutsouleris**
LMU Munich, Germany &
King's College London, UK

**Carmen Peláez-Moreno**
University Carlos III of Madrid, Spain

**Dominic Dwyer**
University of Melbourne, Australia

**Prof. Dr. Klaas Enno Stephan**
ETH Zürich, Switzerland

**Paris Lalousis**
King's College London, UK

**Stefan Feuerriegel**
LMU Munich, Germany

**Ariane Wiegand**
LMU Munich, Germany

**More TBA**

# AGENDA MAIN COURSE
## 7-11 OCT

### Day 1
- Topic: Introduction to machine learning concepts and tools (Nikolaos Koutsouleris)
- NeuroMiner tutorial: Cross-validation & preprocessing
- Expert lecture: Biases in Machine Learning (Prof. Carmen Peláez-Moreno)

### Day 2
- Topic: Machine Learning algorithms & optimization (Dominic Dwyer)
- NeuroMiner tutorial: Algorithms and optimization
- Expert lecture: Translational Neuromodeling and Computational Psychiatry (Prof. Dr. Klaas Enno Stephan)

### Day 3
- Topic: Multi-site data correction & multi-modal data analysis (Paris Lalousis)
- NeuroMiner tutorial: Data correction and stacked generalization
- Expert lecture: Artificial Intelligence (AI) in Management (Prof. Stefan Feuerriegel)

### Day 4
- Topic: Transparent & interpretable machine learning (Ariane Wiegand)
- NeuroMiner tutorial: Interpretable machine learning
- Round Table Discussion with Guest Experts (TBA): Translational Challenges of AI in Mental Healthcare

### Day 5
- Kaggle competition

**Use your own data!**

## **NEW**
# DATA DEEP DIVES DAYS
## 4-5 NOV
## ADDITIONAL COST: 240€

Get individual advice targeted to your research question and your data
- Topics covered: Data-modality specific preprocessing pipelines, model evaluation, analysis design, parallelized NeuroMiner employment
- Tutor-to-student ratio max. 1:2
- Advice & feedback on analysis design choices with Prof. Koutsouleris