

IQ-BRAIN Winter School

Programme

- Monday, December 15, 2025**

Location: TUM, Garching

Walther-von-Dyck-Str. 4, 85748 Garching bei München

Time	Programme		Presenter(s)	Room
09.15 – 09.30	Welcome		Prof. Dr. Jan Sijbers (virtual) Prof. Dr. Julia Schnabel	5.8123.017
09.30 – 11.00	Essential Data Science Training	- Probability theory basics - Theoretical distributions - Visualization techniques - Statistical hypothesis testing - Multiple testing problem and correction methods - Basic topics from unsupervised learning	Essential Data Science Training	5.8123.017
11.00 – 11.15	Coffee break			5.8123.017
11.15 – 12.45	Essential Data Science Training		Essential Data Science Training	5.8123.017
12.45 – 13.30	Lunch			5.8123.017
13.30 – 15.00	Essential Data Science Training		Essential Data Science Training	5.8123.017
15.00 – 15.15	Coffee break			5.8123.017
15.15 – 17.00	Essential Data Science Training		Essential Data Science Training	5.8123.017

- Tuesday, December 16, 2025**

Location: TUM, Garching

Walther-von-Dyck-Str. 4, 85748 Garching bei München

Time	Programme		Presenter(s)	Room
09.30 – 11.00	Essential Data Science Training	- Performance estimation via resampling techniques - Important performance metrics for regression and classification, and ROC analysis basics - Understanding the basics of L1 and L2 Regularization Techniques - Hyperparameter tuning, nested resampling for unbiased model selection - Data Preprocessing and Imbalanced Learning	Essential Data Science Training	5.8123.017
11.00 – 11.15	Coffee break			5.8123.017
11.15 – 12.45	Essential Data Science Training		Essential Data Science Training	5.8123.017
12.45 – 13.30	Lunch			5.8123.017
13.30 – 15.00	Essential Data Science Training		Essential Data Science Training	5.8123.017
15.00 – 15.15	Coffee break			5.8123.017
15.15 – 17.00	Essential Data Science Training		Essential Data Science Training	5.8123.017
18.00 – ...	Dinner and “Eisstockschießen” / Bavarian curling			More information will follow soon

• **Wednesday, December 17, 2025**

Location: TUM, Garching

Walther-von-Dyck-Str. 4, 85748 Garching bei München

Time	Programme	Presenter(s)	Room
09.30 – 11.00	Essential Data Science Training	Essential Data Science Training	5.8123.017
11.00 – 11.15	Coffee break		5.8123.017
11.15 – 12.45	Essential Data Science Training		5.8123.017
12.45 – 13.30	Lunch		5.8123.017
13.30 – 15.00	Essential Data Science Training		5.8123.017
15.00 – 15.15	Coffee break		5.8123.017
15.15 – 17.00	Essential Data Science Training		5.8123.017

• **Thursday, December 18, 2025**

Location: TranslaTUM

Einsteinstraße 25, 81675 München

Time	Programme	Presenter(s)	Room
09.00 – 11.00	Image registration and analysis	Prof. Dr. Stefan Klein	22.01
11.00 – 11.15	Coffee break		22.01
11.15 – 12.15	Image registration and analysis	Prof. Dr. Stefan Klein	22.01
12.15 – 13.15	Lunch		22.01
13.15 – 15.15	Deep Learning for MR image reconstruction	Prof. Dr. Daniel Rueckert	22.01
15.15 – 15.30	Coffee break		22.01
15.30 – 17.30	Deep Learning for MR image reconstruction	Prof. Dr. Matthan Caan	22.01

- **Friday, December 19, 2025**

Location: TranslaTUM

Einsteinstraße 25, 81675 München

Time	Programme	Presenter(s)	Room
09.00 – 10.00	DL for smart medical imaging	Prof. Dr. Julia Schnabel	22.01
10.00 – 11.00	AI and DL in clinical practice: perspectives from neuroradiology	Prof. Dr. Jan Kirschke	22.01
11.00 – 11.15	Coffee break		22.01
11.15 – 12.00	AI and DL in clinical practice: perspectives from neuroradiology	Prof. Dr. Benedikt Wiestler	22.01
12.00 – 13.00	Lunch		22.01
13.00 – 14.30	Generation of synthetic MRI datasets	Dr. Jorge Cardoso	22.01
14.30 – 14.45	Coffee break		22.01
14.45 – 16.45	Generation of synthetic MRI datasets	Dr. Jorge Cardoso	22.01