



BESA® Research Workshop Munich, 16th – 18th April, 2018

What can you expect?

- A workshop program catered to the needs of beginners through to advanced source analysis – choose the program customized to your needs
- Hands-on analysis of a real dataset from raw data to source images and brain connectivity – step by step.
- Introductory presentations to help understanding the methodological background of BESA Research features.
- Please note: The program is subject to changes.

Day 1 Getting started, ERP, EEG-fMRI, Discrete Source Analysis		
Introductory level	09:00-09:15	Introduction
	09:15-09:30	What's new in BESA Research 7?
	09:30-10:30	Data Review (FFT, DSA, re-montaging), Preprocessing (interpolation, artifact handling, filtering)
	10:30-11:00	- Coffee break -
	11:00-12:30	Artifact Correction (automatic and manual), Trigger Handling (using attributes, defining conditions), Artifact Rejection , EEG-fMRI processing , Averaging , Classic ERP Analysis (peak analysis, mean amplitudes)
	12:30-13:30	- Lunch break -
	13:30-14:30	Batch Processing (creating grand averages, combining conditions)
	14:30-15:00	- Coffee break-
Advanced level	15:00-16:30	Discrete Source Analysis (single dipoles vs. regional sources)
	16:30-17:00	Q & A

Day 2 MRI co-registration, Source Imaging, Time-Domain Beamformers		
Advanced level	09:00-10:30	Co-registration of EEG and MRI data (using BESA MRI)
	10:30-11:00	- Coffee break -
	11:00-12:30	Distributed Source Analysis I (Comparison of different volume techniques, e.g. LAURA, sLORETA)
	12:30-13:30	- Lunch break -
	13:30-15:00	Distributed Source Analysis II (Bayesian imaging, cortical imaging, template head models)
	15:00-15:30	- Coffee break -
	15:30-17:00	Time-domain beamformers and virtual sensor montages



Day 3 Brain Connectivity and Statistics – <i>optionally</i> Clinical Epilepsy Pipeline			
Advanced level	09:00-10:30	Source Montages (creating source montages), Artifact Correction (understanding the background and different techniques including PCA and ICA)	
	10:30-11:00	- Coffee break -	
	11:00-12:30	Time-Frequency Analysis (wavelets, complex demodulation; using BESA Connectivity), Connectivity Estimators (coherence, Granger causality, other methods, in sensor space and source space)	
	12:30-13:30	- Lunch break -	
		BESA Research	Clinical Epilepsy Pipeline
	13:30-14:00	Time-Frequency Beamforming, Dynamic Imaging of Coherent Sources (DICS)	Find inter-ictal spikes and analyse onset (using BESA Epilepsy, BESA Research, and BESA MRI)
	14:00-15:00	Cross-subject Statistics (using batch scripting and BESA Statistics)	
	15:00-15:30	- Coffee break -	- Coffee break -
	15:30-16:30	ANOVA, ANCOVA, and Correlation	Find seizures and mark onset (automatic, and manually using BESA Epilepsy)
	16:30-17:00	Q & A	Q & A

Venue: **Maritim Hotel**, Goethestraße 7, 80336 München