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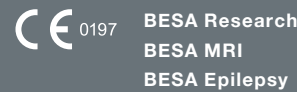
## BESA incorporates expert know-how in CE-certified software tools for Neuroscientists and Neurologists

BESA GmbH was founded as MEGIS Software GmbH in 1995 by Dr. Michael Scherg. It is the leading company in the field of EEG / MEG analysis and a home base for highly skilled people. Our team is a thriving mixture of researchers from different disciplines, skilled software engineers and highly motivated young professionals.

We believe that the interaction between experienced researchers and young, creative and dedicated people is the key to success. This helps us in developing the most innovative software for data analysis in the field of EEG / MEG.



The CE marking certifies that the BESA products as shown here fulfill the basic requirements of the Medical Devices Directive MDD 93/42/EEC.



### ■ BESA Research 6.1

The most comprehensive signal processing toolbox for EEG / MEG source localization

### ■ BESA MRI 2.0

Creating individual 4-layer FEM models made easy – improving source analysis by considering individual anatomy

### ■ BESA Statistics 2.0

State of the art cross-subject cluster permutation statistics for ERPs, source waveforms, images, and coherence results

### ■ BESA Epilepsy 2.0

CE-certified clinical software for efficient EEG review and automatic detection of spikes and seizures

### The BESA Team



Our Team from left to right

**First row** Tobias Scherg / Theodor Scherg / Dieter Weckesser / Michael Scherg / Harald Bornfleth  
Arndt Ebert / Andre Waelkens / **Second row** Todor Jordanov / Patrick Berg / Matthias Asselborn  
Gudrun Gerber / Nicole Ille / Benjamin Lanfer / **Third row** Olga Kornweibel / Michael Kornweibel  
Christa Scherg / Robert Spangler / Daniel Yordanov / Soma Sekhar Reddy Yarram / Abinash Pant

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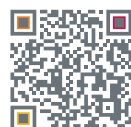
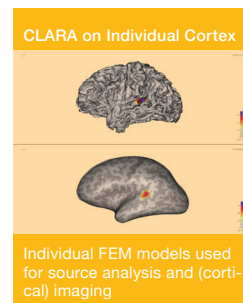
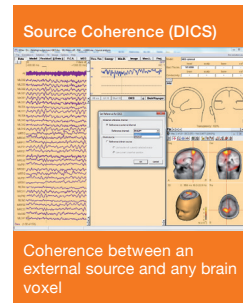
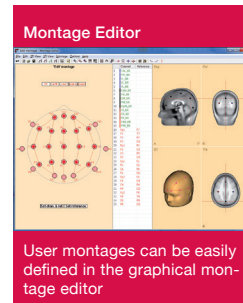
Experience the future  
of EEG and MEG analysis  
in human brain research  
and clinical work

Visit our website  
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## BESA Research 6.1

The most comprehensive signal processing toolbox for EEG / MEG source localization

- Source montages for
  - standard review, epilepsy review, ERP / ERF
  - **resting state networks**
- ICA / PCA
- Dipole fitting / regional, single dipoles
- Volume imaging: (s)LORETA, CLARA, LAURA, SSLOFO, User-defined
- Source imaging
  - Minimum Norm
  - **Cortical LORETA, Cortical CLARA; cortical methods computed on individual or standard cortical surface, no projection**
- Multiple or single source beamforming
- Realistic head models (FEM) in combination with BESA® MRI for both EEG and MEG
- **Realistic children's and adult's FEM head models for various age groups based on real averaged MRIs**  
*Kindly provided by John Richards, University of South Carolina, USA*
- Time-frequency analysis
- Coherence in sensor and source space using DICS or source montages
- Co-registration with individual MRI / fMRI
- Batch processing
- MATLAB® interface

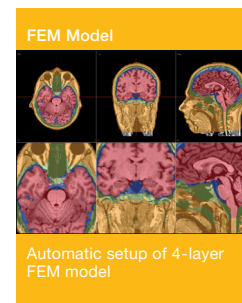
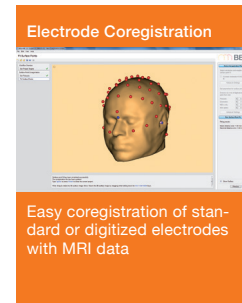
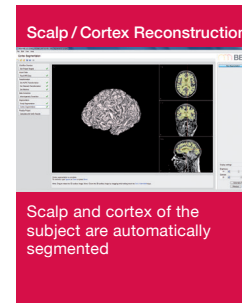


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## BESA MRI 2.0

Creating individual 4-layer FEM models made easy – improving source analysis by considering individual anatomy

- Integrated workflow
  - Maximally intuitive and user-friendly
  - Context-related help
- Automatic inhomogeneity correction
  - For the best segmentation results
- Automatic segmentation
  - Scalp, skull, CSF, brain
- Reconstruction of scalp, cortex, and inflated cortex (used in visualisation of BESA® Source Analysis)
- FEM model generation for both EEG and MEG
  - Automated setup of FEM model including CSF layer
  - Geometry-adapted hexahedral meshes
  - All FEM meshes, surfaces, and lead fields are exportable
- Coregistration
  - With individually digitized electrodes and MEG sensors or standard electrodes
- Using individual anatomy
  - Individual realistic FEM models sent to BESA® Research for source analysis
  - Instant projection of cortical source reconstructions on the individual anatomy in BESA® Research



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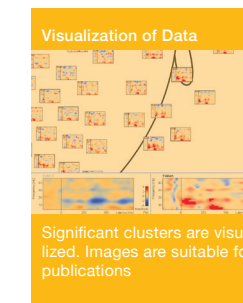
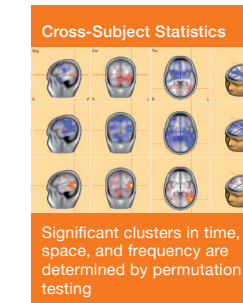
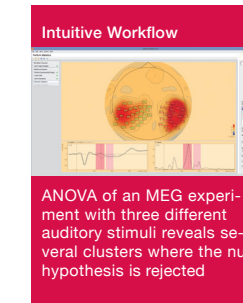
## BESA Statistics 2.0

State of the art cross -subject cluster permutation statistics for ERPs, source waveforms, images, and coherence results

- Cross-subject statistics of
  - Event-related potentials / fields
  - Volume image data, e.g. LORETA, beamforming; 4D data also supported (3D+time)
  - Time-frequency data, e.g. temporal-spectral evolution, coherence, intertrial phase-locking
  - Source waveforms
- t-test for comparing two groups (e.g. patients, controls) or conditions within the same group of subjects (e.g. target, control)
- **One-way Analysis of Variance (ANOVA) and Analysis of Covariance (ANCOVA)**
  - within-group or between-group testing
  - post-hoc tests possible
- **Correlation analysis for testing the relationship between covariates of interest and EEG / MEG data**
- Significant clusters in time and if applicable space and frequency are determined and visualized in categories (highly significant, significant, trend)
- Results are corrected for multiple comparisons
- **Works as a standalone package with BrainVision Analyzer 2 for time and time-frequency data**
- All statistical parameters can be exported, and pictures saved as vector graphics suitable for publications



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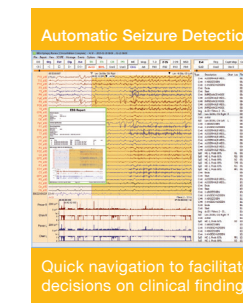
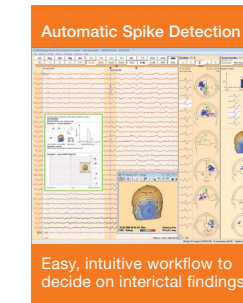
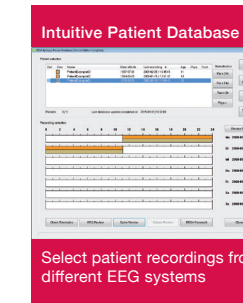
## BESA Epilepsy 2.0

CE-certified clinical software for efficient EEG review and automatic detection of spikes and seizures

- Review EEG data of many different EEG data formats in one program
- Advanced review features
  - Create your own montages and filters or choose from a large predefined set. Select different montages and filters by only one click
  - **Add, delete and classify events in EEG review and seizure review**
  - Rapid spike evaluation of long-term EEG data base on hyperclusters. Spend 5 minutes every morning to evaluate the preceding 24 hours of EEG
  - **Your EEG / seizure report is created automatically during the review. It includes screenshots, events, 3D Maps, and more**
- Automatic spike detection
  - Detection and clustering on children and adults
  - Detection requires less than 3 hours for a 24-hour EEG
  - Easy, intuitive workflow to set up detection during EEG monitoring
- **Automatic seizure detection**
  - Detection on adults requires less than 5 minutes for a 24-hour EEG
  - Quick navigation to facilitate decisions on clinical findings



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