

## **Oral Sessions**

An overhead projector, a slide projector for 35-mm slides, and a data projector will be available in all lecture rooms. Speakers wishing to use slides should bring them to the slidereception desk at least ½ hour before the start of the session. Speakers using the data projector should preview their presentation at the slide reception desk, preferably a day before the presentation. The slide reception desk is in lecture hall HS 5 (next to the registration). “HS 1” and “HS 2” indicate lecture halls HS1 and HS2, respectively.

### **Friday, August 9, 2002**

#### **13.00 – 19.00 ANT workshop**

**Advanced analysis of high density EEG/ERP: Research and clinical application**

Chairs: Zanow F, Knösche TR

#### **13.00 – 18.00 BESA workshop**

**From raw data to source images and source coherence**

Chair: Scherg M

(This workshop is not covered by the conference fee and it requires special registration.)

### **Saturday, August 10, 2002**

#### **8.30 – 12.30 ANT workshop**

**Advanced analysis of high density EEG/ERP: Research and clinical application**

Chairs: Zanow F, Knösche TR

#### **8.30 – 12.00 BESA workshop**

**From raw data to source images and source coherence**

Chair: Scherg M

(This workshop is not covered by the conference fee and it requires special registration.)

#### **9.00 – 11.00 Lab tour to IPHT**

**Bus departure 9.00 in front of Hotel Esplanade**

**Saturday, August 10, 2002**

**13.00 – 13.30 Opening Session**  
HS 1

**13.30 – 14.30 Plenary Lecture:**  
**Role of neural synchrony for cognitive processes**  
HS 1, Engel AK

### **ORAL SESSIONS**

**14.45 – 16.45 Visual and Auditory Systems**  
HS 1, Chairs: Kakigi R

14.45 – 15.15 **Synchronisation and Gamma-band Activity in the auditory system**  
Pantev C

15.15 – 15.30 **M100 Latency Tracks Perception Through a Continuum of Vowels**  
Roberts TPL, Gage N

15.30 – 15.45 **The Influence of Diazepam in Auditory Evoked Magnetic Fields**  
Suzuka Y, Higuchi M, Kado H, Tomoda K

15.45 – 16.15 **Feedforward/Feedback Components of MEG Cortical Response Profiles Localized from Visual and Auditory Attention-related Tasks**  
Aine CJ, Stephen J

16.15 – 16.30 **Magnetoencephalographic correlates of face familiarity in human occipitotemporal cortex**  
Lueschow A, Endl W, Sander TH, Deffke I, Hinze S, Trahms L, Curio G

16.30 – 16.45 **Estimating the Number of Sources in a VEF/MRI Study**  
Böcker KBE, Waldorp LJ, Grasman RPPP, de Munck JC, Kenemans JL, Huizenga HM

**14.45 – 16.45 Workshop “Noninvasive measurement of iron”**  
HS 2, Chairs: Fischer R, Farrell DE

14.45 – 15.05 **Clinical need for measurements of tissue iron**  
Piga A, Donato G, Monasterolo S, Lupo G, Longo F

15.05 – 15.30 **Clinical Magnetic Susceptibility Instrumentation: History and Outlook**  
Farrell DE

15.30 – 15.45 **Non-invasive measurement and imaging of hepatic iron concentrations using nuclear magnetic resonance**  
St. Pierre TG, Clark PR, Chua-Anusorn W, Jeffrey G, Olynyk J, Pootrakul P

15.45 – 16.45 **Panel discussion**

## **17.00 – 19.00 Ischemia and exercise MCG**

HS 1, Chairs: Mäkijärvi M, Fenici R

- 17.00 – 17.30 **Detection of myocardial ischemia with MCG: State of the Art in 2002**  
Hänninen H
- 17.30 – 17.45 **Comparison Of Magnetocardiograms Acquired In Unshielded Clinical Environment At Rest, During And After Exercise And In Conjunction With Myocardial Perfusion Imaging**  
Brazdeikis A, Taylor AA, Mahmarian JJ, Xue Y, Chu CW
- 17.45 – 18.00 **The Normal Magnetocardiogram at Rest and Post-exercise in Healthy Volunteers in an Unshielded Clinical Environment**  
Chen J, Thomson PD, Nolan V, Clarke J, Bakharev AA
- 18.00 – 18.15 **Computerized classification of patients with coronary artery disease but normal or unspecifically changed ECG and healthy volunteers**  
Chaikovsky I, Primin M, Nedayvoda I, Vassilyev V, Sosnitsky V, Steinberg F
- 18.15 – 18.30 **Study of ventricular repolarization in patients with myocardial ischemia, using unshielded multichannel magnetocardiography**  
Fenici R, Brisinda D, Nenonen J, Mäkijärvi M, Fenici P
- 18.30 – 18.45 **Magnetocardiography to assess myocardial viability in patients with coronary heart disease**  
Morguet AJ, Koch H, Behrens S, Kosch O, Goedde P, Lange C, Selbig D, Munz DL, Schultheiss H-P
- 18.45 – 19.00 **Magnetocardiographic changes in the course of coronary intervention**  
Hailer B, van Leeuwen P, Klein A, Auth-Eisernitz S, Chaikovsky I, Lange S, Schäfer H, Grönemeyer D, Steinberg F

## **17.00 – 19.00 Workshop “Developments in Multi-Modality Imaging”**

HS 2, Chairs: Belliveau JW, Wood CC

- 17.00 – 17.30 **NIRS and MEG**  
Villringer A
- 17.30 – 17.45 **Simultaneous DC-MEG and Near-Infrared Spectroscopy (NIRS) allows for non invasive single-trial analysis of neurovascular coupling in human cerebral cortex**  
Mackert BM, Wübbeler G, Leistner S, Burghoff M, Uludag K, Obrig H, Kohl M, Villringer A, Trahms L, Curio G
- 17.45 – 18.00 **Optical measurement of hemodynamic changes in the contralateral motor cortex induced by transcranial magnetic stimulation**  
Nissilä I, Kotilahti K, Komssi S, Kähkönen S, Noponen T, Ilmoniemi RJ, Katila T
- 18.00 – 18.15 **MEG-fMRI: Combined Imaging via the Hemodynamic Response**  
Moran JE, Tepley N
- 18.15 – 18.30 **A Unified Analysis of fMRI and MEG Data**  
Schmidt DM, Ranken DM, George JS, Wood CC
- 18.30 – 18.45 **title ???**  
Belliveau JW
- 18.45 – 19.00 **Panel discussion**

**19.00 – 21.00 Welcome Reception**

**Sunday, August 11, 2002**

**8.00 – 9.00**

**Tutorial 1**

HS 1

**Noise compensation techniques**

Burghoff M

**9.00 – 10.30**

**Sensory-Motor Systems**

HS 1, Chairs: Deecke L, Romani GL

9.00 – 9.30

**Neuromagnetic Studies of the Human Mirror-Neuron System**

Hari R

9.30 – 9.45

**Activation of human cerebellum by median nerve stimulation**

Sekihara K, Kimura T, Hashimoto I

9.45 – 10.00

**Morphology of somatosensory evoked fields: a parameter evaluating anatomofunctional neural connectivity**

Tecchio F, Zappasodi F, Pizzella V, Pasqualetti P, Rossini PM

10.00 – 10.15

**Integration of somatomotor input in S2 and surrounding fields**

Disbrow EA, Hinkley L, Koyama S, Roberts TPL

10.15 – 10.30

**Automatic Mapping of Somatosensory Representation by Steady-State Evoked Magnetic Fields**

Preißl H, Wiech K, Weiskopf N, Braun C

**9.00 – 10.30**

**fMCG 1**

HS 2, Chairs: Peters MJ, Wakai RT

9.00 – 9.30

**Development of fetal heart and prenatal diagnosis**

Chaoui R

9.30 – 9.45

**The influence of biomagnetometer area-of-coverage in the determination of fetal cardiac time intervals**

van Leeuwen P, Klein A, Geue D, Lange S, Grönemeyer D

9.45 – 10.00

**The fetal magnetocardiogram explained by a magnetic dipole**

Stinstra JG, Peters MJ

10.00 – 10.15

**Analysis of Heart Rate Variability in Fetuses and Pre-term Neonates**

Rassi D, Zhuravlev YE, Mishin A, Matthes J, Emery SJ

10.15 – 10.30

**Relation between fetal weight and QRS duration**

Kähler C, Hopf A, Schleußner E, Grimm B, Schneider U, Haueisen J, Seewald HJ

## **10.45 – 12.45 Cognition and Language**

HS 1, Chairs: Hoke M, Kuriki S

### **10.45 – 11.30 Language, Prosody, and Music**

Friederici AD

### **11.30 – 11.45 Visual Evoked Magnetic Fields Associated with Physical and Semantic Discrimination**

Huang SF

### **11.45 – 12.00 Broad-band Changes in Neuromagnetic Power Reflect Spontaneous Perceptual Switching During Binocular Rivalry**

Holroyd T, Murata T, Tanabe HC, Hayashi S, Miyauchi S, Yanagida T

### **12.00 – 12.15 Spatiotemporal patterns of event-related low-frequency brain oscillations in recognition memory**

Meeren HKM, Lopes da Silva FH, de Munck JC, van Dijk BW, Stam CJ

### **12.15 – 12.30 Generators of the N200m to Tones indicating Rare Events: Comparison with Dishabituation**

Halgren E, Marinkovic K, Dale AM

### **12.30 – 12.45 From auditory event related oscillations to neuropsychological performance: predictability**

Karakas S, Kafadar H, Bekçi B, Erzenigin ÖÜ

## **10.45 – 12.45 fMCG 2**

HS 2, Chairs: van Leeuwen P, Kähler C

### **10.45 – 11.15 Tachyarrhythmia - Diagnosis and Therapy**

Strasburger JF, Wakai RT

### **11.15 – 11.30 Prenatal diagnoses of fetal arrhythmia using averaged magnetocardiogram and current-arrow maps**

Hosono T, Kandori A, Chiba Y, Tsukada K

### **11.30 – 11.45 Assessment of Fetal Heart Rhythm and Rate in Complete Congenital Heart Block by Fetal Magnetocardiography**

Zhao H, Wakai RT, Strasburger J, Gotteiner N, Cuneo B

### **11.45 – 12.00 Influence of gestational age, fetal heart frequency and estimated fetal weight on cardiac time intervals in normotrophic and growth retarded fetuses**

Grimm B, Kähler C, Schleißner E, Schneider U, Schneider A, Haueisen J, Seewald HJ

### **12.00 – 12.15 Fetal heart rate patterns in normal and ritodrine-treated pregnancies, detected by magnetocardiography**

Kotini A, Anninos P, Koutlaki N, Adamopoulos A, Liberis V, Anastasiadis P

### **12.15 – 12.30 Measurement of fetal tachycardia using a fetal magnetocardiogram**

Kandori A, Hosono T, Kanagawa T, Miyashita S, Shinto M, Chiba Y, Murakami M, Miyashita T, Tsukada K

### **12.30 – 12.45 Panel discussion**

## **14.00 – 16.00 Cardiac Modeling**

HS 1, Chairs: Sachse F, Ramon C

- 14.00 – 14.45 **Realistic Bidomain Modeling of the Heart**  
Henriquez C
- 14.45 – 15.00 **Influence of cardiac electrical anisotropy on activation time imaging**  
Modre R, Tilg B, Fischer G, Hanser F, Messnarz B
- 15.00 – 15.15 **Localization of dual accessory pathways using two equivalent dipoles**  
Jazbinsek V, Hren R, Stroink G, Horacek BM, Trontelj Z
- 15.15 – 15.30 **Studying of the heart conductivity anisotropy by the MCG**  
Budnyk M, Sosnitsky V, Dmytriyeva T
- 15.30 – 15.45 **Modeling of Cardiac Excitation Propagation Taking Deformation Into Account**  
Sachse FB, Seemann G, Riedel C
- 15.45 – 16.00 **Error Analysis of Registering Anatomical and Functional Cardiac Data Using External Markers**  
Mäkelä TJ, Lötjönen J, Sipilä O, Lauerma K, Nenonen J, Katila T, Magnin IE

## **14.00 – 16.00 fMEG**

HS 2, Chairs: Lowery C, Schleußner E

- 14.00 – 14.30 **Neuronal development of the human fetus**  
Prechtl HFR
- 14.30 – 14.45 **Influence of the state of activity and the presented hemisphere on detection and latencies of Auditory Evoked cortical Fields (AEF) in fetal Magnetoencephalography (fMEG)**  
Schneider U, Schleußner E, Kähler C, Haueisen J, Seewald HJ
- 14.45 – 15.00 **Magnetic brain responses to speech sounds in fetuses and newborns**  
Kujala A, Huotilainen M, Hotakainen M, Lennes M, Fellman V, Näätänen R
- 15.00 – 15.15 **First report on the magnetoencephalographic recordings of visual evoked brain activity from the human fetus**  
Eswaran H, Wilson JD, Preißl H, Robinson SE, Vrba J, Murphy P, Rose D, Lowery CL
- 15.15 – 15.30 **Extraction of Spontaneous Fetal MEG via Spatial Filtering**  
Chen ML, Wakai RT
- 15.30 – 15.45 **Coregistration of anatomical and physiological recordings for fMEG investigations in the SARA system**  
Preißl H, Robinson SE, Vrba J, Eswaran H, Wilson JD, Murphy P, Lowery CL
- 15.45 – 16.00 **Panel discussion**

## **16.15 – 18.00 Poster 1**

## Monday, August 12, 2002

8.00 – 9.00

### Tutorial 2

#### Phase synchronization

HS 1, Schack B

9.00 – 10.30

### Pain

HS 1, Chairs: Schaible HG, Pizzella V

9.00 – 9.45

#### **Pain modulation by transcutaneous electric acupoint stimulation: An EEG and evoked potential study**

Zhang WT, Qi YW, Wang Y, Luo F, Han JS

9.45 – 10.15

#### **Simultaneous activation of primary and secondary somatosensory cortices following CO<sub>2</sub> laser stimulation of C-fibers in humans**

Tran TD, Inui K, Hoshiyama M, Lam K, Qiu Y, Kakigi R

10.15 – 10.30

#### **Human somatosensory response to non-painful and painful electrical median nerve stimulation**

Torquati K, Pizzella V, Della Penna S, Franciotti R, Babiloni C, Rossini PM, Romani GL

9.00 – 10.30

### **Special Session of the IEEE Joint Chapter BME (Germany Section)**

#### **Part 1: Advanced Methods in Signal Analysis**

HS 2, Chairs: Voss A, Witte H

9.00 – 9.15

#### **Improved Multiplication-free Adaptive Digital Filter for ANC of Biomedical Signals**

Min SG, Huh Y, Lee HG, Yoon DH

9.15 – 9.30

#### **Trends in Event-Related Fields analysed by the Hilbert transform**

Link A, Elster C, Sander TH, Lueschow A, Curio G, Trahms L

9.30 – 9.45

#### **Detection of Phase Synchronization in the Brain, Using Coherence Preserving Surrogates**

Dolan K, Dammers J, Fieseler T, Tass PA

9.45 – 10.00

#### **Mapping brain activation by means of focal gamma activity**

Wienbruch C, Pihama N, Elbert T, Rockstroh B

10.00 – 10.15

#### **Estimation of baroreflex mediated interactions in chronic hypertensive pregnancy using joint symbolic dynamics**

Baumert M, Baier V, Walther T, Stephan H, Faber R, Voss A

10.15 – 10.30

#### **Magnetocardiographic Signal Analysis**

Demelis M, Müller, Pasquarelli A, Erné SN



**10.45 – 12.45 Special Session of the IEEE Joint Chapter BME  
Part 2: Independent Component Analysis (ICA) in  
MEG/EEG signal processing**

HS 2, Chairs: Witte H, Voss A

- 10.45 – 11.15 **Possibilities and limitations of ICA in EEG signal analysis**  
Celka P
- 11.15 – 11.30 **Unsupervised identification of spontaneous  
magnetoencephalographic alpha activity by Independent Component  
Analysis**  
Sander TH, Burghoff M, Lueschow A, Curio G, Trahms L
- 11.30 – 11.45 **Nonlinear time series analysis of human alpha rhythm**  
Nolte G, Sander TH, Lueschow A, Pearlmutter B
- 11.45 – 12.00 **Language-related brain activity revealed by multi-taper and  
independent component analysis**  
Salustri C, Kronberg E
- 12.00 – 12.15 **Studying interictal epileptic activity propagation with ICA and MFT**  
Bamidis PD, Zisis A, Maglaveras N, Kostopoulos G, Ioannides AA
- 12.15 – 12.30 **Statistical Independence of Different Brain Sources in Evoked MEG  
Signals**  
Huang M, Weisend M, Paulson K, Thoma R, Hanlon F, Moses S, Lee RR
- 12.30 – 12.45 **Identifying cortical sources of corticomuscle coherence during  
bimanual muscle contraction by ICA**  
Vigário R, Jensen O, Hari R

**10.45 – 12.45 Epilepsy**

HS 1, Chairs: Weiller C, Brandl UW

- 10.45 – 11.15 **MEG and Epilepsy**  
Stefan H
- 11.15 – 11.45 **Clinical Significance of MEG Confirmed by Pre- and Post-Operative  
Spike Localization and Seizure Outcome**  
Nakasato N
- 11.45 – 12.00 **MEG-Guided Identification of Structural Brain Lesions in Patients  
with Neocortical Epilepsy**  
Funke M, Lewine J, Chong B, Moore K, Tsuruda J, Orrison W, Matsuo F,  
Constantino T
- 12.00 – 12.15 **Epileptic Source Localization from MEG data: Local maxima of 2DII  
current density solutions compared to ECD locations of spike events**  
Aquino P, Moran JE, Nagesh V, Mason KM, Bowyer SM, Tepley N,  
Barkley GL
- 12.15 – 12.30 **Clustering of interictal epileptiform MEG spikes**  
van 't Ent D, de Munck JC, Manshanden I, Verbunt JPA, Lopes da  
Silva FH, Velis DN, Ossenblok P
- 12.30 – 12.45 **Finding Epileptic Loci by Nonlinear Parameterization of Source  
Waveforms**  
Robinson SE, Vrba J, Otsubo H, Ishii R

## **14.00 – 16.00 Instrumentation**

HS 1, Chairs: Cohen D, Maniewski R

- 14.00 – 14.15 **Design and Performance of the LANL 158-channel Magnetoencephalography System**  
Matlashov AN, Kraus RH, Espy MA, Best ED, Briles MC, Raby EY, Flynn ER
- 14.15 – 14.30 **Integrated SQUID-Gradiometer System for Magneto-Cardiography without Magnetic Shielding**  
Zakosarenko V, Stolz R, Bondarenko N, Schulz M, Meyer HG
- 14.30 – 14.45 **Performance of a room temperature optical cardio-magnetometer**  
Bison G, Schwarzer S, Wynands R, Weis A
- 14.45 – 15.00 **A high-Tc SQUID based system for neurophysiology studies in-vitro**  
Magnelind PE, Tzalenchuk AY, Ivanov ZG, Tarte EJ
- 15.00 – 15.15 **A 275 channel Whole-cortex MEG System**  
Fife AA, Vrba J, Haid G, Hoang T, Kubik PR, Lee S, Loewen R, McKay J, McKenzie D, Robinson SE, Spear P, Tillotson M, Coppola R
- 15.15 – 15.30 **SQUID Based Sensor with Additional Compensation Module for Operation in an Applied Magnetic Field**  
Della Penna S, Cianflone F, Del Gratta C, Ern  SN, Granata C, Pentiricci A, Pizzella V, Russo M, Romani GL
- 15.30 – 15.45 **Real-time Noise Reduction: 4D Neuroimaging 2500WH System**  
Moran JE, Tepley N
- 15.45 – 16.00 **New Six-Layer Magnetically-Shielded Room for MEG**  
Cohen D, Schl pfer U, Ahlfors S, H m l inen MS, Halgren E

## **14.00 – 16.00 Workshop “Transcranial Magnetic Stimulation”**

HS 2, Chairs: Ilmoniemi R, Ueno S

- 14.00 – 14.15 **Introduction and overview of TMS**  
Ilmoniemi R
- 14.15 – 14.55 **Induction of excitability after-effects by repetitive transcranial magnetic stimulation compared to transcranial direct current stimulation**  
Paulus W
- 14.55 – 15.10 **Effects of transcranial magnetic stimulation on spontaneous and evoked EEG activities**  
Iramina K, Maeno T, Ueno S
- 15.10 – 15.25 **Reactivity of the prefrontal cortex as a function of TMS stimulus intensity. An EEG study**  
K h k nen S, Komssi S, Wilenius J, Ilmoniemi RJ
- 15.25 – 15.40 **Low-frequency rTMS of the Cerebellum Suppresses the Motor Cortex Excitability**  
Satow T, Mima T, Oga T, Hara H, Chen WH, Hashimoto N, Siebner HR, Shibasaki H

- 15.40 – 15.55     **Effects of topiramate on human motor cortex excitability as measured by transcranial magnetic stimulation**  
Reis J, Tergau F, Hamer HM, Müller HH, Knake S, Fritsch B, Oertel WH, Rosenow F
- 15.55 – 16.00     **Concluding remarks**  
Ilmoniemi R
- 16.15 – 18.00     Poster 2**
- 18.00 – 19.00     General assembly of the Biomag community**  
HS 1
- 19.15 – 21.00     Unternehmensgründung und Eigenkapital**  
HS 2, Gründertreffen DEWB, lecture hall 2 (in German)
- 19.30 – 21.00     Baroque Concert (admission fee 12,- Euro)**

**Tuesday, August 13, 2002**

**8.00 – 9.00**

**Tutorial 3**  
**Inverse methods**  
HS 1, Maess B

**9.00 – 10.30**

**Neurology**  
HS 1, Chairs: Freund HJ, Weinberg H

9.00 – 9.20

**Cerebral Physiology and MEG study**  
Sasaki K

9.20 – 9.40

**Oscillatory coupling in the human motor system**  
Schnitzler A

9.40 – 10.00

**Modulation of cortex-muscle oscillatory interaction – functional implications**  
Salenius S

10.00 – 10.15

**Presurgical determination of language dominance with Magnetic Source Imaging: Agreement with the Wada procedure**  
Sarkari S, Simos P, Castillo EM, Breier J, Papanicolaou A

10.15 – 10.30

**Topographic Distribution of Sleep Spindles Using 2DII**  
Drake CL, Moran JE, Mason KM, Bowyer SM, Roth T, Barkley GL, Tepley N

**9.00 – 10.30**

**Workshop “Forward and Inverse Modeling”**  
**Part 1: Forward modeling**  
HS 2, Chairs: Knösche TR, Maess B

9.00 – 9.30

**Mapping cortical connectivity with diffusion MRI**  
Tuch DS

9.30 – 9.45

**Fast anisotropic high resolution finite element head modeling in EEG/MEG source localization**  
Wolters C, Anwander A, Kuhn M, Reitzinger S

9.45 – 10.00

**A unified theoretical account of the evoked magnetic fields and extra- and intracellular potentials of the hippocampus**  
Murakami S, Zhang T, Hirose A, Okada YC

10.00 – 10.15

**MEG forward problem solution avoiding the electric potential**  
von Ellenrieder N, Muravchik C, Nehorai A

10.15 – 10.30

**Panel discussion**

## 10.45 – 12.45 **Clinical MCG**

HS 1, Chairs: Ern  SN, Hailer B

10.45 – 11.15

### **Clinical MCG**

Hombach V

11.15 – 11.45

### **General solution for the application of magnetocardiography**

Malmivuo J, Nousiainen J, Oja SJ, Uusitalo A

11.45 – 12.00

### **ST-T-Variability Detected by Multichannel Magnetocardiography**

Schless BG, M ller HP, Pasquarelli A, Demelis M, Hombach V, Ern  SN

12.00 – 12.15

### **Hypertension: comparison between magnetocardiographic and ultrasonographic findings**

Comani S, Gallina S, Orlandi M, Morana G, Di Luzio S, De Caterina R, Romani GL

12.15 – 12.30

### **Noninvasive Stratification of Micro-Reentrant Arrhythmia by Using Magnetocardiograms**

Yamada S, Tsukada K, Miyashita T, Wan K, Yamaguchi I

12.30 – 12.45

### **QT interval distribution in coronary artery disease determined in a large array biomagnetometer**

Klein A, van Leeuwen P, Hailer B, Lange S, Lukat M, Geue D, Gr nemeyer D

## 10.45 – 12.45 **Workshop “Forward and Inverse Modeling”**

### **Part 2: Inverse modeling**

HS 2, Chairs: Maess B, Kn sche TR

10.45 – 11.15

### **Comparisons of Models in Experimental Somatosensory Data**

Mosher JC, Baillet S, Leahy RM

11.15 – 11.30

### **From Dipoles to Multipoles: Parametric Solutions to the Inverse Problem in MEG**

Jerbi K, Mosher JC, Nolte G, Baillet S, Garnero L, Leahy RM

11.30 – 11.45

### **On the Detection of Hippocampus Activity with MEG**

Chupin M, Baillet S, Okada YC, Hasboun D, Garnero L

11.45 – 12.00

### **Automated reverse iterative source estimation (ARISE): a new method to obtain convergence from distributed to discrete spatio-temporal source models**

Bornfleth H, Weckesser D, Ille N, Mueller M, Berg P, Scherg M

12.00 – 12.15

### **MEG Source Localization via Partially Adaptive LCMV**

Van Veen BD, Rodr guez-Rivera A, Wakai RT

12.15 – 12.30

### **An inverse algorithm to detect neural activity at up to four locations using MEG**

Li QX, Gandhi OP

12.30 – 12.45

### **Panel discussion**

- 14.00 – 16.00 Cortical Oscillations**  
HS 1, Chairs: Hashimoto I, Curio G
- 14.00 – 14.25 **Fast-spike interneurons and feed-forward inhibition in awake sensory neocortex**  
Swadlow HA
- 14.25 – 14.50 **Origins of the high-frequency oscillations in the somatosensory cortex**  
Ikeda H, Wang Y, Okada YC
- 14.50 – 15.04 **Movement interference attenuates somatosensory high-frequency oscillations**  
Tanosaki M, Hoshi Y, Hashimoto I
- 15.04 – 15.18 **Spike bursts of single units in primary somatosensory cortex of awake non human primates contribute to macroscopic 600 Hz burst responses**  
Baker SN, Lemon RN, Curio G
- 15.18 – 15.32 **Tomographic phase resetting analysis (TPRA): 3D-localization of stimulus-locked transient phase responses, synchronization and desynchronization using magnetoencephalography**  
Tass PA, Morosan P, Fieseler T, Dammers J, Boers F, Muren A, Fink GR, Niedeggen M, Zilles K
- 15.32 – 15.46 **Phase Shifts in Thalamo-Cortical Oscillations in Response to 40-Hz Tones**  
Pearson-Bish J, Martin T, Houck J, Ilmoniemi RJ, Tesche CD
- 15.46 – 16.00 **On the physiological basis of the 15-30 Hz motor-cortex rhythm**  
Jensen O, Pohja M, Goel P, Ermentrout B, Kopell N, Hari R
- 16.00 – 16.14 **Pathological oscillatory activity in patients with ischemic brain lesions**  
Butz M, Gross J, Timmermann L, Moll M, Salmelin R, Freund HJ, Witte OW, Schnitzler A
- 14.00 – 16.00 Workshop “Magnetic Methods for Understanding of Oral Drug delivery”**  
HS 2, Chairs: Weitschies W, Görnert P
- 14.00 – 14.30 **The impact of drug formulation on drug action**  
Blume H
- 14.30 – 15.00 **Imaging techniques for understanding the behaviour of dosage forms in the GI tract**  
Wilson C
- 15.00 – 15.15 **The application of biomagnetic instrumentation and methods for monitoring the gastrointestinal behaviour of drug dosage forms**  
Kosch O
- 15.15 – 15.30 **Detection of the Gastrocolic Reflex Using a Three Axis Fluxgate**  
Ferreira A, Carneiro AAO, Moraes ER, Baffa O, Oliveira RO
- 15.30 – 16.00 **Magnetic marker monitoring**  
Weitschies W
- 16.15 – 18.00 Poster 3**

**20.00 – 01.00 Conference Banquet Party at the Mensa**

## Wednesday, August 14, 2002

**9.00 – 10.30**

### **Psychiatry**

HS 1, Chairs: Rosburg T, Sauer H

9.00 – 9.25

#### **Preattentive auditory processing in aging and in Alzheimer's disease**

Pekkonen E

9.25 – 9.45

#### **Attention and brain monoamine function**

Kähkönen S

9.45 – 10.10

#### **Normal and dysrhythmic thalamo-cortical networks in the auditory, somatosensory and visual modality and their relation to Neuro Psychiatric Syndromes**

Ribary U, Llinás R, Jeanmonod D, Kronberg E, Sauvé K, Ramirez PR, Schulman JJ, Horenstein C, van Marle HJF

10.10 – 10.30

#### **Sensory gating in schizophrenic patients**

Weisbrod M, Roehrig M, Schroeder J, Scherg M, Rupp A

**9.00 – 12.15**

### **Workshop “Statistical issues in the EEG/MEG inverse problem”**

HS 2, Chairs: de Munck JC, Bijma F

9.00 - 9.05

#### **Introduction**

de Munck JC

9.05 - 9.35

#### **Performance Comparison of MUSIC and Maximum Likelihood Estimation**

Nehorai A

9.35 - 10.05

#### **Advantages and problems with covariance-based source reconstruction methods**

Sekihara K

10.05 - 10.30

#### **Analysis of event-related potentials using Statistical Parametric Mapping**

Kiebel SJ, Friston KJ

10.45 - 11.15

#### **Spatial and temporal correlations in MEG/EEG background noise**

de Munck JC, Bijma F, Huizenga HM, Waldorp LJ, Heethaar RM

11.15 - 11.45

#### **Use of surrogate data in the distributed MEG/EEG inverse problem : application to the estimation of dynamic properties of neural networks**

David O, Garnero L, Cosmelli D, Varela F

11.45 - 12.10

#### **Analysis of EEG/MEG sources and their lagged covariances**

Huizenga HM, Grasman RPPP, Waldorp LJ, de Munck JC, Böcker KBE, Molenaar PCM

12.10 - 12.15

#### **Closing remarks**

de Munck JC



- 10.45 – 12.45 New frontiers in Biomagnetism**  
 HS 1, Chairs: Katila T, Hoenig HE
- 10.45 – 11.30 **Evolution of Magnetotactic Bacteria on Mars?**  
 Weiss B
- 11.30 – 12.00 **Electrophysiologic Research of Plant Cells by SQUID Systems**  
 Trontelj Z, Baudenbacher F, Fong L, Jazbinsek V, Mueller W, Thiel G,  
 Wikswo J, Zorec R
- 12.00 – 12.15 **Differential interaction of magnetic nanoparticles with tumor cells  
 and peripheral blood cells**  
 Schwalbe M, Gansau C, Röder M, Buske N, Bahr M, Wagner K, Görnert P,  
 Schnabelrauch M, Pachmann K, Kliche KO, Goetze T, Weitschies W,  
 Höffken K, Clement JH
- 12.15 – 12.30 **MEG and other functional brain topography methods in parkinsonian  
 akinesia**  
 Deecke L
- 12.30 – 13.00 **High-Tc SQUIDS for MCG systems in unshielded environment**  
 Seidel P
- 13.00 – 13.30 Closing Session**  
 HS 1
- 14.15 Bus departure to Berlin, in front of the Hotel Esplanade**
- 17.30 – 21.00 Laboratory tour at PTB Berlin**

## Thursday, August 15, 2002

8:45 – 17:30

### Satellite Symposium

**MEG – a Tool for Research on Language and Music Perception**  
at the Max-Planck Institute of Cognitive Neuroscience in Leipzig

8:45 – 12:15

### Language Perception

8:45 - 9:00

#### Welcome speech and introduction to lectures

Knösche TR (Leipzig)

9:00 - 9:40

#### Contributions of MEG to Neurolinguistics

Papanicolaou A (Houston)

9:40 - 10:20

#### Early MEG effects in processing of language and music structure

Friederici AD (Leipzig)

10:20 - 10:50

#### Coffee Break

10:50 - 11:05

#### Within-subject reproducibility of the cortical representation of phonological features in vowels

Eulitz C (Konstanz)

11:05 - 11:20

#### Quantitation of the late field for language lateralization: influence of paradigm and analysis thresholds on sensitivity and error rate

Smitka M (San Francisco)

11:20 - 11:35

#### Neuromagnetic evidence that differences in noun and verb processing are modulated by the presence of a syntactic context

Fiebach CJ (Leipzig)

11:35 - 11:45

#### Brief summary

Maess B (Leipzig)

11:45 - 12:15

#### Podium discussion

12:15 – 13:15

#### Lunch Break (buffet at conference venue)

13:15 – 17:30

### Music Perception

13:15 - 13:30

#### Introduction to lectures

Maess B (Leipzig)

13:30 - 14:10

#### Music and Brain: The competition for cortical space

Pantev C (Toronto)

14:10 - 14:50

#### About neurocognition of music and speech sounds-evidence from electric and magnetic recordings

Tervaniemi M (Helsinki)

14:50 - 15:30

#### Processing of complex rule-based auditory information in the music domain

Kölsch S (Boston)

15:30 – 16:00

#### Coffee Break

- 16:00 - 16:15      **Enhanced gray matter volume of antero-medial Heschl's gyrus correlates with increased primary source activity in musicians**  
Schneider P (Heidelberg)
- 16:15 - 16:30      **MEG responses from the superior temporal cortex processing unknown melodies**  
Kuriki S (Sapporo)
- 16:30 - 16:45      **Auditory Attention in Relation to Signal Detection and Musical Aptitude: a MEG and EEG Study**  
Sieroka N (Heidelberg)
- 16:45 - 16:55      **Brief summary**  
Knösche TR (Leipzig)
- 16:55 - 17:25      **Podium discussion**
- 17:25 - 17:30      **Closing remarks and farewell**  
Maess B (Leipzig)

# Poster Sessions

	Sunday	Monday	Tuesday
MEG: epilepsy	█		
MEG: cognition	█		
MEG: language & music perception	█		
MEG: motor systems	█		
MEG: somatosensory systems	█		
fetal MCG	█		
fetal MEG	█		
Cardiac modeling	█		
Multimodal imaging	█		
Noninvasive measurements of iron	█		
MEG: pain		█	
MEG: auditory systems		█	
MCG: basic research		█	
Modeling: forward problem		█	
Instrumentation		█	
Signal analysis		█	
Transcranial magnetic stimulation		█	
MEG: neurology			█
MEG: psychiatry			█
MEG: cortical oscillations			█
MEG: visual systems			█
MCG: clinical applications			█
Modeling: inverse problem			█
Magnetic methods for understanding of oral drug delivery			█
Other biomagnetic applications			█

The poster presenters are requested to present their posters during the respective one and ¾ hour poster session. Poster are ought to be set up on Saturday, Aug. 10 and to be removed on Wednesday, Aug. 14. The poster areas are indicated in the floor plan on page 61. The poster number will also identify each presentation on the poster boards.

Sunday, August 11, 2002

**MEG: epilepsy**

- 1 **Combined MEG and EEG Source Imaging of Interictal Activity in Partial Epilepsy**  
Baillet S, Adam C, Schwartz D, Leahy RM, Mosher JC, Renault B, Baulac M, Garnero L
- 2 **Localizing Value of Ictal MEG in Neocortical Epilepsy**  
Barkley GL, Smith BJ, Passaro EA, Minecan DN, Elisevich KV, Mason K, Bowyer SM, Tepley N
- 3 **Non-invasive estimation of the cortical networks involved during interictal spikes**  
David O, Chavez M, Adam C, Garnero L
- 4 **Dissociation of MEG and EEG epileptiform activity in a patient with language regression - A case study**  
Funke M, Lewine J, Matsuo F
- 5 **Differentiated focus localization: gain of information by means of MEG**  
Genow A, Hummel C, Hopfengärtner R, Scheler G, Maess B, Stefan H
- 6 **Differences between source localizations from MEG and EEG**  
Hummel C, Genow A, Scheler G, Hopfengärtner R, Stefan H
- 7 **Magnetoencephalographic statistical parametric mapping of interictal spikes in epileptic patients**  
Imai K, Yanagihara K, Mano T, Kamio N, Sakakibara R, Shimono K, Okinaga T, Hirabuki N, Yoshimine T, Ozono K
- 8 **MEG analysis of bioccipital positive waves during sleep**  
Imai K, Yanagihara K, Mano T, Kamio N, Sakakibara R, Shimono K, Okinaga T, Hirabuki N, Yoshimine T, Ozono K
- 9 **Synthetic aperture magnetometry (SAM) compared with electrocorticography (ECoG) in children with focal cortical dysplasia**  
Ishii R, Otsubo H, Ochi A, Kitayama M, Xiang J, Snead OC, Pantev C
- 10 **Comparative analysis of MEG and scalp EEG for interictal spike detection**  
Iwasaki M, Pestana E, Burgess RC, Nakasato N, Shamoto H, Lüders HO
- 11 **Propagation analysis of epileptic discharge in temporal epilepsy patients using a magnetoencephalogram**  
Kandori A, Oe H, Miyashita K, Date H, Yamada N, Naritomi H, Chiba Y, Murakami M, Miyashita T, Tsukada K
- 12 **Application of SAM virtual sensor method for localization of origins and propagation of epileptic discharges in refractory frontal lobe epilepsy**  
Kato A, Ninomiya H, Hirata M, Taniguchi M, Saitoh Y, Imai K, Nii Y, Yoshimine Y
- 13 **Synthetic aperture magnetometry virtual sensor (SAM-VS) analysis of epileptic gamma-activity of MEG**  
Ninomiya H, Kato A, Imai K, Taniguchi M, Nii Y, Hirata M, Yanagihara K, Kishima H, Yoshimine T
- 14 **Detectability of Convexity Spikes by Conventional EEG and Helmet MEG**  
Park H, Nakasato N, Iwasaki M, Shamoto H, Yoshimoto T
- 15 **Magnetoencephalography in Lafora body disease - a case report**  
Pizzella V, Verrotti A, Franciotti R, Salusti B, Trotta D, Chiarelli F, Romani GL

- 16 Presurgical MEG investigation of a patient with epilepsy and extensive cortical malformation**  
Scheler G, Hummel C, Genow A, Stefan H
- 17 A simulation study of frontal lobe epileptic spike localization using real background noise**  
Stephen JM, Shih J, Ranken DM, Hudson D, Aine CJ
- 18 MEG Evaluation After Neurosurgical Treatment**  
Tilz C, Kaltenhäuser M, Genow A, Scheler G, Hummel C, Ganslandt O, Stefan H
- 19 Three-dimensional Integration of Brain Anatomy and Epileptogenic Zones using Magnetic Source Imaging**  
Xiang J, Chuang N, Otsubo H, Chuang S, Chitoku S, Holowka S, Sharma R, Hunjan A, Babyn P, Snead OC
- 20 Unique localization information of MEG in neocortical epilepsy and tumors in four neurosurgical patients**  
Akhtari M, Mamelak A, Lopez N, Padilla R, Merrifield W, Sutherling WS
- 21 Comparison of epileptic region between intracranial EEG recording and MEG using 3D MRI**  
Chitoku S, Otsubo H, Xiang YJ, Rutka T, Weiss S, Sharma R, Holowka S, Snead OC
- 22 MEG and EEG Identification of Epileptiform Transients in Patients with Mesial Temporal Sclerosis**  
Funke M, Matsuo F, Lewine J, Davis J, Constantino T
- 23 Characterization of the ictal onset zone: a multimodal approach including EEG, MEG and high-resolution MRI**  
Knake S, Shiraishi H, Stufflebeam S, Wang CM, Ulbert I, Ahlfors SP, Schomer D, Bromfield E, Madsen J, Carr V, Hämäläinen MS, Blume H, Marinkovic K, Schomer D, Halgren E
- 24 Localisation of Interictal EEG and MEG of Frontal Origin with Electrocortical Validation**  
Ossenblok P, de Munck JC, Arends J, Leijten FSS, van 't Ent D, Huiskamp GJ, Boon P
- 25 Application of whole-head MEG in clinical epileptology**  
Patarraia E, Lindinger G, Deecke L, Baumgartner C
- 26 Localization of epileptic spikes: realistic volume conductor vs. Homogeneous sphere**  
Paul I, Amo C, Fernandez A, Maestu F, Ortiz T, Wienbruch C
- 27 The clinical usability of magnetoencephalography (MEG) in recent epilepsy studies**  
Putkonen P, Ylinen A, Katila T
- 28 A whole-head magnetoencephalography (MEG) study of children with benign partial epilepsy: location of focal epileptiform discharges correlates with selective cognitive deficits**  
Weiskopf N, Wolff M, Serra E, Birbaumer N, Krägeloh-Mann I, Preißl H

## MEG: Cognition

- 29 **Neural correlates of "theory of mind" in emotional vignettes comprehension studied with spatially filtered magnetoencephalography**  
Ishii R, Gojmerac C, Gallup G, Alexander MP, Stuss DT, Pantev C
- 30 **Analysis of MEG responses during a visual-word memory task**  
Takeuchi F, Kuriki S
- 31 **Effects of unpleasant smell revealed by event-related potentials and neuromagnetic fields**  
Tonoike M, Yamaguchi M, Koizuka I, Seo R
- 32 **Insights into memory function using Magnetic Source Imaging.**  
Castillo EM, Simos PG, Breier J, Fitzgerald ME, Sarkari S, Papanicolaou AC
- 33 **Spatiotemporal Brain Mapping of Word Retrieval from Episodic Memory**  
Dhond RP, Wagner AD, Dale AM, Witzel T, Halgren E
- 34 **Hippocampal Activation during Performance of Transverse Patterning Using Magnetoencephalography**  
Hanlon FM, Weisend MP, Huang MX, Moses SN, Thoma RJ, Paulson KM, Miller GA, Canive JM, Lee RR
- 35 **The estimation of sources related to visually and somatosensory evoked P300m magnetic field**  
Maeno T, Kamiya S, Sekino M, Iramina K, Ueno S
- 36 **Anatomically- and functionally-constrained MEG activity to normal, inverted and distorted faces**  
Marinkovic K, Glessner M, Dale AM, Halgren E

## MEG: language & music perception

- 37 **Enhancement of Multiple Components of the Auditory Evoked Potential in Nonmusicians by Training for Pitch Discrimination with 40-Hz Amplitude Modulated Tones**  
Bosnyak DJ, Eaton RA, Roberts LE
- 38 **MEG Fields from Normal Readers and Individuals with Dyslexia During Language Tasks**  
Bowyer SM, Moran JE, Barkley GL, Tepley N
- 39 **Cortical representation for second language phonemes spoken by multi-speakers: A MEG study**  
Funatsu S, Imaizumi S, Hashizume A, Kurisu K
- 40 **Determination of language dominance using synthetic aperture magnetometry: comparison with Wada test**  
Hirata M, Kato A, Saitoh Y, Ninomiya H, Taniguchi M, Kishima H, Yoshimine T
- 41 **MEG responses from the superior temporal cortex processing unknown melodies**  
Kuriki S, Hashimoto T, Isahai N
- 42 **The Auditory N1m Reveals Vowel Identity Representation in the Left Hemisphere of Human Auditory Cortex**  
Mäkelä AM, Alku P, May P, Tiitinen H

- 43 Extraction of phonological features from spoken vowels is mirrored by the MEG response**  
Obleser J, Eulitz C
- 44 Enhancement of Neuroplastic Late Auditory Evoked Potentials in Skilled Musicians**  
Shahin A, Bosnyak D, Kucharski E, Trainor LJ, Pantev C, Roberts LE
- 45 Insights into the brain mechanism for reading using MSI and electrocortical stimulation mapping**  
Simos P, Sarkari S, Castillo EM, Fletcher J, Papanicolaou A
- 46 Distinct spatiotemporal activation profiles in dyslexic children**  
Simos P, Sarkari S, Castillo EM, Fletcher J, Papanicolaou A
- 47 Task difficulty influences the magnetic N400m response**  
Sivonen P, Maess B, Pilz K, Friederici AD
- 48 Neuromagnetic measurement during music listening with the changes of playing tempo**  
Sutani K, Kaetsu I, Iwaki S, Tonoike M, Yamaguchi M, Uchida K
- 49 Neuromagnetic signals associated with sentence recognition task**  
Sutani K, Kaetsu I, Iwaki S, Tonoike M, Yamaguchi M, Uchida K
- 50 Distinct Profiles of Brain Activation in Reading Different Types of Japanese Scripts**  
Valaki CE, Maestú F, Fernández A, Amo C, Papanicolaou AC, Ortiz T
- 51 Cortical processing of speech and non-speech stimuli in the irrelevant sound effect**  
Valtonen J, May P, Mäkinen V, Alku P, Tiitinen H
- 52 Neuronal activation during reading English and Japanese-Kana pseudohomophones by a bilingual with monolingual dyslexia: a MEG study**  
Wydell TN, Kondo T, Mashiko T
- 53 Lexical Judgments Analyzed Using an fMRI-constrained MEG-dipole Method**  
Fujimaki N, Hayakawa T, Okabe Y, Miyauchi S
- 54 Magnetic brain activity evoked by word and non-word stimuli - a study in young adults**  
Gloser Ch, Huonker R, Rosburg T, Emmerich E
- 55 Lateralized networks for speech perception**  
Härle M, Keil A, Wienbruch C, Elbert T, Rockstroh B
- 56 Magnetic Mismatch Fields elicited by Duration and Pitch Changes in tonal analogs of Japanese words: an investigation of native speakers and non-speakers**  
Inouchi M, Kubota M, Ferrari P, Roberts TPL
- 57 Neuronal Syntactic Error Gravity: Comparison between L1 and L2 speakers**  
Kubota M, Ferrari P, Roberts TPL
- 58 Improvement of Discriminative Perception of Mora-timing as reflected by MEG measurements**  
Menning H, Schwarz O, Pantev C
- 59 Visual attention to words in different languages in early bilinguals: a magnetoencephalographic study**  
Pihko E, Nikulin VV, Ilmoniemi RJ

## **MEG: motor systems**



- 60 Measurement of movement related magnetic fields in preparing parameters for motor programming process**  
Kotani K, Horii K, Tonoike M
- 61 Electromyography and motion onset facilitates the determination of movement related fields in MEG**  
Schauer M, Waldmann G, Woldag H
- 62 Activation of Human Primary Motor Cortex during Observation of Jaw Movements**  
Shibukawa Y, Shintani M, Kumai T, Kato Y, Kato M, Suzuki T, Nakamura Y
- 63 Single-trial DC-MEG analysis of slow pericentral neuronal activations during simple and complex finger movements**  
Leistner S, Wübbeler G, Mackert BM, Trahms L, Curio G
- 64 Synchronization tomography: 3D-localization of phase synchronized neuronal activity in the human brain using magnetoencephalography**  
Tass PA, Fieseler T, Dammers J, Morosan P, Majtanik M, Boers F, Muren A, Zilles K, Fink GR

## **MEG: somatosensory systems**

- 65 Magnetencephalographic representation of the periodontal sensation from bilateral maxillary permanent canine teeth in human primary somatosensory cortex**  
Mochizuki K, Sekine H, Shibukawa Y, Shintani M, Yakushiji M, Suzuki T, Ishikawa T
- 66 The activities of area 3a following periodontal mechanical stimulation**  
Sekine H, Shibukawa Y, Suzuki T, Kishi M, Shintani M, Ishikawa T
- 67 A New Method For Magnetoencephalography: Virtual Magnetocorticogram**  
Takanashi Y, Kajihara S, Yamatani M, Iwamoto K, Yoshida Y
- 68 Distal-proximal representation of the digit in human somatosensory area 3b**  
Tanosaki M, Iguchi Y, Hoshi Y, Hashimoto I
- 69 A MEG Study of the Interaction of Electrical Simultaneous Stimulations in Somatosensory Cortices Varying the Intensity of the Interfering Stimulus.**  
Torquati K, Pizzella V, Della Penna S, Franciotti R, Babiloni C, Romani GL, Rossini PM
- 70 Volumetric Localization of Somatosensory Cortex using Magnetic Source Imaging in Children**  
Xiang J, Chuang SH, Holowka SA, Babyn P, Otsubo H, Sharma R, Hunjan A
- 71 Somatosensory evoked cortical activity in rabbits depends on functional micro states of the brain**  
Eiselt M, Flemming L, Gießler F, Haueisen J, Zwiener U
- 72 Neuromagnetic imaging of somatosensory cortex using a minimum-variance beamformer and dipole source localization**  
Gaetz W, Cheyne D
- 73 Somatosensory Evoked Fields for Median and Tibial Nerve Stimulation in Comatose Survivors After Head Trauma**  
Kanno A, Nakasato N, Iwasaki M, Hatanaka K, Yoshimoto T
- 74 Lasting effects of associative peripheral-cortical stimulation on the excitability of somatosensory cortex**  
Mima T, Siebner H, Chen WH, Satow T, Oga T, Hara H, Nagamine T, Shibasaki H
- 75 Rapid Mapping of Finger Representations in Human Primary Somatosensory Cortex Applying Neuromagnetic Steady-State Responses**  
Pollok B, Moll M, Schmitz F, Müller K, Schnitzler A

## **fetal MCG**

- 76 Flux transformer for fetal magnetocardiography in an unshielded environment.**  
Bachir W, Dunajski Z
- 77 Foetal Magnetocardiography in perinatal diagnostics**  
Comani S, Liberati M, Lagatta A, Stefanachi M, Di Luzio S, Gerboni S, Romani GL
- 78 Heart rate variability in growth retarded fetuses as determined by fetal magnetocardiography**  
Lange S, van Leeuwen P, Leven A, Klein A, Hatzmann W, Grönemeyer D
- 79 Amplitude of the P and QRS Components of the Fetal MCG in Normal and Fetal Arrhythmia Subjects**  
Li Z, Wakai RT
- 80 Beat Morphology Variations in Fetal Arrhythmia Detected by Multichannel Fetal Magnetocardiography**  
Sturm R, Müller HP, Pasquarelli A, Demelis M, Lang D, Erné SN
- 81 Fetal Magnetocardiography (FMCG) in the investigation of congenital heart defects (CHD)**  
Kähler C, Schleißner E, Grimm B, Schneider U, Haueisen J, Vogt L, Seewald HJ
- 82 Fetal Magnetocardiography (FMCG) in the investigation of the development of linear and nonlinear parameters of heart rate variability of the fetus in the normal course of pregnancy**  
Ronneburger A, Kähler C, Hoyer D, Schleißner E, Schneider U, Grimm B, Haueisen J, Seewald HJ
- 83 Fetal magnetocardiography (FMCG) in twin pregnancies as a model to analyse the maturation of the cardiac conductive system**  
Schleißner E, Kähler C, Grimm B, Haueisen J, Schneider U, Seewald HJ

## **fetal MEG**

- 84 Short-term serial magnetoencephalography recordings of fetal auditory evoked responses**  
Eswaran H, Preißl H, Robinson SE, Wilson JD, Vrba J, Murphy P, Rose D, Lowery CL
- 85 Neonatal magnetoencephalography and spectral analysis**  
Kotini A, Anninos P, Koutlaki N, Adamopoulos A, Galazios G, Anastasiadis P
- 86 Observation of the Unaveraged Fetal MEG using the SARA Instrument**  
Lowery CL, Robinson SE, Vrba J, Rose D, Preißl H, Eswaran H, Wilson JD, Murphy P
- 87 Separating Fetal MEG Signals from the Noise**  
Robinson SE, Vrba J, McCubbin J
- 88 Influence of Intrauterine Growth Retardation on Auditory Evoked cortical Fields (AEF) in fetal Magnetoencephalography (fMEG)**  
Schleißner E, Kentner A, Haueisen J, Kähler C, Schneider U, Seewald HJ
- 89 Determinants of fetal neurological maturation assessed in fetal magnetoencephalography (fMEG)**  
Schneider U, Schleißner E, Kähler C, Haueisen J, Seewald HJ

## Cardiac modeling

- 90 **Model of current distribution generated by extended electrical sources and its using for current maps classification**  
Vasetsky Y, Chaikovskiy I

## Multimodal imaging

- 91 **Presurgical mapping of the central region in patients with brain tumors: is BOLD contrast fMRI always discriminating?**  
Caulo M, Ferretti A, Del Gratta C, Colosimo C, Tartaro A, Bonomo L, Romani GL
- 92 **Design and Analysis of Nonlinear filter for Magnetic Resonance images on Wavelet-Based Method**  
Cheol KS
- 93 **Spatiotemporal Patterns of Human Navigation Investigated by MEG and fMRI**  
De Araujo DB, Salles A, Tedeschi W, Santos AC, Araujo D, Baryshnikov B, Wakai RT, Baffa O
- 94 **Brain Activation during a Visuo-Motor Working Memory Task studied by means of Event-Related fMRI**  
Del Gratta C, Babiloni C, Carducci F, Ferretti A, Tartaro A, Bonomo L, Romani GL, Rossini PM
- 95 **Brain Activation during Sensory Image Generation studied by means of fMRI**  
Del Gratta C, Di Matteo R, De Nicola A, Ferretti A, Tartaro A, Bonomo L, Romani GL, Belardinelli MO
- 96 **MEG-fMRI Multimodal Imaging in One Single Software Environment**  
Erné SN, Demelis M, Pasquarelli A, Ludolph A, Müller HP, Kassubek J
- 97 **An fMRI study of activation of SII and adjacent cortices elicited by median nerve stimulation at different stimulus intensities**  
Ferretti A, Del Gratta C, Caulo M, Babiloni C, Tartaro A, Bonomo L, Rossini PM, Romani GL
- 98 **Combining Brain Recording Technologies: Using of Brain Surfaces**  
Fuchs A
- 99 **A New Brain Function Mapping Method Using the Dynamic Susceptometry – A Feasibility Study**  
Lee SY, Cho MH, Yang JS, Park TS, Han SW, Byun HS, Huh Y
- 100 **The OMEGA Software - Application in fMRI Studies of Bimanual Coordination**  
Müller HP, Scharpf S, Loichinger W, Ludolph A, Kraft E, Erné SN
- 101 **Optically Coregistered MEG/MRI Markers**  
Pasquarelli A, Lindenthal H, Müller HP, Erné SN
- 102 **Comparative MEG-fMRI study of the human somatosensory cortex**  
Schulz M, Chau W, Graham S, Ishii R, Ross B, Pantev C
- 103 **Functional Neuroanatomy of Simple Mental Arithmetic and Multiplication Tables Repetition: A Functional Magnetic Resonance Imaging Study**  
Wang L, Saito M
- 104 **EEG and radiothermographic mapping during cognitive performance in Chernobyl patients**  
Zhavoronkova L, Kuznetsova G, Gabova A, Passechnik V, Selsky A, Kholodova N, Yanovich A, Lavrova T

- 105 The Role of the Left Angular/Supramarginal Gyrus in Japanese Kanji Reading**  
Hara H, Wydell T, Oga T, Aso T, Mima T, Nagamine T, Fukuyama H, Shibasaki H
- 106 Mapping brain activity with respect to brain anatomy: a MEG/cytoarchitectonic study**  
Morosan P, Dammers J, Mohlberg H, Niedeggen M, Hesselmann G, Boers F, Muren A, Amunts K, Zilles K, Tass PA

## **Noninvasive measurements of iron**

- 107 Liver iron assessment in rats by using NMR: a simple statistical analysis on T2 maps**  
Bortolazzi M, Fenzi A
- 108 Preliminary Liver Iron Evaluation Using an AC Superconducting Magnetic Susceptometer**  
Carneiro AAO, Baffa O, Angulo IL, Covas DT
- 109 The influence of thorax tissue in Biomagnetic Liver Susceptometry (BLS)**  
Fischer R, Engelhardt R, Nielsen P
- 110 A Room-Temperature Susceptometer to Measure Liver Iron: Susceptometer Design and Performance**  
Kumar S, Avrin WF, Hecht D, Trammel HS, Perry AR, Freeman WN, McManus T
- 111 Three phase magnetization method: An improved way of magnetopneumographic measurement**  
Nakadate T, Yagami T, Zheng Y, Kotani M
- 112 An AC Magnetising Field Susceptometer for Liver Iron Concentration Assessment**  
Penna DS, Del Gratta C, Cianflone F, Ern  SN, Granata C, Pentiricci A, Pizzella V, Russo M, Romani GL
- 113 Relationship Between Magnetic Susceptibility and Proton Transverse Relaxation Rates in Packed Human Red Blood Cells**  
Pontre B, Chua-Anusorn W, Robins E, StPierre T
- 114 Biomagnetic liver susceptometry in children with transfusional iron overload, younger than 4 years**  
Engelhardt R, D rken M, Fischer R, Kordes U, Janka-Schaub G, Longo F, Piga A, Nielsen P
- 115 Applications of biomagnetic liver susceptometry in hematological disorders.**  
Fischer R, Batzella MG, Borgna-Pignatti C, Capra M, Caruso V, De Sanctis V, Di Gregorio F, Duerken M, Engelhardt R, Eber S, Forni GL, Fragatou S, Galanello R, Gamberini MR, Graubner UB, Janka GE, etc.

**Monday , August 12, 2002**

**MEG: auditory systems**

- 116 Change of N1m Latency by Simultaneous Visual - Auditory Stimulation**  
Adachi S, Kobayashi A, Shiroto T, Ono Y, Ishiyama A, Kasai N, Tonoike M
- 117 Frequency specificity of auditory SSR to simultaneously presented AM tones**  
Draganova R, Ross B, Pantev C
- 118 Cortical representation of pitch and timbre of the missing fundamental of complex sounds**  
Fujioka T, Okamoto H, Takeshima Y, Kakigi R, Ross B, Pantev C
- 119 Cortical representation of pitch contour and interval changes of melodies**  
Fujioka T, Trainor LJ, Ross B, Kakigi R, Pantev C
- 120 The voice-specific process revealed by neuromagnetic responses**  
Gunji A, Levy D, Ishii R, Kakigi R, Pantev C
- 121 The Effect of Tone Pulses with Fluctuating Inter-Stimulus Intervals on The Elicitation of a GO/NO-GO Response**  
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