Poster Session II **Tuesday, October 4**

9 : Magnetocardiohgraphy

[Tu-P001]

Contribution of phantom experiments to MEG study and development
Daisuke Oyama*, Yoshiaki Adachi, and Gen Uehara
Kanazawa Inst. of Tech., Japan

[Tu-P002]

Non-invasive detection of nerve impulses with an optical magnetometer operating near quantum limited sensitivity
Kasper Jensen[1]*, Rima Budvytyte[1], Rodrigo A. Thomas[1], Tian Wang[1], Annette Maria Fuchs[1], Mikhail V. Balabas[1,2], Georgios Vasilakis[1], Lars D. Mosgaard[1], Hans Christian Stærkind[1], Thomas Heimburg[1], Søren-Peter Olesen[1], and Eugene S. Polzik[1]
[1]Univ. of Copenhagen, Denmark, [2]Saint-Petersburg State Univ., Russia

[Tu-P003]

Post-cooling calibration of gradiometric SQUID magnetometers for biomagnetic measurement using a spherical coil array
Yoshiaki Adachi[1]*, Daisuke Oyama[1], Masanori Higuchi[1], Gen Uehara[1], and Shigenori Kawabata[2]
[1]Kanazawa Inst. of Tech., Japan, [2]Tokyo Medical and Dental Univ., Japan

[Tu-P004]

Improved superconductive gradiometer design for biomagnetic application
Yurii Minov, Mykola (Mykolaiovych) Budnyk*, Valerii Liakhno, Volodymyr Desnenko, and Oleksandr Lynnyk
Nat'l Academy of Sciences of Ukraine, Ukraine

[Tu-P005]

Optimization and improvement of a 36-channel magnetocardiography system based on SQUID magnetometers
Kang Yang, Li Lu, Xiangyan Kong*, Hua Chen, Meiling Wang, Ruihu Yang, Chaoxiang Zhang, Shulin Zhang, and Xiaoming Xie
Shanghai Inst. of Microsystem and Information, China

[Tu-P006]

Magnetocardiogram measurement using 25 channels MI sensor system
Koichiro Kobayashi[1]*, Takeshi Tanaka[2], Yoshiyuki Hata[2], Yuji Ogata[2], Bunichi Kakinuma[2], and Tomoaki Ueda[3]
[1]Iwate Univ. Japan, [2]Advantest Laboratories Ltd., Japan, [3]PhosMega Co. Ltd, Japan

[Tu-P007]

Towards a high-resolution magnetic-field camera based on an optically pumped magnetometer
Volkmar Schultze[1]*, S. Woetzel[1], R. IJsselsteijn[2], and R. Stolz[1]
[1]Leibniz Inst. of Photonic Tech., Germany, [2]Supracon AG Jena, Germany

[Tu-P008]

Characteristics of a bi-layer active shield based high-Tc rf SQUID magnetocardiography system
Faezeh Shanehsazzadeh* and Mehdi Fardmanesh*
Sharif Univ. of Tech., Iran

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9 : Magnetocardiohgraphy

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[Tu-P008]

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Sharif Univ. of Tech., Iran

[Tu-P009]

Active magnetic shield for the MCG measurement: A compact shielding system built with a light-weight magnetic shell and the active compensation using the feedback at the zero magnetic field point
Kenichiro Shimoda, Yoshiaki Maeda, Hikaru Karo, and Ichiro Sasada*
Kyushu Univ., Japan

[Tu-P010]

Mu-metal-free magnetically shielded room for ultra-low field atomic optical magnetometry
George Cardoso* and Oswaldo Baffa
Univ. of Sao Paulo, Brazil

[Tu-P011]

Commercial optically pumped magnetometer
Orang Alem[1]*, Ronald Wakai[2], and Vishal Shah[1]*
[1]QuSpin Inc., USA, [2]Univ. of Wisconsin-Madison, USA

[Tu-P012]

Combination of MEG with EEG using dry multipinelectrode caps
Jens Haueisen[1,2]*, Uwe Graichen[1], Patrique Fiedler[1], Ralph Huonker[2], Otto W. Witte[2], Frank Zanow[3], and Carlos Fonseca[4]
[1]TU Ilmenau, Germany, [2]Univ. Hospital Jena, Germany, [3]eemagine Medical Imaging Solutions GmbH, Germany, [4]Universidade do Porto, Portugal

[Tu-P013]

Fetal MCG with an atomic magnetometer array
Zachary DeLand*, Michael Bulatowicz, Colin Wahl, Ibrahim Sulai, Ronald Wakai, and Thad Walker*
Univ. of Wisconsin-Madison, USA

[Tu-P014]

Non-magnetic compliant finger sensor for continuous fine motor movement detection
Anterpal Sandhu[1]*, Yasong Li[1], Xin Yi Yong[1], Ryan D'Arcy[1,2], Carlo Menon[1], and Teresa P. L. Cheung[1,2]
[1]Simon Fraser Univ., Canada, [2]Fraser Health Authority, Canada

[Tu-P015]

The role of sensor count in MEG array resolution
Erik Hornberger, Takashi Yamaguchi, Tetsuya Mukawa, Yanping Zhang, Takehisa Tsurudome, and Takanori Kato
Sumitomo Heavy Industries, Ltd., Japan

11 : Memory and Learning

[Tu-P016]

Predicting individual differences in sequence learning from oscillatoryactivity in human MEG-data
Frederic Roux[1]*, Ram Frost[1,2], and Manuel Carreiras[1,3,4]
[1]Basque Center on Cognition, Brain and Language, Spain, [2]The Hebrew Univ. Israel, [3]Basque Foundation for Science, Spain, [4]UPV - EHU, Universidad del Pais Vasco, Spain

[Tu-P017]

Neuromagnetic and behavioral responses during encoding of sensorimotor sequence boundaries as revealed by alterations of auditory feedback

Georgios Michail[1]*, Vadim Nikulin1, Burkhard Maess[2], Gabriel Curio[1], and Maria Herrojo Ruiz[1,3]*
[1]Charité Univ. Medicine Berlin, Germany, [2]Max Planck Inst. for Human Cognitive and Brain Sciences, Germany, [3]Univ. of London, UK

[Tu-P018]

Alpha-band modulation in sequential short-term memory encoding: comparison in young and aged participants

Koichi Yokosawa* and Keisuke Kimura*
Hokkaido Univ., Japan

[Tu-P019]

Gender differences in navigation performance are associated with differential theta activity in the right hippocampus

Yi Pu[1], Brian Cornwell[2], and Blake Johnson[1]
[1]Macquarie Univ., Australia, [2]Swinburne Tech. Univ., Australia

[Tu-P020]

Dynamics of brain activation during audio-visual association learning

Jarmo Hämäläinen and Tiina Parviainen
Univ. of Jyväskylä, Finland

[Tu-P021]

Alpha synchronization between occipital and frontal regions distinguishes errors in a visual working memory task

Igor Mapelli and Tolga Esat Özkurt*
METU, Turkey

[Tu-P022]

Consistency of MEG and fMRI findings in revealing the functional neurocompensatory response in early Alzheimer's disease

Song Xiaowei[1,2]*, Careesa C. Liu[1,2], Sujoy Ghosh Hajra[1,2], Gabriela Pawlowski[1], Maggie Clark[2], Emily Gillivan[2], and Ryan D'Arcy[1,2,3]
[1]Simon Fraser Univ., Canada, [2]Nat'l Research Council Canada, Canada, [3]Fraser Health Authority, Canada

[Tu-P023]

Task evoked dynamics in HMM brain states during formation of long term memories.

Andrew Quinn[1]*, Eva Patai[1], Diego Vidaurre[1], Adam Baker[1], Anna Nobre[1], and Mark Woolrich[1,2]
[1]Univ. of Oxford, UK, [2]Oxford Centre for Functional MRI of the Brain, UK

[Tu-P024]

Persistent neural activity in auditory cortex is related to auditory working memory in humans and non-human primates

Artur Matysiak*, Ying Huang, Aida Hajizadeh, Peter Heil, Michael Brosch, and Reinhard König
Leibniz Inst. for Neurobiology Magdeburg, Germany

[Tu-P025]

Electrical stimulation of the medial temporal lobe for verbal memory enhancement and theta activity in the temporal cortex

Soyeon Jun[1], Chun Kee Chung[1,2]*, June Sic Kim[1], and Woorim Jeong[1]
[1]Seoul Nat'l Univ., Korea, [2]Seoul Nat'l Univ. Hospital, Korea

[Tu-P026]

Beta oscillatory dynamics are modulated by load during a spatial working memory task

Amy L. Proskovec[1,2], Elizabeth Heinrichs-Graham[2], and Tony W. Wilson[1,2]*
[1]Univ. of Nebraska, USA, [2]Univ. of Nebraska Medical Center, USA

12 : Methods and Modeling 1: Connectivity, Causality and Oscillations

[Tu-P027]

Measurement of dynamic functional networks using MEG during a cognitive task

George O'Neill[1]*, Prejaas Tewarie[1], Giles Colclough[2], Lauren Gascoyne[1], Benjamin Hunt[1], Peter Morris[1], Mark Woolrich[2], and Matthew Brookes[1]
[1]Univ. of Nottingham, UK, [2]Univ. of Oxford, UK

[Tu-P028]

Spectrally resolved fast transient brain states in electrophysiological data

Diego Vidaurre[1]*, Andrew Quinn[1], David Dupret[2], Alvaro Tejero-Cantero[3], and Mark Woolrich[1]
[1]Oxford Centre for Human Brain Activity, UK, [2]Univ. of Oxford, UK, [3]LMU Munich, Germany

[Tu-P029]

Effective connectivity applied to interictal MEG recordings of patients with refractory epilepsy

Ida A. Nissen*, Ilse E. C. W. van Straaten, Cornelis J. Stam, Eef J. Hendriks, Jaap C. Reijneveld, Johannes C. Baayen, Sander Idema, Philip C. de Witt Hamer, and Arjan Hillebrand
VU Univ. Medical Center Amsterdam, The Netherlands

[Tu-P030]

Identifying information flows for visual motion perception from a network dynamics model of the human brain

Yusuke Takeda[1]*, Nobuo Hiroe[1], Makoto Fukushima[1,2], Masa-aki Sato[1], and Okito Yamashita[1]
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[Tu-P031]

Unsupervised feature extraction by time-contrastive learning from resting-state MEG data

Hiroshi Morioka and Aapo Hyvärinen*
Univ. of Helsinki, Finland

[Tu-P032]

Spatiospectral alterations in resting state MEG networks in major depressive disorder

Allison Nugent*, Stephen Robinson, Bruce Luber, Richard Coppola, and Carlos Zarate
Nat'l Inst. of Mental Health, USA

[Tu-P033]

Information theoretic assessment of methods for constructing functional connectomes from MEG
Mark Drakesmith*, Stavros Dimitriadis, Krish Singh, Lisa Brindley, and David Linden
Cardiff Univ., UK

[Tu-P034]

Task-related cortical networks in language production: Exploring similarity of MEG- and fMRI-derived small-world human brain functional networks
Li Zheng*, Yaoyu Zhang, and Jiahong Gao
Peking Univ., China

[Tu-P035]

Evaluation of phase amplitude coupling during resting state: An MEG study
Bakul Gohel*, Sanghyun Lim, Min-Young Kim, Kyung-Min An, Ji-Eun Kim, Hyukchan Kwon, and Kiwoong Kim*
KRISS, Korea

[Tu-P036]

Processing of nursery rhymes in the newborn brain – A hdEEG study
Manuel Schabus[1]*, Renata del Giudice[1], Malgorzata Wislowska[1], Adelheid Lang[1], Chrysoula Lithari[1], Nathan Weisz[1], and Claudine Calvet[2]
[1]Univ. of Salzburg, Austria, [2]Universität der Künste, Germany

[Tu-P037]

Affective modulation of cross-frequency coupling in emotional prosodic processing of primary dysmenorrhea patients
Hui-Ling Chan[1,2], Yong-Sheng Chen[1]*, and Li-Fen Chen[2,3]
[1]Nat'l Chiao Tung Univ., Taiwan, [2]Nat'l Yang-Ming Univ., Taiwan, [3]Taipei Veterans General Hospital, Taiwan

[Tu-P038]

How sensitive are MEG connectivity metrics to detect non-stationary connectivity?
Lucrezia Liuzzi[1]*, Matthew Brookes[1], Giles Colclough[2], Andrew Quinn[2], Mark Woolrich[2,3], and Prejaas Tewarie[1]*
[1]Univ. of Nottingham, UK, [2]Univ. of Oxford, UK, [3]Oxford Centre for Functional MRI of the Brain, UK

[Tu-P039]

Time series graphical models as exploratory tools to uncover functional connectivity in MEG recordings
Nick Foti, Rahul Nadkarni, Eric Larson, Emily Fox, and Adrian K. C. Lee*
Univ. of Washington, USA

[Tu-P040]

Improving the estimate of the coupling direction between brain areas in MEG by using the maximized Phase Slope Index
Alessio Basti[1], Vittorio Pizzella[1], Federico Chella[1], Guido Nolte[2], and Laura Marzetti[1]
[1]Univ. "G. d`Annunzio" of Chieti-Pescara, Italy, [2]Universitaetsklinikum Hamburg-Eppendorf, Germany

[Tu-P041]

A multi-layer approach to MEG connectivity analysis

Benjamin Alexander Edward Hunt*, Prejaas Tewarie, Siân Robson, Lauren Gascoyne, Elizabeth Liddle, Peter Liddle, Peter Morris, and Matthew Brookes*
Univ. of Nottingham, UK

[Tu-P042]

Stochastic learning of quasi-stationary states of brain activity in big data sets

Diego Vidaurre[1]*, Stephen Smith[2], and Mark Woolrich[1]
[1]Oxford Centre for Human Brain Activity, UK, [2]Oxford Centre for Functional MRI of the Brain, UK

[Tu-P043]

The ATG (Alpha-Theta-Gamma) switch: A unified framework for thalamo-cortical processing

Urs Ribary[1,2,3]*, Sam M Doesburg[1,2], and Lawrence M Ward[2,3]
[1]Simon Fraser Univ., Canada, [2]Behavioral and Cognitive Neuroscience Inst., Canada, [3]Univ. of British Columbia, Canada

[Tu-P044]

Functional connectivity estimation from MEG data with a combination of a Kalman filter and an EM algorithm

Narayan Subramaniyam*, Filip Tronarp, Simo Särkkä, and Lauri Parkkonen
Aalto Univ., Finland

[Tu-P045]

Estimating cross frequency coupling in fast transient brain states

Andrew Quinn[1]*, Diego Vidaurre[1], David Dupret[1], and Mark Woolrich[1,2]
[1]Univ. of Oxford, UK, [2]Oxford Centre for Functional MRI of the Brain, UK

[Tu-P046]

Oscillatory modes from MVAR models of brain networks

Andrew Quinn[1,2]*, Mark Hymers[2], Sam Johnson[2], and Gary Green[2]
[1]Oxford Centre for Human Brain Activity, UK, [2]York Neuroimaging Centre, UK

[Tu-P047]

Predicting haemodynamic networks using electrophysiology: the role of non-linear and cross-frequency interactions

Prejaas Tewarie[1]*, Molly Bright[1], Arjan Hillebrand[2], Sian Robson[1], Lauren Gascoyne[1], Peter Morris[1], Jil Meier[3], Piet Van Mieghem[3], and Matthew Brookes[1]
[1]Univ. of Nottingham, UK, [2]VU Univ. Medical Center Amsterdam, The Netherlands, [3]TU Delft, The Netherlands

[Tu-P048]

Integrating cross-frequency and within band functional networks in resting-state MEG: a multi-layer networkapproach

Prejaas Tewarie[1]*, Arjan Hillebrand[2], Bob W. van Dijk[2], CornelisJ. Stam[2], George C. O'Neill[1], Piet Van Mieghem[3], Jil Meier[3], Mark Woolrich[4], Peter Morris[1], and Matthew Brookes[1]
[1]Univ. Of Nottingham, UK, [2]VU Univ. Medical Center Amsterdam, The Netherlands, [3]TU Delft, The Netherlands, [4]Univ. of Oxford, UK

[Tu-P049]

Source connectivity analysis using multivariate autoregressive models of MEG signals

Jae-Hyun Cho[1], Ümit Aydin[2,3], Carsten Wolters[2], and Thomas Knösche[1]
[1]Max Planck Inst. for Human Cognitive and Brain Sciences, Germany, [2]Univ. of Münster, Germany, [3]Concordia Univ., Canada

[Tu-P050]

Combining intra and inter-frequency dominant coupling modes into a single dynamic functional connectivity graph: dynome, dyconnectomics and oscillopathies

Stavros Dimitriadis[1,2]*
[1]Inst. of Psychological Medicine and Clinical Neurosciences, UK, [2]Cardiff Univ., UK

[Tu-P051]

Connectivity priors informed by functional neuroanatomy in DCM for evoked responses in EEG and MEG: from simulations to an Auditory Mismatch Negativity (MMN) case study in MEG

Jean-Didier Lemaréchal[1]*, Nathalie George[1], and Olivier David[2,3]
[1]Sorbonne Universités, France, [2]INSERM, France, [3]Université Joseph Fourier, France

[Tu-P052]

A EEG study on anesthetic effects

Jinyoung Choi[1], Sangtae Ahn[1], Hohyun Cho[1], Moonyoung Kwon[1], Byung-moon Choi[2], Gyu-jeong Noh[2], and Sung Chan Jun[1]*
[1]GIST, Korea, [2]Univ. of Ulsan College of Medicine, Korea

[Tu-P053]

Decoding for information in oscillatory amplitude, phase and synchrony

Simo Monto[1,2,3]*, Marco Buiatti[2,3], Moti Salti[2,3], and Stanislas Dehaene[2,3]
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[Tu-P054]

Changes in MEG scale free dynamics in patients with temporal lobe epilepsy

Ümit Aydin[1]*, Giovanni Pellegrino[2], Tanguy Hedrich[2], Eliane Kobayashi[2], Jean-Marc Lina[3], and Christophe Grova[1,2,5]*
[1]Concordia Univ., Canada, [2]McGill Univ., Canada, [3]École de Technologie Supérieure, Canada, [4]Université de Montréal, Canada, [5]Montreal Neurological Inst., Canada

[Tu-P055]

Power and shift invariant imaging of coherent sources from MEG data (PSIICoS)

Alex Ossadtchi[1,2]*, Dmitriy Altukhov[1,3], and Tatiana Stroganova[3]
[1]Higher School of Economics Nat'l Research Univ., Russia, [2]Russian Academy of Sciences, Russia, [3]Moscow State Univ. of Psychology and Education, Russia

[Tu-P056]

A novel coherence-based method to robustly identify functional brain connectivity: Envelope of imaginary coherence operator

Jose Miguel Sanchez Bornot, Kong-Fatt Wong Lin*, and Girijesh Prasad*
Ulster Univ., UK

[Tu-P057]

The sequence of functional brain activity can be inferred by response variability
Fa-Hsuan Lin[1]*, Jo-Fu Lin[1], Chi-Che Chou[2], and Wen-Jui Kuo[3]
[1]Nat'l Taiwan Univ., Taiwan, [2]Taipei Veterans General Hospital, Taiwan, [3]Nat'l Yang Ming Univ., Taiwan

[Tu-P058]

Detecting interhemispheric transfer using MEG
Teresa P. L. Cheung[1,2], Alexandra Talpalaru[1], Matthew Courtemanche[1], and Ryan D'Arcy[1,2]
[1]Simon Fraser Univ., Canada, [2]Fraser Health Authority, Canada

[Tu-P059]

A statistical framework for neuroimaging data analysis based on mutual information estimated via a Gaussian copula
Robin Ince*, Bruno L. Giordano, Christoph Kayser, Guillaume A. Rousselet, Joachim Gross, and Philippe G. Schyns
Univ. of Glasgow, UK

[Tu-P060]

Auditory driven cross-modal phase reset of visual cortical oscillations
Kevin Prinsloo*, Christian Keitel, Gregor Thut, and Joachim Gross
Univ. of Glasgow, UK

13 : Methods and Modeling 2: Source Localization Approaches, Simulations, Models, Multiple Sources, etc.

[Tu-P061]

MEG and EEG dipole clusters from extended cortical sources
Manfred Fuchs*, Michael Wagner, Joern Kastner, Reyko Tech, and Fernando Gasca
Compumedics Germany GmbH, Germany

[Tu-P062]

Source reconstruction from invasive stereo-EEG recordings
Manfred Fuchs*, Fernando Gasca, Michael Wagner, Joern Kastner, and Reyko Tech
Compumedics Germany GmbH, Germany

[Tu-P063]

Kalman filter based dynamic source reconstruction for EEG and MEG data
Duc-Thanh Nguyen and Boreom Lee*
GIST, Korea

[Tu-P064]

Thermal magnetic noise spectra of nanoparticle ensembles
Jonathan Leliaert[1]*, Annelies Coene[1]*, Maik Liebl[2], Dietmar Eberbeck[2], Uwe Steinhoff[2], Frank Wiekhorst[2], Birgit Fischer[3], Luc Dupré[1], and Bartel Van Waeyenberge[1]
[1]Ghent Univ., Belgium, [2]Physikalisch-Technische Bundesanstalt, Germany, [3]Univ. of Hamburg, Germany

[Tu-P065]

Source modelling of ECoG data: stability analysis and spatial filtering
Annalisa Pascarella[1]*, Chiara Todaro[2], Maureen Clerc[3], Thomas Serre[4], and Michele Piana[5,6]
[1]Nat'l Research Council, Italy, [2]Univ. "G. d`Annunzio" of Chieti-Pescara, Italy, [3]Inria Sophia Antipolis Mediterranean, France, [4]Brown Univ., USA, [5]Univ. of Genova, Italy, [6]CNR - SPIN, Italy

[Tu-P067]

Signal separation method for an accurate measurement of thalamic activity in magnetoencephalography
Sanghyun Lim[1,2] and Kiwoong Kim[1,2]*
[1]Univ. of Science and Tech., Korea, [2]KRISS, Korea

[Tu-P068]

Iterative two-stage approach to estimate sources and their interactions
Brahim Belaoucha[1,2]* and Théodore Papadopoulo[1,2]*
[1]Athena Project Team, France, [2]Université Côte d`Azur, France

[Tu-P069]

A hierarchical Krylov-Bayes iterative inverse solver for MEG with anatomical prior
Daniela Calvetti[1], Annalisa Pascarella[2]*, Pitolli Francesca[3], Erkki Somersalo[1], and Barbara Vantaggi[3]
[1]Case Western Reserve Univ., USA, [2]Nat'l Research Council, Italy, [3]Univ. of Rome "La Sapienza", Italy

[Tu-P070]

Novel hierarchical bayesian algorithms for electromagnetic brain imaging: Extensions of the champagne framework
Srikantan Nagarajan[1]*, Chang Cai[1], and Kensuke Sekihara[2]
[1]Univ. of California, San Francisco, USA, [2]Signal Analysis Inc., USA

[Tu-P071]

The discontinuous Galerkin finite element method for solving the MEG forward problem
Maria Carla Piastra[1], Andreas Nüßing[1], Harald Bornfleth[2], Robert Oostenveld[3], Christian Engwer[1], and Carsten Wolters[1]
[1]Univ. of Muenster, Germany, [2]BESA GmbH, Germany, [3]Radboud Univ., The Netherlands

[Tu-P072]

M/EEG source localization with multi-scale time-frequency dictionaries
Yousra Farah Bekhti[1]*, Daniel Strohmeier[2], Mainak Jas[1], Roland Badeau[1], and Alexandre Gramfort[1]
[1]Université Paris-Saclay, France, [2]TU Ilmenau, Germany

[Tu-P073]

Understanding within subject variability of source localisation and functional connectivity
Lucrezia Liuzzi*, Eleanor Barratt, Prejaas Tewarie, Lauren Gascoyne, and Matthew Brookes*
Univ. of Nottingham, UK

[Tu-P074]

You cannot "correct" for leakage in EEG/MEG connectivity analyses
Olaf Hauk[1]*, Rezvan Farahibozorg[1], Matti Stenroos[2], and Rolando Grave de Peralta Menendez[3]
[1]MRC Cognition and Brain Sciences Unit, UK, [2]Aalto Univ., Finland, [3]Geneva Univ. Hospital, Switzerland

[Tu-P075]

Is more always better? The effect of sensor array density on beamformer performance
Britta U. Westner[1]*, Matthew J. Brookes[2], and Sarang S. Dalal[1,3]
[1]Univ. of Konstanz, Germany, [2]Univ. of Nottingham, UK, [3]Aarhus Univ., Denmark

[Tu-P076]

Comparison of dipole localization to interictal spikesin individual and standardized BEM upon three different age groups
Corinna Horn[1], Alexander Hunold[1]*, Jens Haueisen[1,2], and Michael Funke[3]
[1]TU Ilmenau, Germany, [2]Univ. Hospital Jena, Germany, [3]Univ. of Texas, USA

[Tu-P077]

Performance of cortical LORETA and cortical CLARA applied to MEG data
Todor Iordanov[1]*, Harald Bornfleth[1]*, Karsten Hoechstetter[2], Benjamin Lanfer[1], and Michael Scherg[1]
[1]BESA GmbH, Germany, [2]Univ. of Applied Science Jena, Germany

[Tu-P078]

tACS and MEG: the effect of highly correlated noise on beamformer performance
Gianpaolo Demarchi[1]*, Sarang Dalal[2], and Nathan Weisz[1]
[1]Univ. of Salzburg, Austria, [2]Aarhus Univ., Denmark

[Tu-P079]

Measure for clinical diagnosis of epilepsy with continuous spikes and waves during slow-wave sleep byMagnetoencephalography (MEG)
Masashi Narugami[1]*, Kiyoshi Egawa[1], Tomoshiro Ito[1], Hiroyuki Yamamoto[1,2], Chiyo Manabe[3], Kayoko Takahashi[3], Shingo Nakane[3], and Hideaki Shiraishi[1]
[1]Hokkaido Univ., Japan, [2]Nagoya Univ., Japan, [3]Hokkaido Univ. Hospital, Japan

[Tu-P080]

Millimetres not centimetres – an empirical validation of high resolution MEG
Simon Little*, Sofie Myer, James Bonaiuto, Holly Rossiter, Sheena Waters, Fred Dick, Gareth Barnes, and Sven Bestmann
Univ. College London, UK

[Tu-P081]

Novel methods for recursive multiple source classification in EEG/MEG
Niko Mäkelä, Jukka Sarvas, and Risto Ilmoniemi
Aalto Univ., Finland

[Tu-P082]

Dissociating lateralized cortical and thalamic sources to sensory stimulation using high-precision MEG
Sven Bestmann, Sheena Waters, Sofie Meyer, James Bonaiuto, Simon Little, Holly Rossiter, and Gareth Barnes
Univ. College London, UK

[Tu-P083]

Two frameworks for smooth multi-dipole estimation from M/EEG time series
Valentina Vivaldi, Sara Sommariva, and Alberto Sorrentino
Univ. of Genova, Italy

[Tu-P084]

A model for simulating a fetal-maternal biomonitor
Seok Lew*, Matti Hämäläinen, and Yoshio Okada
Harvard Medical School, USA

[Tu-P085]

Online neuronal source localization of epileptic spikes in a novel whole-head pediatric MEG system (BabyMEG)
Lorenz Esch[1,2]*, Christoph Dinh[1,2]*, Banu Ahtam[2], Limin Sun[2], Daniel Strohmeier[1], Daniel Baumgarten[1,3], Yoshio Okada[2], Matti Hamalainen[2], and Jens Haueisen[1,4]
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[Tu-P086]

Requirements for sensor localization accuracy in on-scalp MEG
Rasmus Zetter, Joonas Iivanainen, Matti Stenroos, and Lauri Parkkonen
Aalto Univ., Finland

[Tu-P087]

Calcified cortical tubers influence single dipole source localizationx
Hunold Alexander[1]*, Stephan Lau[1,2], Yoshaio Okad[3], Christos Papadelis[3], and Jens Haueisen[1,4]
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[Tu-P088]

Advanced dynamic Statistical Parametric Mapping (AdSPM) for Focal Cortical Dysplasia at Bottom of Sulcus (FCDB)
Midori Nakajima* and Hiroshi Otsubo*
The Hospital for Sick Children, Canada

[Tu-P089]

Frequency-encoded magnetic source imaging
Jing Xiang[1]*, Lu Meng[2], and Kimberly Leiken[1]
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14 : Methods and Modeling 3: Signal and Image Processing

[Tu-P090]

Improving the SNR in pediatric MEG studies
Jukka Nenonen[1]*, Liisa Helle[2], Lauri Parkkonen[3], and Samu Taulu[4]
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[Tu-P091]

Statistical non-parametric mapping in source and sensor space
Michael Wagner*, Reyko Tech, Manfred Fuchs, Jörn Kastner, and Fernando Gasca
Compumedics Germany GmbH, Germany

[Tu-P092]

Study of bionic circuit model based on PPI
Fangxu Wang, Duyan Geng*, and Gang Hu
Hebei Univ. of Tech., China

[Tu-P093]

Signal-space-projection (SSP) methods for extracting single-trial time courses from EEG/MEG data
Olaf Hauk*, Matthias Treder, and Dennis Norris
MRC Cognition and Brain Sciences Unit, UK

[Tu-P094]

Mesenteric ischemia evaluation by biomagnetism
Aracely Martínez Longoria[1]*, Teodoro Cordova[1], Alan L Bradshaw[2], and William O Richards[2]
[1]Universidad de Guanajuato, Mexico, [2]Vanderbilt Univ., USA

[Tu-P095]

Study of the magnetic activity in uterine contractions
Dulce Magdaleno[1]*, Seok Lew[2], Teodoro Corodova[1], and Yoshio Okada[2]
[1]Universidad de Guanajuato, Mexico, [2]Harvard Medical School, USA

[Tu-P096]

Evaluation of automatically detected interictal epileptic events
Muhammad Khalid[1], Saleh AlShebeli[1], Saeed Aldosari[1], Turky Alotaiby[2], Majed Alhameed[3]*, and Vahe Poghosyan[3]*
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15 : Motor system

[Tu-P097]

Below-3-Hz cortical dynamics adjusts steady muscle contraction
Mathieu Bourguignon[1,2]*, Harri Piitulainen[2], Eero Smeds[2], Guangyu Zhou[2,3], Veikko Jousmäki[2], and Riitta Hari[2]
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[Tu-P098]

Investigating individual differences event related beta modulation during a visuomotor task
Benjamin Alexander Edward Hunt[1]*, Elizabeth Liddle[1], Peter Liddle[1], Bethany Routely[2], Lorenzo Magazzini[2], Krish Singh[2], Peter Morris[1], and Matthew Brookes[1]*
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[Tu-P099]

The relationship between beta oscillations and variability in motor learning
Svenja Espenhahn[1]*, Archy O. de Berker[1,2], Holly E. Rossiter[1,2], Bernadette C. M. van Wijk[2], Nellie Redman[1], Joern Diedrichsen[2], and Nick S. Ward[1]*
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[Tu-P100]

Evidence of cortico-cortical and cortico-muscular coherence in a bimanual precision-grip task using ICA on MEG-EMG data

Sophie Chen[1]*, Jean-Michel Badier[1], Christian Bénar[1], and Jozina De Graaf[2]
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[Tu-P101]

Task-related beta activity in human pre-motor cortex (PM) during non-biological motion observation

Lucie Luneau[1]*, Sylvain Baillet[2], and Kalaska John Francis[1]
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[Tu-P102]

Recovery of the 20-Hz motor-cortex rebound after stroke

Eeva Parkkonen[1,2]*, Kristina Laaksonen[1,2], Harri Piitulainen[1], Johanna Pekkola[2], Lauri Parkkonen[1], Turgut Tatlisumak[2,3], and Nina Forss[1,2]
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[Tu-P103]

Oscillatory activity during implicit motor sequence learning in patients with Parkinson's disease

Sarah Meissner*, Vanessa Krause, Martin Südmeyer, Christian Hartmann, and Bettina Pollok
HHU Duesseldorf, Germany

[Tu-P104]

Dynamics of the neuronal processes underlying abnormal reaching in the cerebello-cortical network in dystonia

Aliénor Richard, Cécille Galléa, Aurélie Meneret, Sabine Meunier, and Denis Schwartz
Sorbonne Universités, France

[Tu-P105]

Motor learning induces changes in MEG resting-state oscillatory network dynamics

Fanny Barlaam[1], Jordan Alves[1], David Meunier[1], Franck Di Rienzo[2], Sebastien Daligault[3], Annalisa Pascarella[4], Claude Delpuech[1,3], Christina Schmitz[1], and Karim Jerbi[5]
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[Tu-P106]

The neural correlates of automatic imitation

Victoria Schroeder[1]*, Craig McAllister[1]*, and Klaus Kesser[2]
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[Tu-P107]

Effects of motor neuron disease progression on cortical beta and gamma rhythms: A single case study of amyotrophic lateral sclerosis

Michael Lee[1]*, David Meng[2], Matthew Kiernan[3], and Blake Johnson[2]*
[1]Univ. of Sydney, Australia, [2]Macquarie Univ., Australia, [3]Univ. of Sydney, Australia

[Tu-P108]

Oscillatory cortical dynamics of visually-guided and auditory-guided sequence learning
Leighton Hinkley, Sophia Vinogradov, Melissa Fisher, Coleman Garrett, Danielle Mizuiri, Bruno Biagianti, John Houde, and Srikantan Nagarajan
Univ. of California, San Francisco, USA

16 : Multi-modal Imaging

[Tu-P109]

The relationship between neurotransmitters and task-induced oscillatory modulations during working memory task
Yuichi Takei[1]*, Kazuyuki Fujihara[1], Minami Tagawa[1], Masato Kasagi[1], Yumiko Takahashi[1], Yutaka Katou[1,2], Tomokazu Motegi[1], Yusuke Suzuki[1], Noriko Sakurai[1], Miho Yamaguchi[1], Naruhito Hironaga[3], Syozo Tobimatsu[3], Kosuke Narita[1], and Masato Fukuda[1]
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[Tu-P110]

Defining epileptic network pathways - A combined MEG and fMRI approach
Jeffrey Tenney*, William Agler, Claudio Toro-Serey, and Darren Kadis
Cincinnati Children`s Hospital, USA

[Tu-P111]

Function predicts structure: MEG derived functional connectivity (fc) predicts grey matter myelination
Benjamin Alexander Edward Hunt[1], Prejaas Tewarie[1], Nicolas Geades[1], Olivier Mougin[1], Penny Gowland[1], Krish Singh[2], Peter Morris[1], and Matthew Brookes[1]*
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[Tu-P112]

Multi-modality visualization tool
Ohad Felsenstein[1]*, Noam Peled[2,3]*, Steven Stufflebeam[2,3], and Matti Hamalainen[2,3]
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[Tu-P113]

Diffusion MR and MEG assessment of auditory and language system development in children with autism spectrum disorder
Jeffrey Berman*, James C. Edgar, Lisa Blaskey, Emily Kuschner, and Timothy Roberts
Children`s Hospital of Philadelphia, USA

[Tu-P114]

Imaging magnetic-nanoparticles-targeted tumors using low-power ultrasound excitation
Jen-Jie Chieh[1]*, K. W. Huang[2,3], S. H. Liao[1], C. Y. Wu[1], H. C. Yang[1], and H. E. Horng[1]
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[Tu-P115]

In-vivo multifunctional imaging by scanning SQUID biosusceptometry
Herng-Er Horng[1]*, Jen-Jie Chieh[1], Kai-Wen Huang[2], Shu-Hsien Liao[1], C. Y. Wu[1], and Hong-Chang Yang[1]
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[Tu-P116]

Technical solutions for simultaneous MEG and SEEG recordings

Jean-Michel Badier[1]*, Anne-Sophie Dubarry[1], Martine Gavaret[2], Sophie Chen[3], Agnès Trébuchon[2], Jean Régis[2], Fabrice Bartolomei[2], Romain Carron[2], and Christian George Bénar[1]*

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[Tu-P117]

Non-invasive functional evaluation of lumbar nerveroot and cauda equina with high spatial resolution by magnetospinograph system

Shuta Ushio[1]*, Shigenori Kawabata[1]*, Yoshiaki Adach[i2], Kensuke Sekihara[1], Taishi Watanabe[3], Satoshi Sumiya[1], and Atsushi Okawa[1]

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[Tu-P118]

Simultaneous SEEG-MEG-EEG recordings overcome the SEEG limited spatial sampling

Anne-Sophie Dubarry[1,2,3]*, Martine Gavaret[2,3,4], Romain Carron[2,3,4], Fabrice Bartolomei[2,3,4], Agnes Trebuchon[2,3,4], and Christian Benar[2,3]

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[Tu-P119]

Epileptic high frequency oscillations in simultaneous MEG and EEG

Nicole van Klink[1]*, Arjan Hillebrand[2], Geertjan Huiskamp[1], Anne Mooij[1], Kees Braun[1], and Maeike Zijlmans[1,3]

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[Tu-P120]

Validation of Fast-VESTAL source estimation method with reference to BOLD fMRI

Li Zheng[1]*, Jingwei Sheng[1], Ashley Robb Swan[2], Mingxiong Huang[2,3], and Jia-Hong Gao[1]

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26 : Others

[Tu-P121]

Kinematic analysis of human gait for typical postures of walking, running and cart pulling

Nupur Karmaker*

Gono Bishwabidyalay, Bangladesh

[Tu-P122]

Differential age-related changes in N170 responses to upright faces, inverted faces, and eyes in Japanese children

Kensaku Miki[1,2]*, Yukiko Honda[1], Yasuyuki Takeshima[1], Shoko Watanabe[1], and Ryusuke Kakigi[1,3]

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[Tu-P123]

Mu rhythm modulation as a neuromarker for socio-emotional interaction
Fanny Lachat* and Daniel Lundqvist*
Karolinska Institut, Sweden

[Tu-P124]

Coil design for deep transcranial magnetic stimulation with improved focality
Mai Lu[1] and Shoogo Ueno[2]
[1]Lanzhou Jiaotong Univ., China, [2]Kyushu Univ., Japan

[Tu-P125]

Computational estimation of the induced electric fields in visual tissues in using coaxial circular coil for deep transcranial magnetic stimulation
Mai Lu[1] and Shoogo Ueno[2]
[1]Lanzhou Jiaotong Univ., China, [2]Kyushu Univ., Japan

[Tu-P126]

Change of mind - Decision making in different metabolic states
Maike Hege*, Jann Kreutzer, and Hubert Preissl
Univ. of Tübingen, Germany

[Tu-P127]

Detection of magnetic nanoparticles with a large scale AC superconducting biosusceptometer
Eduard Ladino[1], Nícholas Zufelato[2], Andris Bakuzis[2], Antonio Carneiro[1], and Oswaldo Baffa[1]*
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[Tu-P128]

Effects of low frequencies magnetic field and gadolinium in protein expression, DNA integrity and Caspase-3 detection of embryonic kidney cells (HEK-293T line)
Luis Gomez*, T. Córdova, and G. Barbosa-Sabanero
Universidad de Guanajuato, Mexico

[Tu-P129]

How the human brain recognizes text-based emoticons
Ko Woon Kim[1], Dong Woo Shin[2], Sanghyun Lim[3,4], Kiwoong Kim[3,4], Min-Young Kim[3], and Bumseok Jeong[2]*
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[Tu-P130]

Increasing resolution in magnetorelaxometry imaging using ADMM with total variation and additional constraints
Janic Foecke[1]*, Maik Liebl[2], Daniel Baumgarten[3,4]*, and Martin Burger[1]
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[Tu-P131]

Magneto-optical characteristics of streptavidin coated Au/Fe oxide shell/core nanoparticles for faraday bioassay

Jian-Ming Chen, Chiu-Hsien Wu, and Kuen-Lin Chen*
Nat'l Chung Hsing Univ., Taiwan

[Tu-P132]

A sensitive bioassay method based on biofunctionalized magnetic nanoparticles and ac magneto-optical Faraday effect

Kuen-Lin Chen*, Jian-Ming Chen, Yan-Hsin Lin, Chien-Chung Jeng, and Chiu-Hsien Wu
Nat'l Chung Hsing Univ., Taiwan

[Tu-P133]

Exposition of saccharomyces cerevisiae culture in a magnetic field with different frequencies

Erandeni Xuxumarat Rodriguez Perrez[1]*, Veronica Alejandra Mondragon Jaimes[2], Julio Villagomez Castro[1], Benjamin Hernandez Reyes[1], and Modesto Antonio Sosa Aquino[1]
[1]Universidad de Guanajuato, Mexico, [2]Universidad Autonoma de Nayarit, Mexico

[Tu-P134]

Terahertz biosensor based on layer-by-layer magnetic–plasmonic nanocomposites

Chiu-Hsien Wu*, Zu-Yin Deng, Chien-Chung Jeng, and Kuen-Lin Chen
Nat'l Chung Hsing Univ., Taiwan

[Tu-P135]

Changes of emotional processing in women with primary dysmenorrhea after long-term menstrual pain: an MEG study

Intan Low[1]*, Wei-Chi Li[1], Hsiang-Tai Chao[1,2], Jen-Chuen Hsieh[1,2], and Li-Fen Chen[1,2]*
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[Tu-P136]

Magnetic stimulation of human blood: a study of induced electromotive force

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[Tu-P137]

OMEGA: The open MEG archive

Guiomar Niso[1]*, Christine Rogers[1], Jeremy T. Moreau[1], Li-Yuan Chen[1], Cecile Madjar[1], Samir Das[1], Elizabeth Bock[1], Francois Tadel[1], Alan C. Evans[1], Pierre Jolicoeur[2], and Sylvain Baillet[1]
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[Tu-P138]

AC biosusceptometry to monitor magnetic nanoparticlesin the bloodstream

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[Tu-P139]

Estimating the electrical conductivity values in the low-frequency domain using induced current MR electrical impedance tomography – a feasibility study on phantoms

Nele De Geeter*, Wout Joseph, Roel Van Holen, Guillaume Crevecoeur, and Luc Dupré
Ghent Univ., Belgium

[Tu-P140]

Magnetic nanoparticle imaging by AC Biosusceptometry

Ronaldo Matos[1], Leonardo Pinto[1], André Próspero[1], Caio Quini[1], Guilherme Soares[1], Nicholas Zufelato[2], Andris Bakuzis[2], Oswaldo Baffa[3], Paulo Fonseca[1], and José Miranda[1]
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[Tu-P141]

Altered event-related brain dynamics associated with Posner paradigm in idiopathic REM sleep behavior disorder patients

Jung-Ick Byun[1], Byeong Uk Lee[2], Jun-Sang Sunwoo[3], Jung-Ah Lim[2], and Ki-Young Jung[2]
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[Tu-P142]

Refill-free low-noise MEG system based on reliquefaction

Yong-Ho Lee, Hyukchan Kwon, Kwon-Kyu Yu, Jin-Mok Kim, Sang-Kil Lee, Min-Young Kim, and Kiwoong Kim
KRISS, Korea

[Tu-P143]

LifeSpan MEG: Detecting brain activity from baby to elderly with two helmets in single dewar

Yong-Ho Lee[1], Hyukchan Kwon[1], Jin-Mok Kim[1], Kwon-Kyu Yu[1], Sang-Kil Lee[1], Min-Young Kim[1], Kiwoong Kim[1], Curtis Ponton[2], Manfred Fuchs[3], Michael Wagner[3], and Reyko Tech[3]
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