



BIOMAG 2024 Day One Monday 26 August

Time	Plenary Pyrmont Theatre	Breakout 1 MR C2.2 & C2.3	Breakout 2 MR C2.1	ExhibitionParkside Ballroom
1300-1430				Registration
1430-1500	<b>BIOMAG 2024 Opening Ceremony</b> Professor Amanda Barnier Macquarie University			
1500-1600	<b>Keynote: Representational dynamics of visual object processing</b> Tom Carlson			
1600-1730	<b>Data Analysis Competition Workshop &amp; Prize Announcement</b> Ole Jensen Oscar Ferrante			Poster Display Grand Opening
1730-1830				BIOMAG 2024 Welcome Reception

BIOMAG 2024 : Day Two Tuesday 27 August

Time	Plenary Room - Pyrmont Theatre	Breakout room 2 - MR C2.2 + C2.3	Breakout room 3 - MR C2.1	Exhibition Space
0700 - 0830				Registration
0815-0830	<b>BIOMAG 2024</b> Day Two: Welcome Address			
0830-0930	<b>Keynote Session:</b> Huan Luo McGovern Institute for Brain Research Peking University, Beijing, China			
0945 - 1100	<b>Poster Blitz: Data Analysis and Informatics/Neuromodulation/Cross-modal Recordings</b> ID: 35: Biophysical modeling to inform performance in motor imagery-based Brain-Computer Interfaces - Marie-Constance Corsi ID: 52: In-silico phantoms for magnetoneurography - Yoshiaki Adachi ID: 84: Extrapolation of magnetic field using a reproducing kernel and its application to estimation of the number of equivalent current dipoles - Takaaki Nara ID: 97: Standardized Kalman Filtering for Concurrent Subcortical and Cortical Brain Activity Localization in Time Series - Sampsa Pursiainen ID: 111: Charting Lifespan Variations in MEG Signal using Normative Modeling - Mohammad Zamanzadeh ID:127: Optimizing pre-processing for magnetometer arrays applied in multivariate pattern analysis - Yulia Beszudnova ID:146: Deep learning neural network architectures for low-numerosity time-frequency patterns obtained from MEG - Nadua Antonelli ID: 147: Optimizing the Signal Space Separation (SSS) Method for On-Scalp MEG Systems - Alexandria McPherson ID: 155: Computational Modelling of Transient Beta Bursts and Ageing Trends - Lindsey Power ID: 158: Accurate MEG source reconstruction without MRI enabling naturalistic scanning with optically pumped magnetometers - Natalie Rhodes ID: 160: Brainstorm-DUNEuro: User-friendly Finite Element Method for Modeling Electromagnetic Brain Activity - Takfarinas Medani ID: 171: Synthesizing Brain Signals to Control Motor Brain-Computer Interface Using Generative Neural Network - Hongjune Kim ID: 179: sLORETA and eLORETA are single dipole scans in inner product spaces - Malte Hoelershinken ID: 184: OHBA Software Library: Toolboxes for Studying Electrophysiological Data - Chetan Gohil ID: 200: The effect of spatial sampling on the resolution of the magnetostatic inverse problem - Samu Taulu ID: 212: Study of magnetoencephalography-based brain-computer interface system for lateralized lower limb movements - Xu Wang ID: 144: Mapping Functional Connectivity in the Motor and Somatosensory Areas: FUN-mTMS - Giulia Pieramico ID: 151: Proof-of-Concept: Euphotic - Intermittent Photostimulation in MEG - Veikko Joumäki ID: 181: Comparison of on-scalp and cryogenic MEG to detect frequency-tagged neural responses to audio-visual numbers - Anthony Beuel	<b>Poster Blitz: OPM/Clinical/Epilepsy</b> ID: 85: Magnetoencephalic investigation of neural correlates of capsaicin-induced urge to cough - William Woods ID: 107: Repetitive subconcussion leads to neuronal slowing and dysconnectivity independent of concussion history - Benjamin Dunkley ID: 157: Slowing of Aperiodic Neurophysiological Activity in Concussed Adolescent Football Players - Kevin Yu ID: 169: Establishing the stability of potential prognostic MEG biomarkers for mTBI: mTBI-predict consortium - Daniel Cerrin Ford ID:99: Classification of magnetoencephalographic Independent Components in epilepsy by Machine Learning - Aurore Semoux - Bernier ID: 118: Neuromagnetic evidence of the leg somatosensory area located in the "frontal" lobe - Makoto Ishida ID:148: Deep spike dipoles in mesial temporal lobe epilepsy measured by axial-type MEG gradiometers - Haruko Omura ID: 45: OPM-MEG for high spatial resolution functional brain imaging - Joseph Gibson ID: 50: A Compact Triaxial SERF Magnetometer with High Sensitivity and 1.1 kHz Bandwidth for Magnetoencephalography - Fufu Zheng ID: 67: Measurement of brain activity during naturalistic tasks - Joeshp Gibson ID:68:Evaluation of low-field Magnetic Resonance Spectroscopy with Optically Pumped Magnetometer - Ryo Enari ID:100: Application of spin-lock method to scalar-mode Optically Pumped Magnetometers - Taiga Fukushima ID:154: A compact OPM-MEG system - Mikael Gron ID: 180: Sensor-level evoked responses with portable, ambulatory OP-MEG - Stephanie Mellor ID: 194: Measurement of Neural Oscillations in Multiple Sclerosis Patients in Seated and Standing Conditions - Benjamin Sanders ID: 221:Conventional and on-scalp measurements of MEG signals from the human cerebellum during self-paced horizontal saccades - Santeri Ruuskanen ID: 227: Unraveling the Multicomponent Nature of Auditory Onset Response- A Magnetoencephalography Study - Tianyu Wang ID: 237:Detecting event-related responses in brain noise: OPM vs. SQUID sensors - Seppo Ahlfors	<b>Poster Blitz: Cognition/Developmental/Language/Epilepsy</b> ID:34: Multimodal comparison of cognitive control evoked responses -Lucrezia Luzzi ID:49: Neurophysiological correlates of precision-weighted prediction error in motor learning: using decoding approach on MEG data - Marina Ivanova ID: 128: Characterizing the roles of different alpha networks in perception - Joey Zhou ID: 211: Finger Movement Decoding Based on Magnetoencephalogram - Yu Zheng ID: 229: Top-down modulation of category-specific neural activity - Bo-Cheng Kuo ID: 240: Zero-field active shielding - Alain de Cheveigne ID:29:Individual variability in hemispheric lateralization to speech in infants as measured by late-field magnetoencephalography responses - Bonnie Lau ID:31:Active shielding coil array performance achieving nano-Tesla level environment - Roch Andrzejewski ID:43:Towards non-invasive direct detection of cardiac biomagnetism via Spin-Lock based Magnetic Resonance Imaging - Maximilian Gram ID:72 Neural responses to syllable-induced P1m and social impairment in children with autism spectrum disorder and typically developing Peers - Masuhiko Sano ID: 74: Using OPMs for pre-surgical planning in paediatric epilepsy - Tim Tierney ID:121: Development of Magnetic Shieldless MEG-MRI Multimodal System with Scalar-mode Optically Pumped Magnetometers - Takahiro Moriya ID: 152: Towards non-invasive, single-trial detection of cortical population spike bursts using ultra-sensitive multichannel Electro- and Magnetoencephalography - Jim Barnes ID: 235: Exploring the relationship between neural oscillations and the presence and severity of depression and anxiety in temporal lobe epilepsy - Natascha Cardoso da Fonseca ID: 96: Word-selective responses in combined EEG/MEG recordings with Fast Periodic Visual Stimulation (FPVS) - Olaf Hauk ID: 120: Source-level brain connectivity analysis in an MEG study of audio-visual integration - Harald Bornfleth ID: 142: Enhance the utilization of magnetoencephalography (MEG) in functional brain mapping by employing multi-frequency encoding - Jing Xiang	

BIOMAG 2024 : Day Two Tuesday 27 August

Time	Plenary Room - Pyrmont Theatre	Breakout room 2 - MR C2.2 + C2.3	Breakout room 3 - MR C2.1	Exhibition Space
1100- 1130				Morning Tea / Poster Viewing
1130 - 1300	<p><b>Symposium: Toward Precision Medicine in Neuropsychiatric Disorders: Charting Brain Dynamics on Large MEG data</b> Clinical 1 - ID 11 Chairs: Seyed Mostafa Kia, Lauri Parkkonen 1 - Satu Palva 2 - Allison Nugent 3 - Elizabeth Heinrichs-Graham 4 - Mia Liljeström</p>	<p><b>Symposium: On-scalp OPM-MEG in epilepsy</b> ID 21 Chair: Xavier De Tiège 1 - Odile Feys 2 - Stephanie Mellor 3 - Jean-Michel Badier 4 - Svenja Knappe</p>	<p><b>Symposium: Time-resolved decoding of visual perception</b> ID 17 Chairs: Lina Teichmann &amp; Tijl Grootswagers 1 - Cassia Low Manting 2 - Sander van Bree 3 - Lina Teichmann 4 - Tijl Grootswagers</p>	
1300 - 1400		Lunch and Learn Session		Lunch / Poster Viewing
1400- 1530	<p><b>Symposium: Simultaneous MEG and depth electrodes: applications in clinics, cognition and brain stimulation</b> Clinical 2 - ID 18 Chairs: Christian Bénar, Xavier De Tiège, Christophe Grova 1 - Christian Bénar 2 - Odile Feys 3 - Jawata Afnan 4 - Rachel K. Spooner</p>	<p><b>Symposium: Breaking boundaries: Imaging the brain and body using OPM-MEG</b> ID Chairs: Matt Brookes, Ryan Hill 1 - Meaghan Spedden 2 - Pierre Corvilain 3 - Natalie Rhodes 4 - Holly Schofield</p>	<p><b>Symposium: Studying the listening brain using MEG</b> Cognition 2 - ID 15 Chair: Adrian KC Lee 1 - Lauri Parkkonen 2 - Alexander Gutschalk 3 - Bonnie Lau 4 - Xindong Zhang</p>	
1530 - 1600				Afternoon Tea / Poster Viewing
1600 - 1730	<p><b>Symposium New methodology to improve MEG and EEG source analysis</b> Epilepsy 1- ID 132 Chair: Carsten Wolters 1 - Takfarinas Medani 2 - Malte Höltershinken 3 - Johannes Vorwerk 4 - Joonas Lahtinen 5 - Maria Carla Piastra</p>	<p><b>Symposium An optimal use of OPM-MEG - developmental studies from infants to adults</b> Development 1 - ID 27 Chairs: Margot J Taylor &amp; Xavier De Tiège 1 - Pierre Corvilain 2 - Marlee Vandewouw 3 - Natalie Rhodes 4 - Elizabeth C. Heinrichs-Graham</p>	<p><b>Symposium Tools for reproducible neuroimaging analysis</b> Data Analysis / Informatics 1 - ID 30 Chair: David White 1 - Oscar Ferrante 2 - Mats W.J. van Es 3 - David White 4 - Allison Nugent</p>	
1730 - 1830			<p><b>ECR Award Finalists Presentations</b> 1 - Ivan Zubarev 2 - Natalie Rhodes 3 - Cassia Low Manting 4 - Rachel Spooner 5 - Tara Ghafari</p>	
1830	Close of Day Two			

**BIOMAG 2024: Day Three Wednesday 28 August**

Time	Plenary Room - Pyrmont Theatre	Breakout room 2 - MR C2.2 + C2.3	Breakout room 3 - MR C2.1	Exhibition Space
0830-0845	<b>BIOMAG 2024</b> Day Three: Welcome Address			
0845-0945	<b>Keynote Presentation</b> Alexandre Gramfort <b>Senior research scientist - Meta Reality Labs in Paris</b>			
0945-1130	<b>Symposium ISACM Epilepsy</b> Epilepsy 2 - ID 24 Chairs: Stefan Rampp, Hiroshi Otsubo 1 - Simon Vogrin 2 - Masayuki Hirata 3 - Hiroshi Otsubo 4 - Stefan Rampp 5 - Rachael Sumner	<b>Symposium: Localization accuracy of OPM MEG</b> OPM Sensors 3 - ID23 Chair: Svenja Knappe 1 - Teresa Cheung 2 - Allison Nugent 3 - Jan-Mathijs Schoffelen 4 - Nan An 5 - William Gaetz	<b>Symposium: Alternative functional connectivity estimators and their real-life application</b> Data Analysis / Informatics 2 - ID 20 Chairs: Marie-Constance Corsi & Pierpaolo Sorrentino 1 - Michael Breakspear 2 - Pierpaolo Sorrentino 3 - Parul Verma 4 - Marie-Constance Corsi 5 - Laura Marzetti	
1130-1200				<b>Morning Tea / Poster Viewing</b>
1200-1330	<b>Symposium: Investigating concussive and subconcussive neurotrauma, persistent symptoms, and traumatic encephalopathy with MEG</b> Clinical 3 - ID 22 Chair: Benjamin Dunkley 1 - Lauri Parkkonen 2 - Hanna Renvall 3 - Natalie Bell 4 - Lukas Rier	<b>Symposium: Advances in Optically Pumped Magnetometer Technology for Magnetoencephalography</b> OPM Sensors 4 - ID 28 Chair: Peter Schwindt 1 - Tom Kornack 2 - Sergey Mitryukovskiy 3 - Vishal Shah 4 - Svenja Knappe	<b>Symposium Natural Language and EEG/MEG</b> Language - ID 12 Chair: Olaf Hauk 1 - Yali Pan 2 - Bingjiang Lyu 3 - Jixing Li 4 - Judy Zhu	
1330-1430				<b>Lunch / Poster Viewing</b>
1430-1530	<b>Free Oral Presentations: Clinical and Epilepsy</b> 1. Essential tremor is associated with synchronized oscillations within the cerebello-thalamo-cortical circuit - Alexandra Steina 2. Impact of parietal brain lesions on attentional prioritisation of visual information - Nadene Dermody 3. Investigating declarative memory-related functional connectivity processes in self-limited focal epilepsy - Coralie Rouge 4. Biophysical Modelling of Cortical-Hippocampal Interactions - Richa Phogat	<b>Free Oral Presentations: Developmental</b> 1. Magnetic Resonance Imaging of multi-frequency magnetic field oscillations in the human brain using Rotary Excitation - Petra Albertova 2. Magnetic Resonance Fingerprinting enables spatially resolved characterization of pulsed magnetic fields in the nano-Tesla range - Petra Albertova 3. CutFEM-based MEG forward modeling improves source separability and sensitivity to semi-radial sources: a somatosensory group study - Tim Erdbrugger 4. Resting-state functional connectivity changes in healthy aging - Santeri Ruuskanen	<b>Student Award Finalists</b> 1 - Assessing the treatment efficacy in chronic pain patients through spatiotemporal fractal analysis of the resting-state MEG data: A feasibility study - Lena Kellermann 2 - Using simultaneous EEG and OPM-MEG to explore altered brain responses in schizophrenia patients - Paul Anders 3 - Validating MEG estimated resting state connectome with intracranial EEG - Jawata Afnan 4 - Tracking compositional semantic processing using MEG and EEG - Ryan M.C. Law 5 - Opioid Use in fibromyalgia (OPAL) Study: Elucidating Brain Reward System Changes in Chronic Pain and Long-term Opioid Use - Emily Bell	
1530-1600				<b>Afternoon Tea / Poster Viewing</b>
1600-1800	<b>Free Oral Presentations: OPM Sensors</b> 1 - Estimating Directed Connectivity with OPM-MEG: A Feasibility Study - Mangor Pederen 2 - Neural signals for spatial navigation from wearable magnetoencephalography - Katarzyna Rudzka 3 - Transportable magnetic control environment for imaging infants using Optically Pumped Magnetometers - Alister Davis 4 - Biplanar coil cancellation system for OPM-MEG using PCB - Mainak Jas 5 - The 'HALO': A helmet-mounted OPM-MEG calibration system - Ashley Tyler 6 - The dynamic field compensation with analog PID controller for rapidly drifting magnetic environments - Wei Zhao 7 - Towards precise mapping of digit representations in the human somatosensory cortex with high resolution magnetoencephalography - Amaia Benitez Andonegui 8 - A general optimization procedure for MEG sensor orientations - Iman Fahmy	<b>Free Oral Presentations: Data analysis / informatics</b> 1 LaMEG: A toolbox for laminar MEG simulations and analyses - James Bonaiuto 2 MEG Data Analysis for Cross-Modality Neural Decoding - Yakir Menahem 3 Three-dimensional velocity fields of pathological and physiological neural dynamics reveal singularities and propagation pathways. - Miao Cao 4 Modelling variability in dynamic functional brain networks using embeddings - Chetan Gohil 5 A Bayesian Framework for Mapping Functional Networks from MEG/EEG Data - Darua Kleeva 6 The dissociative role of bursting and non-bursting neural activity in the oscillatory nature of functional brain networks - Alix Cordier 7 Computational Methods for Assessing Cerebellar Electrophysiology with Magneto- and Electroencephalography - John Samuelsson 8 Automated Coregistration of MEG Using Cortical Constraints - Stephen Robinson	<b>Free Oral Presentations: Cognition</b> 1 - How emotional vocalization perception unfolds over time - Lingxi Lu 2 - Cyclical dynamics of functional brain networks during task - Mats Van Es 3 - Retrosplenial cortex, hippocampus and insula represent the main sources in a limbic P3 network - Alexander Gutschalk 4 - Probing Spatiotemporal Neural Dynamics of Working Memory Reactivation - Jiaqi Li 5 - Non-feature-specific elevated response and feature-specific replay in human brain induced by visual sequence exposure - Tao He 6 - Connectivity in the visuo-motor network during Smooth Pursuit - Yvonne Buschermoele 7 - Unsupervised machine learning of resting neurophysiology profiles in neurotypical individuals from Cam-CAN reveals distinct subtypes that exhibit pronounced differences in lifestyle factors and intellectual functioning - Benjamin Dunkley 8 - Neural sequence generation via recursive computation - Lang Qin	
1800	<b>Close of Conference Day Three</b>			
1900 - 2200	<b>Gala Function - Pump House, Sydney</b>			

BIOMAG 2024: Day Four Thursday 29 August

Time	Plenary Room - Pyrmont Theatre	Breakout room 2 - MR C2.2 + C2.3	Breakout room 3 - MR C2.1	Exhibition Space
0830 - 1030	<b>Symposium Contribution of MEG-EEG to the Advancement in Treating Focal Medication Resistant Epilepsy</b> Epilepsy 3 - ID 131 Chair: Carsten Wolters 1 - Carsten Wolters 3 - Nobukazu Nakasato 4 - Anto Bagic 5 - Chris Plummer 6 - Natascha Cardoso da Fonseca	<b>Symposium ISACM@BIOMAG, Symposium 1/3: Established and Emerging Approaches to Clinical Language Mapping in MEG</b> Clinical 4 - ID 26 Chairs: Darren Kadis & Paul Ferrari 1 - Stefan Ramppp 2 - Paul Ferrari 3 - Srikantan Nagarajan 4 - Darren Kadis 5 - Kristen Li	<b>Human Neocortical Neurosolver Workshop</b> 1 - Dylan Daniels 2 - Mainak Jas	
1030 - 1100				Morning Tea / Poster Viewing
1100 - 1200	<b>Keynote Presentation</b> Aina Puce			
1200-1300	<b>Free Oral Presentations: Clinical</b> 1: Frequency-Specific Neural Synchrony Disruptions in Frontal Lobe Glioma: Novel Insights from a Large-Scale Single-Center Magnetoencephalography (MEG) Study - Apsit Kaewsanit 2: Magnetoencephalography correlates of threat and safety learning in chronic pain patients Raghavan Gopalakrishnan 3: MEG spectral differences from healthy aging in Amyloid-positive Alzheimer's patients - Mats Van Es 4: Cortical reorganization after amputation cannot explain corticomuscular coherence during phantom movements: an EMG/EEG/MEG study. - Jozina De Graaf	<b>Free Oral Presentations: Cognition and Language</b> 1: Neural tracking of bottom-up and top-down processes in speech comprehension - Jixing Li 2: Using MEG and Eye-Tracking to Examine the Eye-Mind Link During Reading - Erik Reichle 3: Seeing Speech in a New Light: Augmenting Speech Performance using Rapid Invisible Frequency Tagging (RIFT) and MEG - Charlie Reynolds 4: Brain activity during verbal communication and modulation by mood - Kosuke Sato	<b>Free Oral Presentations Data Analysis and Informatics</b> 1: Novel Spatial-Temporal Factorized Dynamical Model of Rhythmic Activity Registered with MEG - Anna Kubyak 2: Extended MEG source estimation based on multipole modeling of magnetic fields and current sources - Motofumi Fushimi 3: Estimating Target Orientations: A Comparison of Beamformer Algorithms and their Performances in Estimating Orientations of Neural Sources -Yvonne Buschermoehle 4: Optically pumped vector magnetometer with freely definable sensitive axis for use in Earth's magnetic field - Thomas Schoenau	
1300 - 1400	BIOMAG Town hall			Lunch / Poster Viewing
1400 - 1530	<b>Symposium: ISACM Emerging Clinical Indications</b> Clinical 5 - ID 25 Chair: William Gaetz, Hanna Renvall 1 - Tetsu Hiroasawa 2 - Hanna Renvall 3 - Mingxiong Huang 4 - Mia Liljeström 5 - Xavier De Tiège	<b>Symposium: Measuring functional and effective connectivity with magnetoencephalography (MEG).</b> Data Analysis / Informatics 3 - ID 16 Chairs: Erin Goddard, Marta Garrido 1 - Erin Goddard 2 - Mark Woolrich 3 - Olaf Hauk 4 - Lukas Rier	IAB meeting	
1530 - 1600				Afternoon Tea / Poster Viewing
1600 -1700	<b>Free Oral Presentations : Epilepsy</b> 1 On-scalp Magnetoencephalography Based on Optically Pumped Magnetometers to Investigate Temporal Lobe Epilepsy - Odile Feys 2 Unveiling the Aperiodic EEG Signal Component: A Potential Biomarker for Epileptic Abnormalities Post-Stroke - Sara Zago 3 An artificial intelligence-based pipeline for automated detection and localisation of epileptic sources from magnetoencephalography - Li Zheng 4 A machine learning approach for fully automated spatiotemporal detection of focal interictal epileptiform discharges in magnetoencephalography - Raquel Fernandez	<b>Free Oral Presentations Oral Presentations: Cognition and Developmental</b> 1 Measuring the beginnings of human brain function in the womb with fetal OPM-MEG - Sarang Dalal 2 Dynamics of theta-band functional brain connectivity processes underlying declarative memory in school-aged children - Solène Gander 3 Relating attention deficits to the neural basis of attention during working memory tasks - Ashley Goneso 4 Examining the role of alpha oscillations during performance of the attention networks test in 4-7 year old children - Julia Stephen	<b>Oral Presentations: Neuromodulation,Cross-modal recordings and MCG</b> 1 Development of Transcranial Magnetic Stimulator Coils with the Deepest Electric Field into the Brain and Comparative Study of the Electric Fields - Anna Lino 2 Brain-Fingerprint Correlates of the EEG response to Transcranial Magnetic Stimulation - Domenico Voso 3 A pioneering comparative meta-analysis: magnetocardiography outperforms electrocardiography for screening coronary heart disease - Biying Zhao 4 Multimodal Brain Recordings Suggest Neurovascular Disruption in Clinically Asymptomatic American Football Players - Natalie Bell	
1700 -1730	Award Presentations			
1730	Close of Conference Day Four			