

1 Personal information

Email: matthias.ertl@unilu.ch
URL: https://www.researchgate.net/profile/Matthias_Ertl/
ORCID: 0000-0002-6823-1935
Researcher ID: E-2861-2013

2 Publications

2.1 ARTICLES IN REFEREED JOURNALS

- 2024 Klein A., Aeschlimann, S., Zubler F., Scutelnic, A., Riederer F., **Ertl M.**, Schankin S. Alterations of the alpha rhythm in visual snow syndrome: a potential target for specific treatment. *The Journal of Headache and Pain*
[PDF](#) [preprint](#)
- 2023 Subramaniam A., Eberhard-Moscicka A.K., **Ertl M.**, and Mast F.W. Rocking Devices and the Role of Vestibular Stimulation on Sleep and Cognitive Performance - A Systematic Review. *Clinical and Translational Neuroscience*
[PDF](#)
- 2023 Martarelli C., Chiquet S., **Ertl M.** Keeping track of reality: Embedding visual memory in natural behavior. *Memory*
[PDF](#) [preprint](#)
- 2023 **Ertl M.**, zu Eulenburg P., Woller M., Mayadali Ü., Boegle R., Dieterich M. Vestibular mapping of the naturalistic head-centered motion spectrum. *Journal of Vestibular Research*
[URL](#) [preprint](#)
- 2023 Wyssen G., Morrison M., Korda A., Wimmer W., Otero-Millan J. **Ertl M.**, Szukics A.A., Wyss T., Wagner F., Caversaccio M., Mantokoudis G., Mast F.W. Measuring the Influence of Magnetic Vestibular Stimulation on Reflexive Eye Movements, Self-Motion Perception, and Cognitive Performance in a 7T MRT. *JoVE*
[PDF](#)
- 2023 Fitze D., Mast F.W., **Ertl M.** Vestibular perceptual thresholds - A systematic literature review. *Gait & Posture*
[PDF](#)
- 2022 Ruehl M., Ophhey., Raiser T., Seiderer K., Flanagan V.L., **Ertl M.**, Conrad J., zu Eulenburg P. The human egomotion network. *NeuroImage*
[PDF](#)
- 2022 **Ertl M.**, Wyssen G., Fitze D.C., Mast F.W. Estimating Vestibular Perceptual Thresholds using a Six-Degree-of-Freedom Motion Platform. *JoVE*
[PDF](#)
- 2022 Conrad J., Habs M., Ruehl M., Boegle R., **Ertl M.**, Kirsch V., Eren O., Becker-Bense S., Stephan T., Wollenweber F., Duering M., Dieterich M., zu Eulenburg P. Reorganization of sensory networks after subcortical vestibular infarcts – A longitudinal symptom-related VBM study. *European Journal of Neurology*.
[PDF](#)
- 2022 Conrad J., Habs M., Ruehl M., Boegle R., **Ertl M.**, Kirsch V., Eren O., Becker-Bense S., Stephan T., Wollenweber F., Duering M., zu Eulenburg P., Dieterich M. White matter volume loss drives cortical reshaping after thalamic infarcts. *NeuroImage: Clinical*.
[URL](#)
- 2022 **Ertl M.**, Prelz C., Fitze D., Wyssen G., Mast F.W., PlatformCommander - An open

source software for an easy integration of motion platforms in research laboratories. SoftwareX.

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- 2021 Ruehl M., Kimmel R., **Ertl M.**, Conrad J., zu Eulenburg P. In vivo localization of the human velocity storage mechanism and its core cerebellar networks by means of galvanic-vestibular afternystagmus and fMRI. *The Cerebellum*.

[PDF](#)

- 2021 Ruehl M., Ophey L., **Ertl M.**, zu Eulenburg P. The cingulate oculomotor cortex. *Cortex*.

[PDF](#)

- 2021 Conrad J., Habs M., Ruehl M., Boegle R., **Ertl M.**, Kirsch V., Eren O., Becker-Bense S., Stephan T., Wollenweber F., Duering M., Dieterich M., zu Eulenburg P. Structural reorganization of the cerebral cortex after vestibulo-cerebellar stroke. *NeuroImage Clinical*.

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- 2021 **Ertl M.**, zu Eulenburg P., Woller M., Dieterich M., The role of delta and theta oscillations during ego-motion in healthy adult volunteers. *Experimental Brain Research*.

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- 2020 Conrad J., Habs M., Boegle R., **Ertl M.**, Kirsch V., Stefanova-Brostek I., Eren O., Becker-Bense S., Stephan T., Wollenweber F., Duering M., zu Eulenburg P., Dieterich M., Global multisensory reorganization after vestibular brain stem stroke. *Ann. Clin. Transl. Neurol.* 2020 Aug 28.

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- 2020 **Ertl M.**, Klaus M., Mast F.W., Brandt T., Dieterich M. EEG Spectral fingerprints of correct stimulus classification in a vestibular intensity discrimination task. *NeuroImage* 2020 Oct 1.

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- 2020 Conrad J.*, **Ertl M.***, Oltmanns M.H., zu Eulenburg P. Prediction contribution of the cranial collateral circulation to the clinical and radiological outcome of ischemic stroke. *J Neurol.* 2020 Mar 23

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- 2020 **Ertl M.**, Schulte M., Dieterich M. EEG microstate architecture does not change during passive whole-body accelerations. *J Neurol.* 2020 Mar 23

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- 2019 **Ertl M.**, Klaus M., Dieterich M., Brandt T., Mast F. Distorted mental spatial representation of multi-level buildings – Humans are biased towards equilateral shapes of height and width. *Scientific Reports* 2019 9:15046

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- 2019 **Ertl M.** and Boegle R., Investigating the vestibular system using modern imaging techniques – A review on the available stimulation and imaging methods. *The Journal of Neuroscience Methods* 2019 Jul 25; 326:108363

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- 2018 Oh S.-Y., Boegle R., **Ertl M.**, Stephan T., Dieterich M., Multisensory vestibular, vestibular-auditory, and auditory network effects revealed by parametric sound pressure stimulation. *Neuroimage* 2018 Aug 2;176-363

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- 2018 **Ertl M.**, Klimek M., Boegle R., Stephan T., Dieterich M., Vestibular perception thresholds tested by galvanic vestibular stimulation. *Journal of Neurology*, 2018 Oct;256(Suppl 1):55-56

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- 2018 Conrad J., Boegle R., **Ertl M.**, Habs M., Brandt T., Dieterich M., Recovery from spatial hemineglect documented by intra- and transhemispheric functional connectivity changes in vestibular and visual cortex areas. *Frontiers in Neurology* 2018 Mar 2;9:112

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- 2018 Oh S.-Y., Shin H.-J., Boegle R., **Ertl M.**, zu Eulenburg P., Kim J.-S., Dieterich M., Simultaneous recording of cervical and ocular vestibular-evoked myogenic potential. *Neurology*

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- 2017 **Ertl M.**, Moser M., Boegle R., Conrad J., zu Eulenburg P., Dieterich M. The cortical spatiotemporal correlate of otolith stimulation: Vestibular evoked potentials by body translations. *NeuroImage* 2017 Jul 15;155:50-59

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- 2017 Boegle R., Stephan T., **Ertl M.**, Glasauer S., Dieterich M., Magnetic vestibular stimulation influences resting-state fluctuations and induces visual-vestibular biases. *J Neurol.* 2017 Feb 5;127:409-421

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- 2017 Oh S.-Y., Boegle R., zu Eulenburg P., **Ertl M.**, Kim J.-S., Dieterich M. Longitudinal multi-modal neuroimaging in opsoclonus-myoclonus syndrome. *J Neurol.* 2017 Mar;264(3):512-519

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- 2017 Oh S.-Y., Boegle R., **Ertl M.**, zu Eulenburg P., Stephan T., Dieterich M., Auditory induced vestibular (otolithic) processing revealed by an independent component analysis: an fMRI parametric analysis. *J. Neurol* 2017 Oct;264(Suppl1)

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- 2016 Boegle R., Stephan T., **Ertl M.**, Glasauer S., Dieterich M. Magnetic vestibular stimulation modulates default mode network fluctuations. *NeuroImage*, 2016 Feb. 15; 127:409-21

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- 2016 Bremova T., Caushaj A., **Ertl M.**, Boettcher N., Strupp M., MacNeilage P. R. Comparison of linear motion perception thresholds in vestibular migraine and Menière's disease. *European Archives of Oto-Rhino-Laryngology* 2016 Jan. 4.

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- 2015 Meyer B., Yuen K., **Ertl M.**, Polomac N., Mulert C., Büchel C., Kalisch R. Neural mechanisms of placebo anxiolysis. *Journal for Neuroscience* 2015 Mai 13; 35(19):7365-73

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- 2015 **Ertl M.**, Boegle R., Kirsch V., Dieterich M. On the impact of examiners on latencies and amplitudes in cervical and ocular vestibular evoked myogenic potentials evaluated over a large sample (N = 1038). *European Archives of Oto-Rhino-Laryngology* 2015 Jan 28

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- 2015 **Ertl M.**, Kirsch V., Gerb J., Boegle R., Krafczyk S., Dieterich M. Appraisal of the signal-to-noise-ratio of uni- and bipolar recordings of ocular vestibular evoked myogenic potentials. *Journal of vestibular research* 2015;25(1):9-14

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- 2014 Steinmann S., Leicht G., **Ertl M.**, Andreou C., Polomac N., Westerhausen R., Friederici A.D., Mulert C. Conscious auditory perception related to long-range synchrony of gamma oscillations. *NeuroImage* 2014 Oct 100;

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- 2014 Karch S., Voelker J.M., Thalmaier T., **Ertl M.**, Leicht G., Pogarell O., Mulert C. Deficits during Voluntary Selection in Adult Patients with ADHD: New Insights from Single-Trial Coupling of Simultaneous EEG/fMRI. *Frontiers in Psychiatry* 2014 Apr 22; 5:41

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- 2013 Leicht G., Troschütz S., Andreou C., Karamatskos E., **Ertl M.**, Naber D., Mulert C. Relationship between oscillatory neuronal activity during reward processing and trait impulsivity and sensation seeking. *PLoS One* 2013 Dec 20; 8(12):e83414

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- 2013 **Ertl M.***, Hildebrandt M.*, Leicht G., Ourina K., Mulert, C. Emotion regulation by cognitive reappraisal - The role of low frequency oscillations. *NeuroImage*, 2013 Nov; p. 412-21

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- 2013 Leicht G., Mulert C, Eser D., Sämann P.G., **Ertl M.**, Laenger A., Karch S., Pogarell O., Meindl T., Czisch M., Rupprecht R. Benzodiazepines Counteract Rostral Anterior cingulate Cortex Activation Induced by Cholecystokinin-Tetrapeptide in Humans. *Biological Psychiatry* 2013 Feb; 73(4): p. 337-44

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- 2012 Jaspers-Fayer F., **Ertl M.**, Leicht G., Leupelt A., Mulert C. Single-trial EEG-fMRI coupling of the emotional auditory early posterior negativity. *NeuroImage* 2012 Sep; 62(3): p. 1807-14

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- 2012 Juckel G., Karch S., Kawohl W., Kirsch V., Jäger L., Leicht G., Lutz J., Stammel A., Pogarell O., **Ertl M.**, Reiser M., Hegerl U., Möller H.J., Mulert C. Age effects on the P300 potential and the corresponding fMRI BOLD-signal. *NeuroImage* 2012 Mai; 60(4): p. 2027-34

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- 2010 Karch S., Feuerecker R., Leicht G., Meindl T., Hantschk I., Kirsch V., **Ertl M.**, Lutz J., Pogarell O., Mulert C. Separating distinct aspects of the voluntary selection between response alternatives: N2- and P3-related BOLD responses. *NeuroImage* 2010. 51(1): p. 256-64

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- 2010 **Ertl M.***, Kirsch V.*, Leicht G., Karch S., Olbrich S., Reiser M., Hegerl U., Pogarell O., Mulert C. Avoiding the ballistocardiogram (BCG) artifact of EEG data acquired simultaneously with fMRI by pulse-triggered presentation of stimuli. *Journal of Neuroscience Methods*, 2010. 186(2): p. 231-41

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- 2008 Mulert C., Seifert C., Leicht G., Kirsch V., **Ertl M.**, Karch S., Moosmann M., Lutz J., Möller HJ., Hegerl U., Pogarell O., Jäger L. Single-trial coupling of EEG and fMRI reveals the involvement of early cingulate cortex activation in effortful decision making. *NeuroImage* 2008. 42(1): p. 158-68

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3 Conference Posters, Symposia & Invited Talks

- 2024 Steuri R.A., Borer R., Stucki J., Brémovà-Ertl T., Mast F.W., **Ertl M.** Vestibular evoked potentials in patients with persistent postural-perceptual dizziness - preliminary results. Abstract submitted to the Meeting of the Bàràny Society, 2024

2024

- Fitze D.C., **Ertl M.**, Mast F.W., Vestibular perceptual training enhances vestibular perception, posture, and gait in older adults. Abstract submitted to the Meeting of the Bârány Society, 2024
- 2024 Steuri R.A., Borer R., Brémovà-Ertl T, Mast F.W., Ertl. M., Towards understanding the temporal dynamics of vestibular processing in PPPD patients: Preliminary findings. Poster @ Researcher's Night Bern
- 2024 Conrad J., Boegle R., **Ertl M.**, Kirsch V., Modern approaches for Imaging-based research of the vestibular system. Symposium @ DGKN 2024
- 2023 Subramaniam A., Eberhard-Moscicka AK., **Ertl M.** Mast FW. Rocking and Rolling the Brain to Sleep - Vestibular Stimulation and its impact on Sleep. Poster @ Tag der Forschung 2023
- 2023 Schankin C., **Ertl M.**, Klein A., Visual Snow Syndrome. Symposium @ CNB 2023
- 2023 Berther C., Wyssen, G., Müller P., **Ertl M.** Vestibular Stimulation does not modify the body schema. Poster @ CNB 2023
- 2023 Aeschlimann S.A., Klein A., Schankin C., **Ertl M.** The First Microstate Analysis of Resting-State EEG in Visual Snow Syndrome. Poster @ CNB 2023
- 2023 Szukics Ortiz A.A., Klein A., Schankin C. **Ertl M.** Modulating cortical responsiveness by tACS in visual snow syndrome - a case report. Poster @ CNB 2023
- 2023 Subramaniam A., Eberhard-Moscicka AK., **Ertl M.** Mast FW. Rocking and Rolling the Brain to Sleep - Vestibular Stimulation and its impact on Sleep. Poster @ CNB 2023
- 2023 Invited talk (23.08.2023) "Neurology meets Psychology" at the Kantonsspital Luzern.
- 2023 Ulrich O., Banz O., Klein A., Schankin C., **Ertl M.** Developing a novel object recognition task for separating healthy participants from patients with visual snow syndrome. Poster @ ECNP
- 2023 **Ertl M.**, Fitze F., Mast F. Fall prevention through vestibular perceptual learning. Poster @ ECNP
- 2023 McAssey M., Schulte M., Dieterich M.*, **Ertl M.*** Visual-vestibular interaction. Poster @ Researcher's Night Bern
- 2023 Klein A., Scutelnic A., de Beukelaer S., Zubler F., **Ertl M.**, Schankin C. Alterations of the EEG alpha-rhythm as potential biomarker of visual snow syndrome. Abstract submitted to EAN
- 2023 Invited talk (19.01.2023) "Motor Imagery facilitates Spatial Memory" at the Johns Hopkins University, Baltimore.

- 2023 Invited talk (25.01.2023) on "Spatial Memory and Cortical Vestibular Processing" at the Massachusetts Eye and Ear, Harvard Medical School.
- 2022 **Ertl M.** Motor imagery facilitates spatial memory. Abstract selected for short talk @ 17th CNB Annual Meeting 2022
- 2022 Wyssen G., Mast F.W., **Ertl M.** Motor imagery facilitates spatial memory. Poster @ 17th CNB Annual Meeting, 2022
- 2022 Schankin C., Banz O., Ulrich O., Klein A., **Ertl M.** A masked object recognition task as an objective marker for the Visual Snow Syndrome. Poster @ Swiss Federation of Clinical Neuro-Societies ([URL](#))
- 2022 Rihs M., Dall'Olio L., Steuri R., Martarelli C.S., **Ertl M.** Co-Chair and speaker for the Symposium 3.06: Virtual Reality, the Swiss Army Knife for Psychological Research? 17th Conference of the Swiss Psychological Society in Zurich.
- 2022 Schankin C., Klein A., Ulrich O., Banz O., **Ertl M.** Impaired object recognition in visual noise-a potential marker for Visual Snow Syndrome. Poster @ MTIS2022
- 2022 **Ertl M.**, Prelz C., Fitze D.C., Wyssen G., Mast F.W., PlatformCommander - An open source software for an easy integration of motion platforms in research laboratories. Poster @ ZüMüTü 2022 ([URL](#)).
- 2022 Wyssen G., Mast F.W., **Ertl M.** Vestibular information is insufficient for reliably encoding head positions. Poster @ XXXI Bärány Society Meeting
- 2020 Horvath C. M., Brill A.-K., **Ertl M.**, Ott S. R., Impact of a 3% oxygen desaturation threshold compared to 4% on hypopnoea scoring and classification of sleep apnea in a bariatric population. Poster at ERS 2020
- 2019 **Ertl M.**, Klaus M., Dieterich M., Brandt T., Mast F. Distorted mental spatial representation of multi-level buildings – Humans are biased towards equilateral shapes. Poster at the Symposium Vestibular Consciousness & Cognition 2019
- 2019 **Ertl M.**, Klaus M., Dieterich M., Brandt T., Mast F. Distorted mental spatial representation of multi-level buildings – Humans are biased towards equilateral shapes. Talk at SPS 2019
- 2019 **Ertl M.**, Klaus M., Brandt T., Mast F.W., Dieterich M., EEG Theta band phase clustering corresponds to vestibular discrimination of body accelerations. Poster HBM 2019
- 2019 Raiser T., Ruehl R. M., Ophey L., **Ertl M.**, Flanagan V., zu Eulenburg P. Human Area MST – a cortical visual motion, ocular motor, or vestibular module? Poster HBM 2019
- 2019 Ruehl R.M., Ophey L., **Ertl M.**, zu Eulenburg P., Ocular motor characteristics of the human cingulate eye field and the cingulate sulcus visual area. Abstract submitted to DGKN 2019
- 2017 **Ertl M.**, Woller M., Mayadali Ü., Boegle R., zu Eulenburg P., Dieterich M., Direction-independent cortical event-related responses to naturalistic vestibular stimulation. Abstract at HBM 2017
- 2015 **Ertl M.**, Moser M., Boegle R., Conrad J., Dieterich M., On the impact of acceleration intensity on vestibular evoked potentials (VestEPs) elicited by passive body movements. Abstract at the Conference Joint Meeting of ECNS, ISNIP and ISBET 2015
- 2015 **Ertl M.**, Moser M., Boegle R., Conrad J., Dieterich M., On the impact of stimulus intensity on vestibular evoked potentials (VestEPs). Abstract at ECCN 2015
- 2015 Boegle R., Stephan T., **Ertl M.**, Glasauer S., Dieterich M., Magnetic Vestibular Stimulation (MVS) influences fMRI resting-state fluctuations – The modulation of the default-mode network as an exemplary case. Abstract at HBM 2015
- 2015 **Ertl M.**, Moser M., MacNeilage, Dieterich M., Neural correlates of otolith

- stimulation: results of an EEG. Abstract at HBM 2015
- 2015 Boegle R., Stephan T., **Ertl M.**, Glasauer S., Dieterich M., Magnetic vestibular stimulation (MVS) influences fMRI resting-state fluctuations - The modulation of the default-mode network as an exemplary case. Abstract at ISMRM 2015
- 2015 **Ertl M.**, Moser M., Dieterich M., Neural correlates of otolith stimulation: results of an EEG. Talk at DGKN, 2015
- 2015 Boegle R., Stephan T., **Ertl M.**, Glasauer S., Dieterich M., Magnetic Vestibular Stimulation (MVS) influences fMRI resting-state fluctuations – The modulation of the default-mode network as an exemplary case. Abstract at DGKN, 2015
- 2014 Boegle R., Stephan T., **Ertl M.**, Glasauer S., Dieterich M., Magnetic Vestibular Stimulation (MVS) influences fMRI resting-state fluctuations – The modulation of the default-mode network as an exemplary case. Poster at the symposium of the graduate school for systemic neuroscience, 2014
- 2014 Kirsch V., **Ertl M.**, Krafczyk S., Dieterich M. Neuronal correlates of passive body rotation – an EEG study. Poster at HBM 2014
- 2014 Jaspers-Fayer F., **Ertl M.**, Polomac N., Leicht G., Mulert C., Event-related potentials and oscillatory activity during the cognitive reappraisal of angry faces. Poster at HBM 2014
- 2014 Vauth S., Leicht G., Andreou C., Rauh J., Mußmann M., Polomac N., **Ertl M.**, Karow A., Lambert M., Mulert C. Simultaneous assessment of EEG gamma oscillations and fMRI in the prodromal phase of schizophrenia. Poster at HBM 2014
- 2014 Leicht G., Troschütz S., Andreou C., Karamatskos E., **Ertl M.**, Naber D., Mulert C. Oscillatory neuronal activity during reward processing: relationship to personality traits. Poster at HBM 2014
- 2014 Leicht G., Mulert C., Eser D., Sämann P., **Ertl M.**, Laenger A., Karch S., Pogarell O., Meindl T., Czisch M., Rupprecht R. Effects of benzodiazepines on anterior cingulate cortex activity during experimentally induced panic. Poster at HBM 2014
- 2014 **Ertl M.**, Kirsch V., Gerb J., Krafczyk S., Dieterich M. Appraisal of the signal-to-noise-ratio of uni- and bipolar recordings of ocular vestibular evoked myogenic potentials. Poster at ICCN, 2014
- 2014 Kirsch V., **Ertl M.**, Krafczyk S., Dieterich M. Neuronal correlates of passive body rotation – an EEG study. Poster at DGKN, 2014
- 2013 **Ertl M.**, Hildebrandt M., Ourina K., Leicht G., Mulert C. Emotion Regulation – The role of low frequency oscillations. Poster at HBM 2013
- 2013 Jaspers-Fayer F., Barrie J. **Ertl M.**, Liotti M. An ERP study of task-relevant and –irrelevant emotion in participants with symptoms of depression. Poster at HBM 2013
- 2012 Steinmann S., Leicht G., **Ertl M.**, Mulert C. Long-range synchrony of gamma oscillations between homologous auditory areas during dichotic listening. An EEG and LORETA study. Poster at DGPPN, 2012
- 2012 **Ertl M.**, Hildebrandt M., Ourina K., Leicht G., Mulert C. Emotion Regulation – The role of low frequency oscillations. Talk at DGPPN 2012
- 2012 Jaspers-Fayer F., **Ertl M.**, Leicht G., Leupelt A., Mulert C. Using simultaneous EEG-fMRI to study brain responses to emotional auditory stimuli. Poster at NOWCAM, 2012
- 2011 **Ertl M.**, Hildebrandt M., Mulert C. Emotion Regulation - The role of low frequency oscillations. Poster at DGPPN 2011
- 2011 **Ertl M.**, Milz P., Leicht G., Jaspers-Fayer F., Hepp P., Mulert C. Multimodal EEG-fMRI connectivity analyses of the early auditory evoked gamma band response generators. Poster at DGPPN 2011

- 2010 **Ertl M.**, Kirsch V., Leicht G., Karch S., Olbrich S., Reiser M., Hegerl U., Pogarell O., Mulert C. Pulse triggered presentation of stimuli offers the chance to minimize the superposition of ERP by Ballistocardiogram Artifacts of EEG data acquired simultaneously with fMRI. Poster at DGPPN 2010
- 2009 Mulert C., **Ertl M.**, Kirsch V., Leicht G., Karch S., Olbrich S., Reiser M., Hegerl U., Pogarell O. Avoiding the Ballistocardiogram (BCG) Artifact of EEG data acquired simultaneously with fMRI by pulse triggered presentation of stimuli. Poster at HBM 2009
- 2008 Karch S., Feuerecker R., Lutz J., Leicht G., Hantschk I., Kirsch V., **Ertl M.**, Meindl T., Pogarell O., Mulert C. Single-trial analysis of N2 and P3 during voluntary selection processes. Poster at HBM 2008