



## SPP 1665:

### Resolving and manipulating neuronal networks in the mammalian brain – from correlative to causal analysis

Newsletter, ninth edition, December 2018

#### 1) Publications

- a) Miinalainen T, Rezaei A, Us D, Nüßing A, Engwer C, **Wolters CH**, Pursiainen S (2019): *A realistic, accurate and fast source modeling approach for the EEG forward problem*. Neuroimage. 2019 Jan 1;184:56-67. doi: 10.1016/j.neuroimage.2018.08.054. Epub 2018 Aug 28.  
<https://www.ncbi.nlm.nih.gov/pubmed/30165251>
- b) Piastra MC, Nüßing A, Vorwerk J, Bornfleth H, Oostenveld R, Engwer C, **Wolters CH** (2018): *The Discontinuous Galerkin Finite Element Method for Solving the MEG and the Combined MEG/EEG Forward Problem*. Front Neurosci. 2018 Feb 2;12:30. doi: 10.3389/fnins.2018.00030. eCollection 2018.  
<https://www.ncbi.nlm.nih.gov/pubmed/29456487>
- c) Abs E, Poorthuis RB, Apelblat D, Muhammad K, Pardi MB, Enke L, Kushinsky D, Pu DL, Eizinger MF, **Conzelmann KK**, Spiegel I, **Letzkus JJ** (2018): *Learning-Related Plasticity in Dendrite-Targeting Layer 1 Interneurons*. Neuron. 2018 Nov 7;100(3):684-699.e6. doi: 10.1016/j.neuron.2018.09.001. Epub 2018 Sep 27.  
<https://www.ncbi.nlm.nih.gov/pubmed/30269988>
- d) Scheib U, Broser M, Constantin OM, Yang S, Gao S, Mukherjee S, Stehfest K, Nagel G, Gee CE, **Hegemann P** (2018): *Rhodopsin-cyclases for photocontrol of cGMP/cAMP and 2.3 Å structure of the adenylyl cyclase domain*. Nat Commun. 2018 May 24;9(1):2046. doi: 10.1038/s41467-018-04428-w.  
<https://www.ncbi.nlm.nih.gov/pubmed/29799525>
- e) Moeyaert B, Holt G, Madangopal R, Perez-Alvarez A, Fearey BC, Trojanowski NF, Ledderose J, Zolnik TA, Das A, Patel D, Brown TA, Sachdev RNS, Eickholt BJ, Larkum ME, Turrigiano GG, Dana H, Gee CE, **Oertner TG**, Hope BT, Schreier ER (2018): *Improved methods for marking active neuron populations*. Nat Commun. 2018 Oct 25;9(1):4440. doi: 10.1038/s41467-018-06935-2.  
<https://www.ncbi.nlm.nih.gov/pubmed/30361563>
- f) **Wiegert JS**, Pulin M, Gee CE, **Oertner TG** (2018): *The fate of hippocampal synapses depends on the sequence of plasticity-inducing events*. Elife. 2018 Oct 12;7. pii: e39151. doi: 10.7554/eLife.39151.  
<https://www.ncbi.nlm.nih.gov/pubmed/30311904>

- g) Helassa N, Dürst CD, Coates C, Kerruth S, Arif U, Schulze C, **Wiegert JS**, Geeves M, **Oertner TG**, Török K (2018): *Ultrafast glutamate sensors resolve high-frequency release at Schaffer collateral synapses*. Proc Natl Acad Sci U S A. 2018 May 22;115(21):5594-5599. doi: 10.1073/pnas.1720648115.  
<https://www.ncbi.nlm.nih.gov/pubmed/29735711>
- h) **Bender F**, Korotkova T, **Ponomarenko A** (2018): *Optogenetic Entrainment of Hippocampal Theta Oscillations in Behaving Mice*. J Vis Exp. 2018 Jun 29;(136). doi: 10.3791/57349.  
<https://www.ncbi.nlm.nih.gov/pubmed/30010632>
- i) Sileo L, Bitzenhofer SH, Spagnolo B, Pöpplau JA, Holzhammer T, Pisanello M, Pisano F, Bellistri E, Maglie E, De Vittorio M, Ruther P, **Hanganu-Opatz IL**, Pisanello F (2018): *Tapered Fibers Combined With a Multi-Electrode Array for Optogenetics in Mouse Medial Prefrontal Cortex*. Front Neurosci. 2018 Oct 26;12:771. doi: 10.3389/fnins.2018.00771. eCollection 2018.  
<https://www.ncbi.nlm.nih.gov/pubmed/30416424>
- j) Bieler M, Xu X, Marquardt A, **Hanganu-Opatz IL** (2018): *Multisensory integration in rodent tactile but not visual thalamus*. Sci Rep. 2018 Oct 24;8(1):15684. doi: 10.1038/s41598-018-33815-y.  
<https://www.ncbi.nlm.nih.gov/pubmed/30356135>
- k) Schepanski S, Buss C, **Hanganu-Opatz IL**, Arck PC (2018): *Prenatal Immune and Endocrine Modulators of Offspring's Brain Development and Cognitive Functions Later in Life*. Front Immunol. 2018 Sep 26;9:2186. doi: 10.3389/fimmu.2018.02186. eCollection 2018. Review.  
<https://www.ncbi.nlm.nih.gov/pubmed/30319639>
- l) **Schander A**, Stokov S, **Stemmann H**, Teßmann T, **Kreiter AK**, **Lang W** (2018): *A flexible 202-channel epidural ECoG array with PEDOT: PSS coated electrodes for chronic recording of the visual cortex*. IEEE Sensors Journal.  
<https://ieeexplore.ieee.org/document/8531742>

## 2) Talks

- a) Ileana Hanganu-Opatz and Johannes Letzkus gave talks at the FENS Kavli Symposium in La Jolla, US, taking place from November 7<sup>th</sup> till 9<sup>th</sup> in 2018.

## 3) Prizes

- a) The PhD student Brenna Fearey from the lab of Thomas Oertner won the NENS Best Poster Prize at the FENS meeting in Berlin this year for her presentation of a new optogenetic tool, SynTagMA.

#### 4) Upcoming events

Events 2019			
Date	Place	Event	Organization
6 <sup>th</sup> - 7 <sup>th</sup> of June 2019	Dorint Hotel Hamburg	Concluding Colloquium " How tools and models resolve the neuronal networks in the mammalian brain: six years of collaborative research".	Ileana Hanganu-Opatz

Next newsletter to be expected in July 2019



By HikingArtist

*Seasonal greetings to everyone  
and a Happy New Year 2019!*

*Best wishes*

*Ileana and Kathrin*