| **Poster Program** |
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| Rheine-MAIN Neuroscience Network rmn² |
| Oberwesel, June 8-10, 2022 |

| Department of Neurology, Mainz |
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| **1** | Synaptic interleukin-4 receptor signaling modulates neuronal network activity |
| Micaela Domingues, Nicholas Hanuscheck, Carine Thalman, Samantha Schmaul, Manuela Ecker, Johannes Vogt, Frauke Zipp, Christina Francisca Vogelaar |

| Epilepsy Center, Frankfurt |
|----------------------------|
| **2** | Expression of the IL-4 receptor system in the mouse brain |
| Yvonne Gärtnert, Micaela Domingues, Samantha Schmaul, Nicholas Hanuscheck, Christina F. Vogelaar, Frauke Zipp |

| Department of Child and Adolescent Psychiatry, Psychosomatics and Psychotherapy, Frankfurt |
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| **3** | Attentional Modulation of the Human Hippocampus |
| R. Kienitz, A. Strzelczyk, C. Kell, W. Singer & F. Rosenow |

| Department of Child and Adolescent Psychiatry, Child and Adolescent Psychiatry, Frankfurt |
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| **4** | Parvalbumin expressing interneurons control spike-phase coupling of hippocampal cells to theta oscillations |
| Michael Strüber, Jonas-Frederic Sauer & Marlene Bartos |

| Institute for Psychology, Darmstadt |
|-------------------------------------|
| **5** | Integration of genomic information and drug-transcriptome data predicts treatment response to valproate with high accuracy |
| Simeon Platte, Giorgia Guerini, Colin B Josephson, RAISE-GENIC Consortium, Massimo Pandolfo, Felix Rosenow, Reetta Kälviäinen, Chantal Depondt, Karl Martin Klein, Andreas G. Chiocchetti |

| Edinger Institute, Frankfurt |
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| **6** | Criterion learning for perceptual decision making |
| Christina Koß, Luis de la Cuesta Ferrer, Maik Stüttgen, Frank Jäkel |

| Frankfurt Institute for Advanced Studies |
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| **7** | Calpains as potential therapeutic targets of highly malignant gliomas |
| Lena Elías, Caterina Klein, Tanja Müller, Stefan Günther & Dorothea Schulte |

| Institute for Cell Biology and Neuroscience, Frankfurt |
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| **8** | From neurogenesis to leukemogenesis: Comparing transcriptional activity of PBX1 and TCF3 |
| Vera Laub, Elisabeth Nan, Stefan Günther, Nicoletta Bobola, Dorothea Schulte |

| Frankfurt Institute for Advanced Studies |
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| **9** | Dynamics close to criticality support long synaptic lifetimes in cortical circuits |
| Jan Marker, Tristan Stöber, Irina Pochinok, Felix Hoffmann, Masud Ehsani, Matthias Kaschube, Simon Rumpel, Jürgen Jost, Jochen Triesch |

| Frankfurt Institute for Advanced Studies |
|-----------------------------------------|
| **10** | How stable are signal and noise correlations in mouse auditory cortex? |
| Thomas Lai, Bastian Eppler, Dominik Aschauer, Simon Rumpel, Matthias Kaschube |

| Institute for Cell Biology and Neuroscience, Frankfurt |
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| **11** | Abrupt transitions of activity patterns in response to gradual changes of network connectivity |
| Bastian Eppler, Dominik Aschauer, Simon Rumpel, Matthias Kaschube |

| Institute for Cell Biology and Neuroscience, Frankfurt |
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| **12** | Soluble epoxide hydrolase upregulation in Alzheimer’s disease promotes blood-brain barrier dysfunction |
| Murphy DeMeglio, Susanne Hille, Jiong Hu, Eloah dos Santos De Biasi, Peter Breunig, Oliver Müller, Ingrid Flemming, Jasmin K. Hefendehl |

| Institute for Cell Biology and Neuroscience, Frankfurt |
|-------------------------------------------------------|
| **13** | Microglia drive accelerated amyloid plaque accumulation in peri-infarct tissue after stroke |
| Jan Hofmann, Michael Candlish, Eloah dos Santos De Biasi, Desirée Brösamle, Angelos Skodras, Peter R. Nilsson, Marc Beyer, Andreas Geburtig-Chiocchetti, Jonas J. Neher, Jasmin K. Hefendehl |

| Institute for Cell Biology and Neuroscience, Frankfurt |
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| **14** | Elucidating the progression of vascular amyloidosis in vivo and ex vivo |
| Eloah dos Santos De Biasi, Michael J. Candlish, Peter R. Nilsson, Ralf Brandes, Angelos Skodras, Mathias Jucker, Jasmin K. Hefendehl |
|   | Title                                                                 | Authors                                                                                     |
|---|----------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
|15 | Investigating the pathomechanistic influence of amyloid beta on brain pericyte function | P. Peter Breunig, Christina Sauerland, Michael Candlish, R. Wilder Scott, Lin Wei Tung, Varsha Venkatesha Murthy, Blerina Aliraj, Andreas Weigert, Jasmin K. Hefendehl |
|16 | Dendritic dynamics, spinogenesis and survival of newborn hippocampal granule cells | Sophia Kirscht, Lukas Frey                                                              |
|17 | Time lapse imaging of single granule cells in the mouse dentate gyrus after entorhinal denervation in vitro – identification of different response types to denervation | Davide Greco, Alexander Drakew, Thomas Deller                                             |
|18 | Sex matters: differences in dendritic spines in the CA2 subregion of the hippocampus | Sharif Jabra, Meike Fellenz, Michael Rietsche, Aet O’Leary, David Slattery, Thomas Deller |
|19 | Confirmation behavior in sensorimotor control | Johannes Kasper, Christian A. Kell                                                        |
|20 | Monitoring gait disturbances in Parkinson's Disease for closed-loop gait control | Paul Kirsch, Miriam Alisa Helbig, Christian Kell                                          |
|21 | Differential contributions of the two cerebral hemispheres to visuomotor control | Julia Guldan                                                                              |
|22 | Epigenetic modulation during early development in a mouse model of tuberous sclerosis | V. Engelhardt, J. Krummeich, A. Arlt, M. Schmeißer, S. Schweiger                         |
|23 | BRCA2 haploinsufficiency influences brain development and brain function | Ann-Sophie Pabst, Tomke Lang, Malin Dewenter, Stefan Diederich, Jennifer Winter, Helle Ulrich, Susann Schweiger |
|24 | Trajectory of Neuriligin/Neurexin dysregulation associates with the establishment of an ASD-like phenotype in Tuberous Sclerosis | J. Krummeich, C. Caliendo, A. Arlt, K. Rolski, K. Vincze, R. Schneider, S. Gerber, M. Schmeißer, S. Schweiger |
|25 | Role of dorsal hippocampal-prefrontal interactions in spatial working memory | Natasha Khan, Torfi Sigurdsson                                                           |
|26 | Neuronal activity in organotypic entorhino-hippocampal slice cultures visualized with optogenetics and calcium imaging | Carolin C. Koretz, Alexander Drakew, Tijana Radic, Tassilo Jungenitz, Jochen Roepfer, Thomas Deller |
|27 | Stable patterns or dynamic changes: How does the prefrontal cortex cope with changing behavioral demands? | Johannes Hahn, Torfi Sigurdsson                                                           |
|28 | Distinct roles of the dorsal and ventral hippocampus in spatial working memory and in signaling spatial information to the medial prefrontal cortex | Susanne S. Babi, Torfi Sigurdsson                                                         |
|29 | Microglia depletion via dietary administration of the CSF1R-inhibitor PLX-3397 after traumatic brain injury in mice | Isa Wernersbach                                                                           |
|30 | Early microglia/macrophage depletion leads to long-term sex-dependent effects on inflammation and neuronal maintenance after traumatic brain injury in mice | Yong Wang, Isa Wernersbach, Jenny Strehle, Shuailong Li, Dominik Appel, Matthias Klein, Katharina Ritter, Regina Hummel, Irmgard Tegeder, Michael K. E. Schäfer |
|31 | Microglia subtypes show substrate-specific phagocytosis preferences and phenotype plasticity | Shuailong Li, Isa Wernersbach, Gregory S. Harms, Michael K.E. Schäfer                        |
| **Institute of Pathophysiology, Mainz** |
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| **32** The tickling approach to the neurophysiology of fun | Girsovics Vsevolods |
| **33** CKAMP44 – modulating AMPAR to protect against excitotoxicity? | Benedikt Grünewald, Matthias Venyi, Masood Wani and Jakob von Engelhardt |
| **34** CKAMP44 controls synaptic function and strength of relay neurons during early development of the dLGN. | Florian Hetsch, Danni Wang, Xufeng Chen, Jiong Zhang, Muhammad Aslam, Marcel Kegel, Henrik Tonner, Franz Grus, Jakob von Engelhardt |
| **35** Effects of CKAMP59 on AMPARs | Samy Al-Qut, Benedikt Grünewald, Jakob von Engelhardt |
| **36** The Role of serotonin 5-HT<sub>3A</sub> receptor in cortical neuronal function | Jiong Zhang, Marcel Kegel and Jakob von Engelhardt |
| **37** Altered intrinsic excitability and synaptic transmission at presymptomatic stage in juvenile Battens disease | Masood Ahmad Wani, Benedikt Grünewald, Jakob von Engelhardt |
| **38** CKAMP44 modulates processing of visual information by dLGN relay neurons | Sonia Ruggieri, Tim Gollisch, Xufeng Chen, Jakob von Engelhardt |

| **Max Planck Institute for Empirical Aesthetics, Frankfurt** |
|-------------------------------------------|
| **39** Neural and behavioural signatures of entrainment to increasingly irregular sounds | Lea Kërçiku, Yuranny Cabral-Calderin, Vera Komeyer, Molly J. Henry |

| **Institute of Physiology, Mainz** |
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| **40** Frequency and layer specific effects of high frequency STN stimulation on the motor cortex - STN network in mice in vivo | Svenja Kreis, Muthuraman Muthuraman, Sergiu Groppo, Heiko J. Luhmann |
| **41** Activity-dependent regulation of cell death in a caspase3 overexpression model | Jonas Schroer, Davide Warm, Heiko J. Luhmann, Anne Sinning |
| **42** Early spontaneous activity predicts survival of developing cortical neurons | Davide Warm, Davide Bassetti, Jonas Schroer, Heiko J. Luhmann and Anne Sinning |
| **43** Characterization of a c-Fos reporter system for in vivo imaging in the mouse auditory cortex | Sarah Lutz, Johannes Seiler, David Lüdke, Bastian Eppler, Matthias Kaschube, Simon Rumpel |
| **44** Investigating the effects of the disturbance of the E/I balance on dendritic spines | Altug Kamacioglu, Dominik Aschauer, Simon Rumpel |
| **45** Probing network dynamics in mouse auditory cortex using targeted microablation of functionally identified neurons | Takahiro Noda, Eike Kienle, Yonatan Loewenstein, Simon Rumpel |
| **46** Experienced entropy drives boredom-related choice behavior | Johannes Seiler, Ohad Dan, Oliver Tüscher, Yonatan Loewenstein, Simon Rumpel |
| **47** The Role of ERK in TBI-induced Functional Changes of the Mouse Somatosensory Cortex 1-week post-TBI | Celine Gallagher, Natascha Ihbe, Thomas Mittmann |
| **Poster Program** | **Rhine-Main Neuroscience Network rmn²**  
| Oberwesel, June 8-10, 2022 |
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| **48** | **Developmental Characterization of Vip-positive GABAergic Interneurons in the Somatosensory Cortex in Mice**  
Clara A. Simacek, Thomas Mittmann |
| **49** | **Traumatic brain injury mediates HCN-channel functions in parvalbumin-postive basket cells of layer 2/3 somatosensory cortex**  
Qiang Wang, Werner Kilb and Thomas Mittmann |
| **50** | **Developmental changes of network activity in the somatosensory cortex in the glutamic acid decarboxylase 67 (GAD67)-GFP mouse model**  
Timo Ueberbach, Thomas Mittmann |
| **51** | **Development of GABAergic synapses in the somatosensory cortex**  
Abusaada Ahad |
| **Institute of Pharmaceutical and Biomedical Sciences, Mainz** |
| **52** | **Angiogenin - a critical factor in pathological aging and Alzheimer's disease?**  
Marko Jörg, Christina Endres, Mark Helm, Kristina Friedland |
| **Leibniz Institute for Resilience Research, Mainz** |
| **53** | **Inhibition of blood coagulation improves mental resilience**  
M. Wendelmath, T. Nguyen, S. Reyda, W. Ruf, S. Schweiger |
| **54** | **ViNe-Seg: Deep-Learning assisted Segmentation of Visible Neurons and subsequent Analysis embedded in a Graphical User Interface**  
Nicolas Ruffini, Saleh Altahini, Nico Weber, Anna Wierczeko, Hendrik Backhaus, and Albrecht Stroh |
| **55** | **From Dogs to Rats to Humans: Translational Research on Stressor Controllability**  
Jana Meier, Kornelia Gentsch, Michèle Wessa |
| **56** | **Prediction error related neural representation of extinction learning and consolidation**  
Elena Andres, Chuan-Peng Hu, Anna Gerlicher, Martina Thiele, Raffael Kalisch |
| **Institute of Medical Psychology, Frankfurt** |
| **57** | **Distraction prevents decoding of auditory working memory contents**  
Philipp Deutsch, Stefan Czoschke, Cora Fischer, Jochen Kaiser, Christoph Bledowski |
| **58** | **Rapid TMS Localization of Finger Movement in the Brain: A Pilot Study**  
Anna Leah Zier, Ole Numssen, Thomas Knösche, Gesa Hartwigsen, Konstantin Weise |
| **Institute of Developmental Biology and Neurobiology, Mainz** |
| **59** | **Mechanisms underlying robust contrast computations**  
Freya Thurn, Burak Gür, Marion Silies |
| **60** | **A multispectral spatial visual stimulation for optophysiological experiments**  
Marion Silies, Christopher Schnaitmann |
| **61** | **Learning from Schwann Cells, modulating gene expression in oligodendrocytes after injury**  
Nocera Gianluigi, Claire Jacob |
| **62** | **Control chromatin remodelling enzymes in Schwann cells to improve peripheral nerve regeneration**  
Nadège Hertzog, Mert Duman, Maelie Bochud, Valérie Brügger, Felicia Schön, Devanarayanan Siva Sankar, Jörn Dengjel, Sofia Raigon-Lopez and Claire Jacob |
| **63** | **Molecular mechanism behind different properties of first order interneurons**  
Wagh Neel, Sporar K, Silies Marion |
| **Institute for Psychology, Mainz** |
| **64** | **Internal and external influences on brain signal variability**  
José C. García Alanis, Michael D. Nunez, Christoph Löfler, Gidon T. Frischkorn, Klaus Oberauer, Christian J. Fiebach, and Anna-Lena Schubert |
| 65 | **Information theoretic measures of pattern separation in the dentate gyrus**  
Alexander Bird |
| 66 | **Lognormal-like skewed distribution of spine sizes is independent of presynaptic transmitter release and synaptic plasticity**  
Nina Rößler, Tassilo Jungenitz, Albrecht Sigler, Alexander Bird, Martin Mittag, Jeong Seop Rhee, Thomas Deller, Hermann Cuntz, Nils Brose, Stephan W. Schwarzacher, Peter Jedlicka |
| 67 | **Multi-scale modeling of synaptic plasticity induced by Transcranial Magnetic Stimulation**  
Hananeia, Ebner, Galanis, Vlachos, Jedlicka |
| 68 | **A general principle of dendritic constancy: A neuron's size- and shape-invariant excitability**  
Hermann Cuntz, Alex D. Bird, Martin Mittag, Marcel Beining, Marius Schneider, Laura Mediavilla, Felix Z. Hoffmann, Thomas Deller, Peter Jedlicka |
| 69 | **A Gdap1-knockout Drosophila model of Charcot-Marie-Tooth disease**  
Li Zhang, Fatih Yasar, Janina Kopetzky, Máximo Ibo Galindo Orozco, Axel Methner |
| 70 | **NECAB2 orchestrates an endosomal pathway of mitochondrial quality control at striatal synapses**  
Diones Bueno, Partha Narayan Dey, Teresa Schacht, Christina Wolf, Verena Wüllner, Elena Morpurgo, Liliana Rojas-Charry, Petra Leukel, Michael K.E. Schäfer, Luise Florin, Stefan Tenzer, Paul Stamm, Andreas Daiber, Leonardo Nardi, Verica Vasic, Michael J. Schmeisser, Andrea Hellwig, Ruchika Anand, Andreas S. Reichert, Sandra Ritz, Marion Silles, Katrin B. M. Frauenknecht, and Axel Methner |